Control gear and lighting control systems
控制装置和照明控制系统

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Fluorescent lamps
日光灯

Operation

A fluorescent lamp is a type of low pressure mercury discharge lamp. A discharge arc operates in a glass tube internally coated with a phosphor powder. The electrical discharge produces mostly ultraviolet and some blue and green light. The phosphor coating converts the ultraviolet energy produced by the discharge into light. Cathodes, coated with an electron emitting material are sealed into each end of the glass envelope and connected to the pins of the lamp caps. The lamp contains gases such as argon and krypton with a drop of liquid mercury.

A control circuit is required which first causes an electric current to flow through each cathode. When the cathode filaments are heated, the emitter coating emits a cloud of electrons, which are negatively charged. The electrons are accelerated by a voltage applied across the lamp, producing ionisation. The current flow through the lamp is then limited by the external control circuit.

The inert gas used in traditional fluorescent lamps is argon, krypton or a mixture of both. The improvement in efficacy achieved using krypton offers a power saving approaching 8% which translates directly into lower energy costs.

操作

日光灯是一种低压水银放电灯。放电电弧作用于内壁有一层荧光粉涂层的玻璃管内。放电时一般会产生紫外线，有时候也会发蓝光和绿光。荧光粉涂层将放电时产生的紫外线能量转换为灯光。玻璃封装的两端都封入了带电子发射材料涂层的阴极管，这些阴极管连接到灯头的引脚。灯内含有氩气和氪气等气体以及一滴液态水银。

需要一个控制电路，先让电流经过各个阴极管。阴极灯丝被加热后，发射极涂层会发出带负电荷的电子云。灯上施加的电压让这些电子加速，产生电离作用。电流流经日光灯时，会受到外部控制电路的限制。

传统日光灯中使用的惰性气体是氩气或氪气，或两者的混合气体。

使用氪气可提高功效，节省将近 8% 的电能，等于直接降低了能源成本。

Flicker

Fluorescent lamps typically exhibit very little flicker (flicker factor 0.5% or less). However, stroboscopic effects from rotating parts or parts with reciprocal motion can cause problems. These can be reduced by connecting lamps to different phases or by the use of lead-lag circuits or electronic (high frequency) ballasts.

Electrical measurements

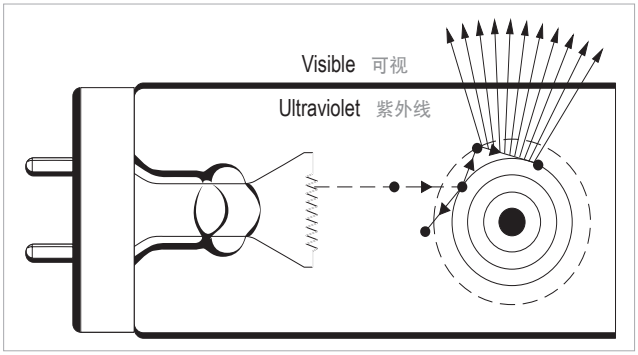
All electrical measurements on lamp or circuit voltage, current and wattage have to be made with instruments of the true RMS type allowing for crest factors of up to 2.5.

闪烁

日光灯通常极少闪烁（闪烁系数 0.5% 或更低）。然而，旋转部件或做往复运动的部件会发生频闪效应，进而导致一些问题。将灯连接至不同相位或使用超前滞后电路或电子（高频）镇流器则可减少这些问题。

电气测量

所有有关灯或电路电压、电流和功率的电气测量都必须使用波峰因数高达 2.5 的真有效值类型的仪器进行。



Deactivation of excited mercury atoms produces UV photon and is converted to visible light by the internal phosphor coating of the fluorescent lamp.

解除受激汞原子的激活会产生紫外线光子，然后由日光灯的内部荧光粉涂层转换为可视光线。

Operating performance

The performance of a fluorescent lamp is dependent upon not only the control circuit, but also on the ambient temperature. This influences the gas pressure in the lamp which in turn determines the yield of UV radiation.

The optimum light output occurs when the lamp wall temperature is approximately 40°C (for T8/T12 lamps) at the cold spot (fig.1).

This highlights the problems encountered in brightness control of fluorescent lamps if widely varying ambient temperatures prevail. It also shows that high open circuit voltages are required to reliably start the lamp in low temperature conditions (fig. 2).

The more reliable starting, however, of control gear with high open circuit voltages is negated by the increased probability of cold starts occurring. “Cold start” is striking the arc before the cathodes are fully heated. It has a detrimental effect on lamp life and, coupled with frequent switching, can reduce lamp life to one quarter or less. “Cold starts” are more likely to occur with lamps of low operating voltage, such as 18W 600mm lamp with only 57V a cross the lamp. The life of a fluorescent lamp is dependent to a certain degree on the frequency of switching on and off. A lamp which is switched infrequently will last considerably longer (fig. 3).

The effect of mains voltage variations on the operating characteristics of fluorescent lamps is indicated in the graph (fig. 4). Increases in the mains voltage can influence lamp life in proportion to the increases in the lamp current.

工作性能

日光灯的性能不仅取决于控制电路，还取决于环境温度。环境温度会影响灯内的气压，而气压又决定了产生的紫外线辐射量。

在较冷的地方，当灯管壁温度约为 40° C（针对 T8/T12 灯）时，可产生最佳光输出。

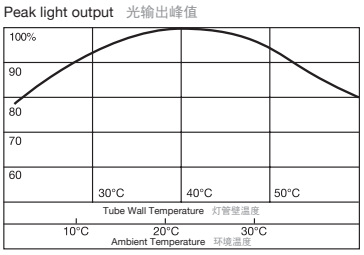
这就凸显了一个难题：如何在环境温度变化较大的地方实现日光灯的亮度控制。我们也可以看到，在低温环境下以可靠的方式启动日光灯，需要高开路电压 (图 2)。

但是，控制装置使用高开路电压提高的启动稳定性被同时提高的冷启动几率所抵消了。“冷启动”指在阴极管完全加热之前触发电弧。这会对日光灯的使用寿命造成损害，同时会伴随频繁的开合操作，导致日光灯的使用寿命缩短至原来的 1/4 乃至更短。

当日光灯的工作电压较低（例如 18W 600 mm 的日光灯仅有 57V 电压）时，更易发生“冷启动”。日光灯的使用寿命一定程度上取决于开/关灯的频率。若开/关灯频率低，其使用寿命会大大延长 (图 3)。

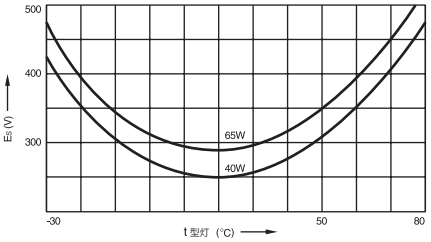
图 (图 4) 中显示了电源电压变化对日光灯的工作特性所造成的影响。提高电源电压会按比例提高灯的电流，从而影响灯的使用寿命。

Fig. 1
图 1



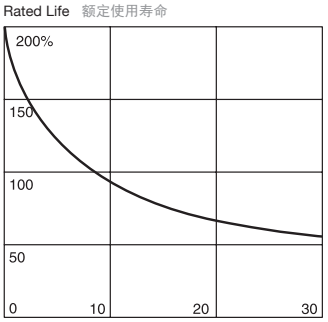
Typical relationship between temperature and lumen output
温度与流明输出之间的典型关系

Fig. 2
图 2



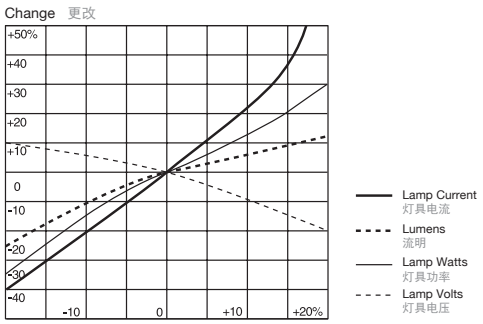
Start voltage versus ambient temperature
启动电压与环境温度

Fig. 3
图 3



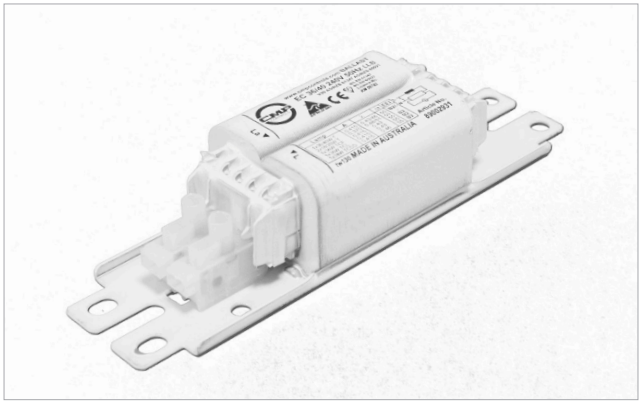
Typical effect on life of switching
开/关频率对日光灯使用寿命的典型影响

Fig. 4
图 4



Change in mains voltage
电源电压的变化

Magnetic ballasts for fluorescent lamps
日光灯的电感镇流器



A ballast is required to run a fluorescent lamp. This is a current limiting device which works on the self-inductance principle. The impedance of the ballast is set to match the arc voltage of the lamp which ensures that the correct current is supplied. In some cases a ballast can be used for more than one lamp but the lamp should never be used with any other ballast than the one specifically designed for the job. Also any supply voltage or frequency variation will affect the optimum performance of the ballast, and hence the lamp, the type with the correct values should always be used.

日光灯需要镇流器方可工作。镇流器是一种遵循自电感原理的限流装置。设置镇流器的阻抗与日光灯的电弧电压相匹配，确保提供正确的电流。某些情况下，一个镇流器可用于多个日光灯，但一个日光灯除了专门设计的镇流器之外，决不可使用任何其他镇流器。同时，电源电压或频率的任何变化都会影响镇流器，导致其不能发挥出最佳性能，因而必须使用正确电压和频率值的日光灯。

Optimum Performance

This is achieved by maintaining careful control of the main parameters.

最佳性能

通过谨慎保持对主要参数的控制，让其达到最佳性能。

Preheat current

This is supplied to the cathodes prior to the striking voltage. Without the correct preheat current, the cathodes would be progressively damaged resulting in short lamp life.

预热电流

启动电压前，为阴极管供应预热电流。若无正确的预热电流，阴极管会逐步受损，从而缩短日光灯的使用寿命。

Strike voltage

In the case of a glow starter, this is produced by the ballast when the starter switch opens. The required voltage increases at high and low temperatures, and electronic starters may be required in abnormal temperature conditions.

引弧电压

如果使用辉光启动器，当启动器开关打开时，镇流器将产生启动电压。所需的电压在高低温下均会增加，异常温度条件下还可能需要电子启动器。

For a fluorescent lamp to operate constantly the supply voltage must be at least twice the lamp voltage. If it is less, then an auto transformer is required to step up the voltage.

要让日光灯稳定工作，电源电压必须至少是日光灯电压的两倍。如果小于两倍，则需通过自耦变压器来升高电压。

Lamp current

The tight tolerances used in manufacture ensure that the impedance is the correct value for the correct lamp current and hence lamp wattage and luminous flux.

灯具电流

镇流器制造过程中使用的严格公差可确保阻抗值正确，从而产生正确的灯具电流，继而获得正确的功率和光通量。

Minimum power losses

An inefficient ballast means high losses, which in turn leads to high temperatures. This means the lamp runs out of its optimum temperature range and, in some cases, other components in the luminaire, such as capacitors, will also run too hot and fail prematurely.

CMP have designed ballasts with minimal losses through the optimum use of windings within the bobbin. They have compact dimensions and use the highest quality materials in their manufacture.

最低功率损耗

低效镇流器意味着高损耗，而高损耗则会导致高温。这就表明灯具已偏离其最佳温度范围，某些情况下，灯具中的其他组件（例如电容器）也会过热而提早报废。

CMP 通过优化使用绕线筒中的绕组，设计出具有最低功耗的镇流器。它们外形小巧，并用最优质的材料制造而成。

The losses (lamp and ballast) are rated in accordance with the ballast-lamp circuit (EEI) classification.

损耗（灯具和镇流器）是按镇流器-灯具电路 (EEI) 分类进行评估。

Selection of the right ballast

CMP offers ballasts in the following energy classes:

- standard (EE I = C)
- low loss (EE I = B2)
- low loss (EE I = B1)

选择正确的镇流器

CMP 提供以下能级的 镇流器：

- 标准 (EEI = C)
- 低功耗 (EEI = B2)
- 低功耗 (EEI = B1)

Each version has the same impedance and provides the same lamp current. The difference is that the losses, and temperature rise, are progressively less, which can be seen from the data.

所有版本都提供相同的阻抗和灯具电流。不同之处在于损耗和温升逐步减少，这点可从数据上看出。

There are two reasons to select lower loss ballasts:

选择低损耗镇流器的两大理由：

• Energy consumption

• 能耗

A low loss B2 ballast typically consumes 30% less power than a standard C ballast, and a low loss B1 ballast uses 67% less power than a standard C ballast.

低损耗 B2 镇流器消耗的功率通常比标准 C 镇流器低 30%，而低损耗 B1 镇流器消耗的功率比标准 C 镇流器低 67%。

• Temperature rise

• 温升

A typical standard C ballast will increase in temperature by 55 K (Kelvin) above its surroundings, a low loss B2 ballast 35–40 K and a low loss B1 ballast 25 K.

典型的标准 C 镇流器温度将上升至比环境温度高 55 K（开氏度），比低损耗 B2 镇流器则高 35—40 K，比低损耗 B1 镇流器高 25 K。

When considering dimensions, CMP ballasts have optimised dimensions to minimise losses but lower loss ballasts do have increased dimensions.

在尺寸问题上，虽然 CMP 镇流器优化了尺寸以最大程度降低功率损耗，但随着功率损耗的降低，通常尺寸会增加。

As the measured power consumption depends strongly on the method of measurement, differences up to 10 K are possible in the results.

由于测量到的功耗很大程度上取决于测量方法，测量结果的最大差异可能会达到 10 K。

Long service life

使用寿命长

The choice of insulating materials and their operating temperatures determine the ballast life. CMP ballasts use class H insulation materials which are designed for temperatures up to 180°C, thus ensuring maximum service life.

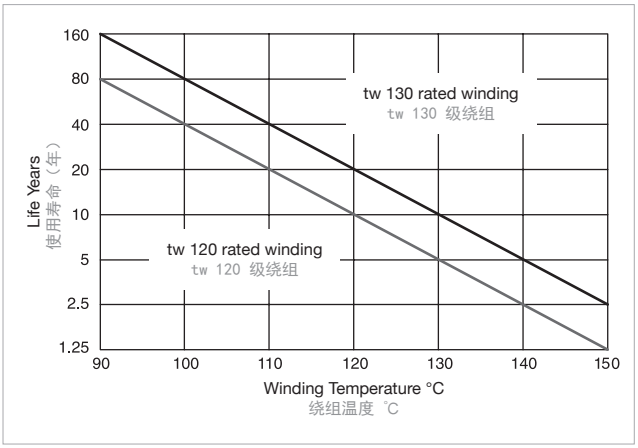
选择的绝缘材料及其工作温度决定了镇流器的使用寿命。CMP 镇流器使用 H 级绝缘材料，耐受温度高达 180° C，从而确保了使用寿命最长。

The permitted maximum working temperature of the winding is designated “tw”. The adherence to this temperature guarantees an average life of 10 years continuous usage. If the temperature in application is lower, then the life is correspondingly higher.

绕组允许的最高工作温度即指定的“tw”。在此温度下持续使用，可保证镇流器达到 10 年的平均使用寿命。如果实际应用中的温度更低，则使用寿命会相应延长。

The designation Δt is the temperature rise in degrees Celsius operating under prescribed conditions at rated voltage and is a function of ballast power losses. The difference between the “tw” rating and t is an indication of the ambient temperature in which the ballast can operate. This is a very important consideration.

指定温差是在规定条件下使用额定电压时的温升（摄氏度），是镇流器功率损耗的一个函数。“tw”评级和 t 之间的差额即表示镇流器可正常工作时的环境温度。这是一项极重要的考虑因素。



The graph shows the theoretical service life of a ballast against winding temperature. Every 10°C over the maximum winding temperature of 130°C (tw130) halves ballast life. The winding temperature is the ambient temperature plus Δt or temperature rise which is a function of ballast power consumption (watts loss).

图中显示了镇流器在各绕组温度下的理论使用寿命。最大绕组温度为 130° C（tw130），每超出 10° C，镇流器使用寿命就减半。绕组温度 = 环境温度 + 温差或温升，温差是镇流器功耗的一个函数（功率损耗）。

The high quality and reliability of insulated conductors is dependent not only on the production process, but also on the choice of raw materials. Many years of experience, both as a user and manufacturer of enamelled winding wire has given CMP the knowledge and expertise to select the best raw materials from internationally approved suppliers.

The copper is made from a high conductivity hot rolled copper rod and complies with the chemical composition limits and resistivity requirements of International Registered Alloy Designation 110.

Critical attention is paid to the enamel as the material utilised to insulate the conductor. Choice of enamel is a key factor and is linked both to the enamelling system as well as the electrical, mechanical and technical characteristics of the finished product.

The insulation enamels specified by CMP Controls are supplied by internationally approved manufacturers specialising within this field. For all CMP ballasts insulation Class H+ (200ºC) is used.

绝缘导体的高品质和高可靠性不仅取决于生产工艺，还取决于选择的原材料。CMP 在这方面拥有多年经验，它既是漆包绕组线的生产商又是用户，因此积累了丰富的知识和专业技术，可从各家国际认可的供应商处选出最佳的原材料。

使用的铜由高导热轧铜条所制，符合国际注册合金牌号 110 的化学成分限制和电阻率要求。

重点关注用作导体绝缘材料的瓷釉。如何正确选择瓷釉十分关键，因为它会影响到漆包系统以及成品的电气、机械和技术特性。

CMP Controls 指定的绝缘瓷釉由国际认可的专业制造商提供。所有 CMP 镇流器都达到 H+ (200˚C) 级绝缘等级。

Minimum stray fields

CMP ballasts are designed to keep stray fields at a minimum, thus enabling them to be used near sensitive equipment.

Consistent high quality

Certified to ISO 9001, the production process and equipment guarantee a consistent high quality standard. All finished goods are 100% end of line tested and only the highest quality raw materials are used. Consistent high quality is ensured by the use of fully automatic production.

Special features of CMP ballasts:

- very short magnetic paths
- transverse lamination design with no stray field junctions
- compact windings
- low power consumption
- short heat paths
- maximum winding temperature tw = 130°C
- class H insulation
- fully automatic production with continuous tolerance test
- varnish impregnation
- 100% final testing, including continuity, high voltage, winding short-circuit and operating values
- long service life

National and international test marks

CMP ballasts are approved by national and international test houses.

最低杂散场

CMP 镇流器的设计可保持最低的杂散场，从而确保它们可在敏感设备旁使用。

一致的高品质

生产工艺和设备通过了 ISO 9001 标准认证，可保证一致的高品质标准。所有成品在制成后都需通过测试，并且仅使用最优质的原材料。使用全自动生产流程，确保获得一致的高品质。

CMP 镇流器的特殊性能：

- 磁路极短
- 横向分层设计，无杂散场穿过
- 绕组尺寸小
- 功耗低
- 传热路径短
- 最高绕组温度 tw = 130° C
- H 级绝缘
- 全自动生产，连续耐受性测试
- 浸渍漆
- 100% 成品测试，包括持续性、高电压、绕组短路和工作值
- 使用寿命长

国家及国际测试标志

CMP 镇流器通过了国家和国际测试机构的审批。

Switch start circuit

The most widely used circuit. It is simple, economical and one of the most efficient ways of operating a fluorescent lamp. The starter can be of the glow switch type or electronic. By far the most common is the glow starter. When the starter contacts open, the ballast supplies the starting voltage.

Advantages:

- simple wiring
- low temperature operation (to -10°C)
- economical

Disadvantages:

- flicker on start-up
- short delay in striking
- more than 1 wear part (lamp and starter)

The operating sequence is as follows:

1. When power is switched on, mains voltage appears across the contacts in the starter bottle, striking an arc between them.
2. The heat of the arc causes the bi-metal contact to bend and make contact with the other contact thereby extinguishing the arc and removing the heat source. The ballast and the lamp cathodes are now connected in series across the supply and the relatively heavy pre-heat current flows, heating the lamp cathodes.
3. The starter contact cools down and re-opens. The sudden interruption of the pre-heat current causes a voltage spike to develop which ignites the lamp. Lamp voltage of less than half supply voltage is now insufficient to re-strike the arc in the starter bottle and the lamp remains alight.

开关启动电路

最广泛使用的电路。它简单、经济，是日光灯运作的最有效方法之一。启动器可以是辉光开关类型或电子类型。到目前为止，最常用的启动器是辉光启动器。启动器触点断开，镇流器供应启动电压。

优势：

- 布线简单
- 低温操作（至 -10° C）
- 经济

劣势：

- 启动时闪烁
- 启动时有短暂的延迟
- 有多个易损件（灯具和启动器）

操作顺序如下：

1. 接通电源后，电源电压通过启动器瓶体内的触点，在触点之间触发电弧。
2. 电弧的热量会导致双金属触点弯曲，并与其他触点接触，从而实现灭弧效果并清除热源。镇流器和灯具阴极管现在串联通过电源，相对较大的预热电流流过，加热灯具的阴极管。
3. 启动器触点冷却并重新断开。预热电流的突然中断会引发电压尖峰，从而将灯具点亮。灯具的电压低于电源电压的一半，现在不足以在启动器瓶体内复弧，灯具会保持点亮状态。

Switch start circuits provide reliable starting in ambient temperatures -10 to +50°C.

FS2 type starters are used in single and twin lamp circuits up to and including 20 W.

FSU type starters are used in single lamp circuits to 80 W. Note that 85 and 125 W lamps require very special starters.

Electronic starters are far more complex. They provide rapid start precision operation of the lamp.

Twin series circuit

A circuit used for most lamps up to 20 W. Two fluorescent lamps are run in series on one ballast but with individual starters operating per lamp.

开关启动电路在 -10 至 +50° C 的环境温度下可靠地启动。

FS2 型启动器用于功率最高达 20 W（包括 20 W）的单灯和双灯电路。

FSU 型启动器可用于 80 W 的单灯电路。注意，85 和 125 W 的灯具需要专用启动器。

相较起来，电子启动器就复杂得多。它们可实现灯具的快速启动精密操作。

双串联电路

这种电路用于大部分功率最高达 20 W 的灯具。两根日光灯串联在一个镇流器上运行，但每个灯都有各自的启动器。

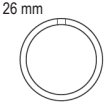
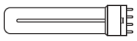
Fluorescent lamp ballast guide
日光灯镇流器指南

Fluorescent lamps have combined the technology and sophistication of fluorescent lighting with the compact convenience of incandescent light fittings.

日光灯采用荧光照明技术，拥有这种技术所带来的精密性，同时又有白炽灯接头 的小巧便利性。

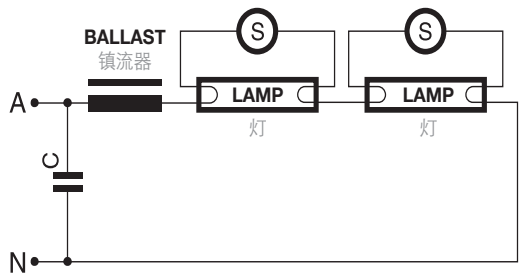
CMP offers a comprehensive range of standard EC energy control ballasts as well as LLEC low loss ballasts designed to operate compact fluorescent lamps from 5 through to 38 W.

CMP 提供一系列完整的标准 EC 节能镇流器以及 LLEC 低损耗镇流器，专门设计用于 5 W 至 38 W 的紧凑型日光灯。

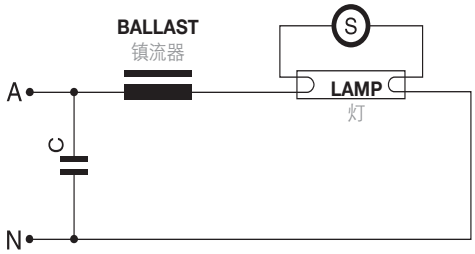
Lamp 灯	Code 代码	Wattage 功率	Length 长度	Cap 电容器	Nominal current 标称电流	Standard ballast 标准镇流器	Low lost ballast 低损耗镇流
T5-Lamp T5 灯	FD-4	4 W	150 mm	G5	170 mA	EC 4/6/8	LLEC 4/6/8
16 mm	FD-6	6 W	225 mm	G5	160 mA	EC 4/6/8	LLEC 4/6/8
	FD-6	2 x 6 W	225 mm	G5	160 mA	EC 13	LLEC 13
	FD-8	8 W	300 mm	G5	145 mA	EC 4/6/8	LLEC 4/6/8
	FD-8	2 x 8 W	300 mm	G5	145 mA	EC 13	LLEC 13
	FD-13	13 W	525 mm	G5	165 mA	EC 13	LLEC 13
T8-Lamp T8 灯	FD-10	10 W	330 mm	G13	230 mA	EC 10	LLEC 10
26 mm	FD-15	15 W	450 mm	G13	310 mA	EC 15	LLEC 15
	FD-15	2 x 15 W	450 mm	G13	310 mA	EC 30	LLEC 30
	FD-18	18 W	600 mm	G13	370 mA	EC 18/20	LLEC 18/20
	FD-18	2 x 18 W	600 mm	G13	370 mA	EC 36/40	LLEC 36/40
	FD-30	30 W	900 mm	G13	365 mA	EC 30	LLEC 30
	FD-36	36 W	1,200 mm	G13	430 mA	EC 36/40	LLEC 36/40
	FD-58	58 W	1,500 mm	G13	670 mA	EC 58/65	LLEC 58/65
T12-Lamp T12-灯	FD-20	20 W	600 mm	G13	370 mA	EC 18/20	LLEC 18/20
38 mm	FD-20	2 x 20 W	600 mm	G13	370 mA	EC 36/40	LLEC 36/40
	FD-40	40 W	1,200 mm	G13	430 mA	EC 36/40	LLEC 36/40
	FD-65	65 W	1,500 mm	G13	670 mA	EC 58/65	LLEC 58/65
T8-Circline T8-精致型	FC-22	22 W	Ø 210 mm	G10q	400 mA	EC 22	LLEC 22
26 mm	FC-32	32 W	Ø 305 mm	G10q	450 mA	EC 32	LLEC 32
	FC-40	40 W	Ø 406 mm	G10q	420 mA	EC 36/40	LLEC 36/40
TC-S and TC-L TC-S 及 TC-L	FSD-5	5 W	TC-S	2G7 / G23	180 mA	EC 9	LLEC 9
	FSD-5	2 x 5 W	TC-S	2G7 / G23	180 mA	EC 13	LLEC 13
	FSD-7	7 W	TC-S	2G7 / G23	175 mA	EC 9	LLEC 9
	FSD-7	2 x 7 W	TC-S	2G7 / G23	175 mA	EC 13	LLEC 13
	FSD-9	9 W	TC-S	2G7 / G23	170 mA	EC 9	LLEC 9
	FSD-9	2 x 9 W	TC-S	2G7 / G23	170 mA	EC 13	LLEC 13
	FSD-11	11 W	TC-S	2G7 / G23	155 mA	EC 9	LLEC 9
	FSD-18	18 W	TC-L	2G11	375 mA	EC 18/20	LLEC 18/20
	FSD-18	2 x 18 W	TC-L	2G11	375 mA	EC 36/40	LLEC 36/40
	FSD-24	24 W	TC-L	2G11	345 mA	EC 18/20	LLEC 18/20
	FSD-36	36 W	TC-L	2G11	435 mA	EC 36/40	LLEC 36/40
TC-D	FSQ-10	10 W	TC-D	G24q-1	190 mA	EC 13	LLEC 13
	FSQ-13	13 W	TC-D	G24q-1	175 mA	EC 13	LLEC 13
	FSQ-18	18 W	TC-D	G24q-1	220 mA	EC 18H	LLEC 18H
	FSQ-26	26 W	TC-D	G24q-1	325 mA	EC 18/20	LLEC 18/20
TC-T	FSM-10	10 W	TC-T	GX24q-1	190 mA	EC 13	LLEC 13
	FSM-13	13 W	TC-T	GX24q-1	175 mA	EC 13	LLEC 13
	FSM-18	18 W	TC-T	GX24q-1	225 mA	EC 18H	LLEC 18H
	FSM-26	26 W	TC-T	GX24q-1	325 mA	EC 18/20	LLEC 18/20
TC-DD	FSS-10	10 W	TC-DD	GR10q	180 mA	EC 13	LLEC 13
2D-lamp 2D-灯	FSS-16	16 W	TC-DD	GR10q	195 mA	EC 16	LLEC 16
	FSS-21	21 W	TC-DD	GR10q	260 mA	EC 21	LLEC 21
	FSS-28	28 W	TC-DD	GR10q	320 mA	EC 18/20	LLEC 18/20
	FSS-38	38 W	TC-DD	GR10q	430 mA	EC 36/40	LLEC 36/40
TC-F flat TC-F 平	FSS-18	18 W	TC-F	2G10	375 mA	EC 18/20	LLEC 18/20
	FSS-18	2 x 18 W	TC-F	2G10	375 mA	EC 36/40	LLEC 36/40
	FSS-24	24 W	TC-F	2G10	345 mA	EC 18/20	LLEC 18/20
	FSS-36	36 W	TC-F	2G10	435 mA	EC 36/40	LLEC 36/40

Technical tips for fluorescent lamp circuits
日光灯电路的技术提示

Symptom 症状	**Possible fault** 可能的故障	**Test and remedy** 测试和补救措施
Tube does not attempt to strike — no end glow from tube 灯管未试图引弧—灯管末端未发光	Fuse blown 保险丝烧断	Check supply voltage – replace broken fuse 检查电源电压—更换烧断的保险丝
	Supply fault 电源故障	Check supply volts and circuit fuse 检查电源电压和电路保险丝
	Faulty starter 启动器故障	Test starter switch in sound fitting 在音响接头中测试启动器开关
	Faulty tube 灯管故障	Test tube in sound fitting. NOTE: If one or both cathodes are broken, check for faulty circuit (short circuit to earth or wrong control gear) before inserting new tube. 在音响接头中测试灯管。 注意：如果阴极管有一个破损或两个都破损了，在插入新的灯管之前检查故障电路（电路对地短接或错误的控制装置）。
	Open circuit 开路	Test for open-circuit on ballast etc., or short to earth between ballast and tube. 测试镇流器上的开路，或镇流器与灯管之间的对地短接
Tube fails to strike — bright glow from one end of tube 灯管未能引弧灯管一端发出明亮的光	Crossed leads in twin tube fitting 双灯管接头中的交叉引线	Check that the correct lampholders are connected to each tube – leads connected to a given tube should have the same colour 检查正确的灯座连接到各个灯管一连接到给定灯管的引线的颜色应是相同的。
	Short-circuit on lampholder lead 灯座引线短路	Test for short-circuit across lampholder lead or for short-circuit to earth on starter switch or wiring 灯座引线短路测试或启动器开关或布线接地短路测试
Tube does not attempt to strike — both ends of tube glow brightly 灯管未试图引弧—灯管两端都发出明亮的光	Short-circuit on starter switch or associated wiring 启动器开关或相关布线短路	Test starter switch in sound fitting. If satisfactory, test switch socket and wiring for short-circuit. 在音响接头中测试启动器开关。如果满意，测试开关插座和布线是否短路。
Tube flashes on and off 灯管忽闪忽灭	Faulty tube (end of life) 灯管故障（使用寿命结束）	Check tube in sound fitting. At end of life, the lamp fails to maintain discharge. Symptoms are reduced light output, increased flicker and reddish glow from cathodes. 在音响接头中检查灯管。使用寿命结束时，灯未能保持放电。症状为灯光输出减少，阴极管闪烁得更厉害并发红光。
	Low voltage or incorrect ballast rating 整流器低压或额定电压不正确	Test supply voltage at fitting-if low, check external wiring for excessive voltage drop (fuseholders, etc.) If "sustained" voltage at the fitting is persistently low, use lower voltage rated ballast. 测试接头处的电源电压—如果较低，检查外部布线是否压降过高（保险丝座等）。如果接头处的“持续”电压一直处于较低的水平，使用额定电压低的镇流器。
	Faulty starter 启动器故障	Test starter switch in sound fitting 在音响接头中测试启动器开关
	Low temperature 低温	Screen open type fittings 屏幕开放式接头
	Crossed leads in twin tube fitting 双灯管接头中的交叉引线	Check that correct lampholders are connected to each tube, i.e. leads connected to a given tube should have the same colour. 检查正确的灯座连接到各个灯管，即连接到给定灯管的引线的颜色应相同。
Lamp takes a long time to light 灯具过了很久时间才变亮	Some period is needed to start the lamp after switching on. 开关打开后，需要一段时间才能启动灯具。	Measure the period. 2 to 6 seconds is normal 测量这段时间。2 至 6 秒是正常时间
	Supply voltage is low due to: a) Overload on line. b) Lower voltage supplied. 电源电压较低，因为： a) 线路过载。 b) 提供的电压较低。	Check the line voltage and conditions 检查线路电压和状况
	The lamp quality is poor 灯具的品质较差	Test with a known good lamp 用已知正常的灯具进行测试
The lamp repeats on-off operation 重复对此灯具进行开关操作	Supply voltage is low 电源电压较低	Check supply voltage with multimeter 用万用表检查电源电压
	Incorrect wiring occurs in the apparatus 设备中的布线不正确	Check the wiring condition 检查布线情况
	The lamp or the glow starter is damaged because of end of life. 灯具或辉光启动器因使用寿命结束而损坏。	Test with a known good lamp 用已知正常的灯具进行测试
	Poor contact between lamp pins in lampholders. 灯座内引脚之间接触不良。	Check the lamp contact condition 检查灯具的接触情况
Excessive blackening at the end (or both ends) of a lamp is found 灯具一端（或两端）过度发黑	The supply voltage doesn't match the ballast rating 电源电压与镇流器额定电压不匹配	Check the supply voltage with a multimeter 用万用表检查电源电压
	Incorrect wiring in apparatus or between the supply and fitting 设备中的布线不正确，或电源与接头之间的布线不正确	Check the wire connecting condition 检查线路连接情况
	Too many switching operations of the lamp have been performed 灯具的开关次数过多	The lamp or the ballast has failed. Change the lamp or the ballast with replacement and observe for a time. 灯具或镇流器已失效。更换灯具或镇流器，并观察一段时间。



Twin series circuit
双串联电路

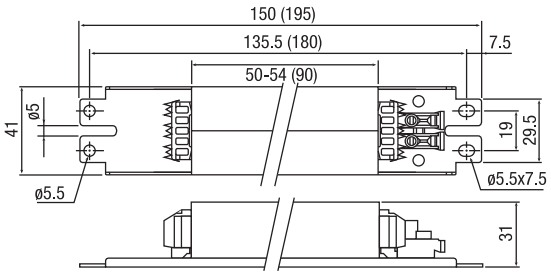


Switch start circuit
开关启动电路

LLEC low loss ballasts

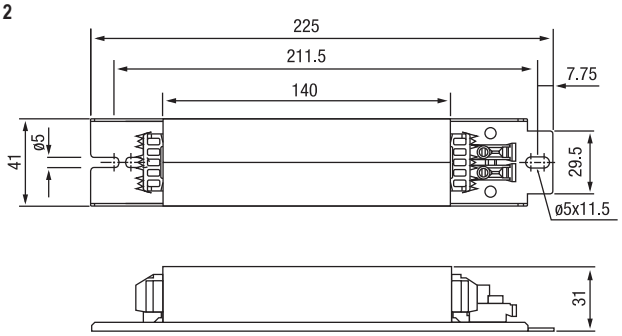
LLEC 低损耗镇流器

Figure 1
图 1



50, 54 and (90 mm) stack
50、54 和 (90 mm) 堆叠厚度

Figure 2
图 2



140 mm stack
140 mm 堆叠厚度

- low power consumption
- slim cross-section and compact
- low loss core laminations
- low magnetic stray field
- long service life
- varnish impregnation
- non-audible noise level
- nomex class “H” gap for fixed calibration
- resistant to moisture and corrosion
- 10 A push-in terminals (screw terminals on request)
- maximum winding temperature tw 130°C low temperature rise
- other supply voltages than listed are available i.e. 120 V, 277 V etc.

- 功耗低
- 横截面窄，外观紧凑
- 低损耗铁芯叠片
- 低杂散磁场
- 使用寿命长
- 清漆浸渍
- 不可闻噪声级
- Nomex “H” 级空隙，用于固定校准
- 耐潮湿、耐腐蚀
- 10 A 推入式端子（可按要求提供螺丝端子）
- 最大绕组温度 tw 130° C 低温升
- 可提供未在此处列示的其他电源电压
- 例如 120 V、277 V 等

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz – LLEC low loss ballasts (EEI=B1)

220 V 50 Hz – LLEC 低损耗镇流器 (EEI=B1)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/ abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	LLEC4/6/8		3.3	7.8	165	170	0.21	39	43	3.0	25/35	50	1	150.0	135.5	0.55
6	42	160	225	LLEC4/6/8		3.1	9.1	155	170	0.27	46	53	2.0	25/35	50	1	150.0	135.5	0.55
2x6	42	160	225	LLEC13		3.0	15.0	160	200	0.43	76	99	2.0	25/35	50	1	150.0	135.5	0.55
8	56	145	300	LLEC4/6/8		2.9	10.0	145	170	0.31	51	62	2.0	25/35	50	1	150.0	135.5	0.55
2x8	56	145	300	LLEC13		2.7	16.9	145	200	0.53	85	124	1.5	25/35	50	1	150.0	135.5	0.55
10	49	230	330	LLEC10*		4.5	14.5	230	275	0.29	73	92	3.0	30/40	50	1	150.0	135.5	0.55
13	95	165	525	LLEC13		3.1	16.1	165	200	0.44	81	103	2.0	25/35	50	1	150.0	135.5	0.55
15	55	310	450	LLEC15		EEI=B1	20.0	310	360	0.29	101	123	4.0	30/40	50	1	150.0	135.5	0.55
18	57	370	600	LLEC18/20		EEI=B1	23.5	370	415	0.29	119	140	5.0	25/40	90	1	195.0	180.0	1.00
2x18	57	370	600	LLEC36/40		4.7	40.7	370	495	0.50	206	289	3.5	25/50	90	1	195.0	180.0	1.00
20	57	370	600	LLEC18/20		5.5	24.8	370	415	0.30	125	148	5.0	25/40	90	1	195.0	180.0	1.00
2x20	57	370	600	LLEC36/40		4.7	43.3	370	495	0.53	219	307	3.5	25/50	90	1	195.0	180.0	1.00
22	62	400	Ø210	LLEC22		6.5	28.5	400	440	0.32	144	166	5.0	35/50	90	1	195.0	180.0	1.00
30	96	365	900	LLEC30		EEI=B1	35.9	365	440	0.45	181	230	4.0	35/50	90	1	195.0	180.0	1.00
32	81	450	Ø305	LLEC32		7.0	39.0	430	520	0.41	197	250	5.0	40/70	90	1	195.0	180.0	1.00
32	135	265	1,200	LLEC32H*		3.0	33.5	265	435	0.57	169	292	3.0	15/30	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40		EEI=B1	41.5	415	625	0.45	210	331	4.0	30/60	90	1	195.0	180.0	1.00
40	103	430	1,200	LLEC36/40		5.5	45.0	415	625	0.49	227	359	4.0	30/60	90	1	195.0	180.0	1.00
58	110	670	1,500	LLEC58/65		EEI=B1	66.0	660	1,130	0.45	333	599	7.0	35/70	140	2	225.0	211.5	1.40
65	110	670	1,500	LLEC58/65		8.0	72.0	660	1,130	0.50	364	654	6.0	35/70	140	2	225.0	211.5	1.40
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	LLEC9		EEI=B1	8.8	180	180	0.22	44	47	3.0	30/35	50	1	150.0	135.5	0.55
2x5	35	180	TC-S	LLEC13		3.3	14.1	175	200	0.37	71	85	2.0	25/35	50	1	150.0	135.5	0.55
7	47	175	TC-S	LLEC9		EEI=B1	10.4	175	180	0.27	53	57	3.0	30/35	50	1	150.0	135.5	0.55
2x7	47	175	TC-S	LLEC13		3.1	17.3	165	200	0.48	87	111	1.5	25/35	50	1	150.0	135.5	0.55
9	60	170	TC-S	LLEC9		EEI=B1	11.8	165	180	0.33	60	68	2.0	30/35	50	1	150.0	135.5	0.55
2x9	60	170	TC-S	LLEC13		2.9	20.7	155	200	0.61	105	142	1.5	25/35	50	1	150.0	135.5	0.55
10	64	190	TC-D	LLEC13		EEI=B1	13.5	185	200	0.33	68	77	3.0	25/35	50	1	150.0	135.5	0.55
10	72	180	TC-DD	LLEC13		EEI=B1	13.8	175	200	0.36	70	84	2.0	25/35	50	1	150.0	135.5	0.55
11	91	155	TC-S	LLEC9		EEI=B1	14.7	155	180	0.43	74	91	2.0	30/35	50	1	150.0	135.5	0.55
13	91	175	TC-D	LLEC13		EEI=B1	16.2	170	200	0.43	82	101	2.0	25/35	50	1	150.0	135.5	0.55
13	91	175	TC-T	LLEC13		EEI=B1	16.2	170	200	0.43	82	101	2.0	25/35	50	1	150.0	135.5	0.55
16	103	195	TC-DD	LLEC16		EEI=B1	19.3	195	200	0.45	97	105	2.0	25/35	50	1	150.0	135.5	0.55
18	100	220	TC-D	LLEC18H		EEI=B1	22.1	220	290	0.46	112	154	3.0	40/50	50	1	195.0	135.5	0.55
18	58	375	TC-F	LLEC18/20		EEI=B1	23.5	370	415	0.29	119	140	5.0	25/40	90	1	195.0	180.0	1.00
18	58	375	TC-L	LLEC18/20		EEI=B1	23.5	370	415	0.29	119	140	5.0	25/40	90	1	150.0	180.0	1.00
18	100	225	TC-T	LLEC18H		EEI=B1	22.1	220	290	0.46	112	154	3.0	40/50	50	1	195.0	135.5	0.55
2x18	58	375	TC-L	LLEC36/40		4.7	40.7	370	495	0.50	206	289	3.5	25/50	90	1	195.0	180.0	1.00
24	87	345	TC-F	LLEC18/20		EEI=B1	28.9	345	415	0.38	146	184	4.0	25/40	90	1	195.0	180.0	1.00
24	87	345	TC-L	LLEC18/20		EEI=B1	28.9	345	415	0.38	146	184	4.0	25/40	90	1	195.0	180.0	1.00
26	105	325	TC-D	LLEC18/20		EEI=B1	30.2	315	415	0.44	153	211	3.5	25/40	90	1	195.0	180.0	1.00
26	105	325	TC-T	LLEC18/20		EEI=B1	30.7	315	415	0.44	155	215	3.5	25/40	90	1	195.0	180.0	1.00
28	108	320	TC-DD	LLEC18/20		EEI=B1	32.6	315	410	0.47	165	225	3.0	25/50	90	1	195.0	180.0	1.00
36	106	435	TC-F	LLEC36/40		EEI=B1	41.5	415	625	0.45	210	331	4.0	30/60	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40		EEI=B1	41.5	415	625	0.45	210	331	4.0	30/60	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40		EEI=B1	44.0	415	625	0.48	222	351	4.0	30/60	90	1	150.0	180.0	1.00

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

备注

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

220 V 60 Hz – LLEC low loss ballasts

220 V 60 Hz—LLEC 低损耗镇流器

灯具				镇流器		电气特性								热特性	物理				
wattage 功率 W	voltage 电压 V	current 电流 mA	length 长度 mm	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	normal/ abnormal 正常/异常温差 Δt	stack 堆叠厚度 mm	figure 噪音系数	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
线形和环形灯具																			
4	29	170	150	LLEC4/6/8		3.3	7.8	165	170	0.21	39	43	2.0	25/35	50	1	150.0	135.5	0.55
6	42	160	225	LLEC4/6/8		3.1	9.1	155	170	0.27	46	53	2.0	25/35	50	1	150.0	135.5	0.55
2x6	42	160	225	LLEC13		3.0	15.0	160	200	0.43	76	99	1.5	25/35	50	1	150.0	135.5	0.55
8	56	145	300	LLEC4/6/8		2.9	10.0	145	170	0.31	51	62	1.5	25/35	50	1	150.0	135.5	0.55
2x8	56	145	300	LLEC13		2.7	16.9	145	200	0.53	85	124	1.5	25/35	50	1	150.0	135.5	0.55
10	49	230	330	LLEC10*		4.5	14.5	230	275	0.29	73	92	3.0	30/40	50	1	150.0	135.5	0.55
13	95	165	525	LLEC13		3.1	16.1	165	200	0.44	81	103	1.5	25/35	50	1	150.0	135.5	0.55
15	55	310	450	LLEC15		5.0	20.0	310	360	0.29	101	123	3.0	30/40	50	1	150.0	135.5	0.55
18	57	370	600	LLEC18/20		6.0	24.0	360	400	0.30	121	141	3.5	40/60	50	1	150.0	135.5	0.55
2x18	57	370	600	LLEC36/40		4.7	40.7	370	495	0.50	206	289	3.0	25/50	90	1	195.0	180.0	1.00
20	57	370	600	LLEC18/20		6.0	25.3	360	400	0.32	128	149	3.5	40/60	50	1	150.0	135.5	0.55
2x20	57	370	600	LLEC36/40		4.7	43.3	370	495	0.53	219	307	3.0	25/50	90	1	195.0	180.0	1.00
22	62	400	Ø210	LLEC22		6.5	28.5	400	440	0.32	144	166	4.0	35/50	90	1	195.0	180.0	1.00
30	96	365	900	LLEC30		5.9	35.9	365	440	0.45	181	230	3.0	35/50	90	1	195.0	180.0	1.00
32	81	450	Ø305	LLEC32		7.0	39.0	430	520	0.41	197	250	4.0	40/70	90	1	195.0	180.0	1.00
32	135	265	1,200	LLEC32H*		3.0	33.5	265	435	0.57	169	292	2.0	15/30	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40		5.5	41.5	415	625	0.45	210	331	3.5	30/60	90	1	195.0	180.0	1.00
40	103	430	1,200	LLEC36/40		5.5	45.0	415	625	0.49	227	359	3.5	30/60	90	1	195.0	180.0	1.00
58	110	670	1,500	LLEC58/65		8.0	66.0	660	1,130	0.45	333	599	6.0	35/70	140	2	225.0	211.5	1.40
65	110	670	1,500	LLEC58/65		8.0	72.0	660	1,130	0.50	364	654	5.0	35/70	140	2	225.0	211.5	1.40
紧凑型灯具																			
5	35	180	TC-S	LLEC9	89003647	3.4	8.8	180	180	0.22	44	47	2.0	30/35	50	1	150.0	135.5	0.55
2x5	35	180	TC-S	LLEC13		3.3	14.1	175	200	0.37	71	85	2.0	25/35	50	1	150.0	135.5	0.55
7	47	175	TC-S	LLEC9	89003647	3.3	10.4	175	180	0.27	53	57	2.0	30/35	50	1	150.0	135.5	0.55
2x7	47	175	TC-S	LLEC13		3.1	17.3	165	200	0.48	87	111	1.5	25/35	50	1	150.0	135.5	0.55
9	60	170	TC-S	LLEC9	89003647	3.1	11.8	165	180	0.33	60	68	2.0	30/35	50	1	150.0	135.5	0.55
2x9	60	170	TC-S	LLEC13		2.9	20.7	155	200	0.61	105	142	1.5	25/35	50	1	150.0	135.5	0.55
10	64	190	TC-D	LLEC13		3.5	13.5	185	200	0.33	68	77	2.0	25/35	50	1	150.0	135.5	0.55
10	72	180	TC-DD	LLEC13		3.3	13.8	175	200	0.36	70	84	2.0	25/35	50	1	150.0	135.5	0.55
11	91	155	TC-S	LLEC9	89003647	2.9	14.7	155	180	0.43	74	91	1.5	30/35	50	1	150.0	135.5	0.55
13	91	175	TC-D	LLEC13		3.2	16.2	170	200	0.43	82	101	1.5	25/35	50	1	150.0	135.5	0.55
13	91	175	TC-T	LLEC13		3.2	16.2	170	200	0.43	82	101	1.5	25/35	50	1	150.0	135.5	0.55
16	103	195	TC-DD	LLEC16		3.3	19.3	195	200	0.45	97	105	2.0	25/35	50	1	150.0	135.5	0.55
18	100	220	TC-D	LLEC18H		4.1	22.1	220	290	0.46	112	154	2.0	40/50	50	1	150.0	135.5	0.55
18	58	375	TC-F	LLEC18/20		6.0	24.0	360	400	0.30	121	141	3.5	40/60	50	1	150.0	135.5	0.55
18	58	375	TC-L	LLEC18/20		6.0	24.0	360	400	0.30	121	141	3.5	40/60	50	1	150.0	135.5	0.55
18	100	225	TC-T	LLEC18H		4.1	22.1	220	290	0.46	112	154	2.0	40/50	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	LLEC36/40		4.7	40.7	370	495	0.50	206	289	3.0	25/50	90	1	195.0	180.0	1.00
24	87	345	TC-F	LLEC18/20		5.5	29.5	345	400	0.39	149	182	3.0	40/60	50	1	150.0	135.5	0.55
24	87	345	TC-L	LLEC18/20		5.5	29.5	345	400	0.39	149	182	3.0	40/60	50	1	150.0	135.5	0.55
26	105	325	TC-D	LLEC18/20		4.6	30.6	315	400	0.44	155	206	3.0	40/60	50	1	150.0	135.5	0.55
26	105	325	TC-T	LLEC18/20		4.6	31.1	315	400	0.45	157	209	3.0	40/60	50	1	150.0	135.5	0.55
28	108	320	TC-DD	LLEC18/20		4.6	33.0	315	410	0.48	167	228	3.0	40/60	50	1	150.0	135.5	0.55
36	106	435	TC-F	LLEC36/40		5.5	41.5	415	625	0.45	210	331	3.5	30/60	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40		5.5	41.5	415	625	0.45	210	331	3.5	30/60	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40		5.5	44.0	415	625	0.48	222	351	3.5	30/60	90	1	195.0	180.0	1.00

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。

230 V 50 Hz – LLEC low loss ballasts (EEI=B1)

230 V 50 Hz—LLEC 低损耗镇流器 (EEI=B1)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/ abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	LLEC4/6/8		3.4	7.9	165	170	0.21	38	41	2.0	25/35	50	1	150.0	135.5	0.55
6	42	160	225	LLEC4/6/8		3.2	9.2	155	170	0.26	44	51	2.0	25/35	50	1	150.0	135.5	0.55
2x	42	160	225	LLEC13		3.1	15.1	160	205	0.41	73	98	2.0	25/40	50	1	150.0	135.5	0.55
8	56	145	300	LLEC4/6/8		3.0	10.1	145	170	0.30	49	60	2.0	25/35	50	1	150.0	135.5	0.55
2x8	56	145	300	LLEC13		2.8	17.0	145	205	0.51	82	122	1.5	25/40	50	1	150.0	135.5	0.55
10	49	230	330	LLEC10*		4.8	14.8	230	280	0.28	71	91	3.0	30/40	50	1	150.0	135.5	0.55
13	95	165	525	LLEC13		3.2	16.2	165	205	0.43	78	102	2.0	25/40	50	1	150.0	135.5	0.55
15	55	310	450	LLEC15		EEI=B1	20.3	310	370	0.28	98	123	3.5	30/40	50	1	150.0	135.5	0.55
18	57	370	600	LLEC18/20		EEI=B1	24.0	370	420	0.28	116	138	5.0	35/55	90	1	195.0	180.0	1.00
2x18	57	370	600	LLEC36/40	89000530	4.9	40.9	370	505	0.48	198	283	3.5	25/50	90	1	195.0	180.0	1.00
20	57	370	600	LLEC18/20		6.0	25.3	370	420	0.30	122	146	5.0	35/55	90	1	195.0	180.0	1.00
2x20	57	370	600	LLEC36/40	89000530	4.9	43.5	370	505	0.51	210	301	3.5	25/50	90	1	195.0	180.0	1.00
22	62	400	Ø210	LLEC22		6.5	28.5	400	445	0.31	138	161	5.0	35/55	90	1	195.0	180.0	1.00
30	96	365	900	LLEC30	89000519	EEI=B1	35.9	365	445	0.43	174	222	3.5	35/55	90	1	195.0	180.0	1.00
32	81	450	Ø305	LLEC32		7.3	39.3	430	530	0.40	190	246	5.0	40/70	90	1	195.0	180.0	1.00
32	135	265	1,200	LLEC32H*		3.1	33.6	265	440	0.55	162	283	3.0	15/30	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40	89000530	EEI=B1	42.0	415	635	0.44	203	326	4.0	35/75	90	1	195.0	180.0	1.00
40	103	430	1,200	LLEC36/40	89000530	6.0	45.5	415	635	0.48	220	353	4.0	35/75	90	1	195.0	180.0	1.00
58	110	670	1,500	LLEC58/65	89002475	EEI=B1	66.9	660	1,150	0.44	323	591	7.0	30/70	140	2	225.0	211.5	1.40
65	110	670	1,500	LLEC58/65	89002475	8.9	72.9	660	1,150	0.48	352	644	6.0	30/70	140	2	225.0	211.5	1.40
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	LLEC9		EEI=B1	8.9	180	180	0.21	43	45	3.0	30/35	50	1	150.0	135.5	0.55
2x5	35	180	TC-S	LLEC13		3.4	14.2	175	205	0.35	69	84	2.0	25/40	50	1	150.0	135.5	0.55
7	47	175	TC-S	LLEC9		EEI=B1	10.5	175	180	0.26	51	55	2.0	30/35	50	1	150.0	135.5	0.55
2x7	47	175	TC-S	LLEC13		3.2	17.4	165	205	0.46	84	110	1.5	25/40	50	1	150.0	135.5	0.55
9	60	170	TC-S	LLEC9		EEI=B1	11.9	165	180	0.31	58	66	2.0	30/35	50	1	150.0	135.5	0.55
2x9	60	170	TC-S	LLEC13		3.0	20.8	155	205	0.58	101	140	1.5	25/40	50	1	150.0	135.5	0.55
10	64	190	TC-D	LLEC13		EEI=B1	13.6	185	205	0.32	66	76	2.0	25/40	50	1	150.0	135.5	0.55
10	72	180	TC-DD	LLEC13		EEI=B1	13.9	175	205	0.35	67	83	2.0	25/40	50	1	150.0	135.5	0.55
11	91	155	TC-S	LLEC9		EEI=B1	14.8	155	180	0.42	72	87	1.5	30/35	50	1	150.0	135.5	0.55
13	91	175	TC-D	LLEC13		EEI=B1	16.3	170	205	0.42	79	100	2.0	25/40	50	1	150.0	135.5	0.55
13	91	175	TC-T	LLEC13		EEI=B1	16.3	170	205	0.42	79	100	2.0	25/40	50	1	150.0	135.5	0.55
16	103	195	TC-DD	LLEC16		EEI=B1	19.4	195	205	0.43	94	103	2.0	30/50	50	1	150.0	135.5	0.55
18	100	220	TC-D	LLEC18H		EEI=B1	22.3	220	295	0.44	108	152	3.0	25/55	50	1	150.0	135.5	0.55
18	58	375	TC-F	LLEC18/20		EEI=B1	24.0	370	420	0.28	116	138	5.0	35/55	90	1	195.0	180.0	1.00
18	58	375	TC-L	LLEC18/20		EEI=B1	24.0	370	420	0.28	116	138	5.0	35/55	90	1	195.0	180.0	1.00
18	100	225	TC-T	LLEC18H		EEI=B1	22.3	220	295	0.44	108	152	3.0	25/55	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	LLEC36/40	89000530	4.9	40.9	370	505	0.48	198	283	3.5	25/50	90	1	195.0	180.0	1.00
24	87	345	TC-F	LLEC18/20		EEI=B1	29.4	345	420	0.37	142	181	4.0	35/55	90	1	195.0	180.0	1.00
24	87	345	TC-L	LLEC18/20		EEI=B1	29.4	345	420	0.37	142	181	4.0	35/55	90	1	195.0	180.0	1.00
26	105	325	TC-D	LLEC18/20		EEI=B1	30.6	315	420	0.42	148	207	3.5	35/55	90	1	195.0	180.0	1.00
26	105	325	TC-T	LLEC18/20		EEI=B1	31.1	315	420	0.43	150	210	3.0	35/55	90	1	195.0	180.0	1.00
28	108	320	TC-DD	LLEC18/20		EEI=B1	33.0	315	415	0.46	159	221	3.0	35/55	90	1	195.0	180.0	1.00
36	106	435	TC-F	LLEC36/40	89000530	EEI=B1	42.0	415	635	0.44	203	326	4.0	35/75	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40	89000530	EEI=B1	42.0	415	635	0.44	203	326	4.0	35/75	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40	89000530	EEI=B1	44.5	415	635	0.47	215	345	4.0	35/75	90	1	195.0	180.0	1.00

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

240 V 50 Hz – LLEC low loss ballasts (EEI=B1)

240 V 50 Hz—LLEC 低损耗镇流器 (EEI=B1)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热	**Physical** 物理				
wattage	voltage	current	length	type	article number	loss hot	input power	lamp current	lamp start current	circuit	line current	line start current	capacitor	normal/ abnormal	stack	figure	length	mtg centres	weight
功率	电压	电流	长度	类型	商品号	热损失	输入功率	灯具电流	灯具启动电流	电路	线路电流	线路启动电流	电容器	正常/异常温差	堆叠厚度	噪音系数	长度	两颗固定螺丝的距离	重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	LLEC4/6/8		3.5	8.0	165	170	0.20	37	40	2.0	25/35	50	1	150.0	135.5	0.55
6	42	160	225	LLEC4/6/8		3.3	9.3	155	170	0.25	43	50	2.0	25/35	50	1	150.0	135.5	0.55
2x6	42	160	225	LLEC13		3.2	15.2	160	210	0.40	70	97	1.5	25/40	50	1	150.0	135.5	0.55
8	56	145	300	LLEC4/6/8		3.1	10.2	145	170	0.29	47	58	2.0	25/35	50	1	150.0	135.5	0.55
2x8	56	145	300	LLEC13		2.9	17.1	145	210	0.49	79	120	1.5	25/40	50	1	150.0	135.5	0.55
10	49	230	330	LLEC10*	89000385	5.0	15.0	230	285	0.27	69	90	3.0	30/40	50	1	150.0	135.5	0.55
13	95	165	525	LLEC13		3.3	16.3	165	210	0.41	75	101	2.0	25/40	50	1	150.0	135.5	0.55
15	55	310	450	LLEC15	89000493	EEI=B1	20.5	310	370	0.28	95	119	3.5	30/40	50	1	150.0	135.5	0.55
15	57	300	550	LLEC15 ES8*		5.5	20.5	300	350	0.28	95	116	3.5	30/40	90	1	195.0	180.0	1.00
18	57	370	600	LLEC18/20	89000494	EEI=B1	24.0	370	425	0.27	111	134	5.0	35/55	90	1	195.0	180.0	1.00
2x18	57	370	600	LLEC36/40	89000524	5.0	41.0	370	515	0.46	190	277	3.5	25/50	90	1	195.0	180.0	1.00
2x18	57	370	600	LLEC36/40-20		5.5	41.5	370	515	0.47	192	281	3.5	30/50	90	1	195.0	180.0	1.00
20	57	370	600	LLEC18/20	89000494	6.0	25.3	370	425	0.28	117	141	4.0	35/55	90	1	195.0	180.0	1.00
2x20	57	370	600	LLEC36/40	89000524	5.0	43.6	370	515	0.49	202	295	3.5	25/50	90	1	195.0	180.0	1.00
22	62	400	Ø210	LLEC22		6.5	28.5	400	450	0.30	132	156	5.0	35/55	90	1	195.0	180.0	1.00
23		290	970	LLEC18/20	89000494	4.6	23.9	290	425	0.34	111	170	3.0	35/55	90	1	195.0	180.0	1.00
30	96	365	900	LLEC30	89000518	EEI=B1	35.9	365	450	0.41	166	215	3.5	35/55	90	1	195.0	180.0	1.00
32	81	450	Ø305	LLEC32		7.5	39.5	430	540	0.38	183	241	5.0	40/70	90	1	195.0	180.0	1.00
32	135	265	1,200	LLEC32H*		3.2	33.7	265	445	0.53	156	275	3.0	15/30	90	1	195.0	180.0	1.00
33	103	380	1,150	LLEC33 ES8*		5.5	38.5	380	520	0.42	178	256	3.5	30/55	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40	89000524	EEI=B1	42.0	415	645	0.42	194	317	4.0	35/75	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40-20		EEI=B1	42.6	415	645	0.43	197	322	4.0	40/75	90	1	195.0	180.0	1.00
40	103	430	1,200	LLEC36/40	89000524	6.0	45.5	415	645	0.46	211	344	4.0	35/75	90	1	195.0	180.0	1.00
58	110	670	1,500	LLEC58/65	89002631	EEI=B1	67.0	660	1,170	0.42	310	577	7.0	35/70	140	2	225.0	211.5	1.40
65	110	670	1,500	LLEC58/65	89002631	9.0	73.0	660	1,170	0.46	338	629	6.0	35/70	140	2	225.0	211.5	1.40
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	LLEC9	89000400	EEI=B1	9.0	180	180	0.21	42	44	3.0	30/35	50	1	150.0	135.5	0.55
5	35	180	TC-S	EC 9 B103K	89003614	EEI=B1	10.5	180	190	0.24	49	54	2.0	50/70	27	-	84.5	76.0	0.33
2x5	35	180	TC-S	LLEC13		3.5	14.3	175	210	0.34	66	83	2.0	25/40	50	1	150.0	135.5	0.55
7	47	175	TC-S	LLEC9	89000400	EEI=B1	10.6	175	180	0.25	49	53	2.0	30/35	50	1	150.0	135.5	0.55
7	47	175	TC-S	EC 9 B103K	89003614	EEI=B1	12.1	175	190	0.29	56	64	2.0	50/70	27	-	84.5	76.0	0.33
2x7	47	175	TC-S	LLEC13		3.3	17.5	165	210	0.44	81	108	1.5	25/40	50	1	150.0	135.5	0.55
9	60	170	TC-S	LLEC9	89000400	EEI=B1	12.0	165	180	0.30	56	64	2.0	30/35	50	1	150.0	135.5	0.55
9	60	170	TC-S	EC 9 B103K	89003614	EEI=B1	13.4	165	190	0.34	62	75	2.0	50/70	27	-	84.5	76.0	0.33
2x9	60	170	TC-S	LLEC13		3.1	20.9	155	210	0.56	97	138	1.5	25/40	50	1	150.0	135.5	0.55
10	64	190	TC-D	LLEC13		EEI=B1	13.7	185	210	0.31	63	76	2.0	25/40	50	1	150.0	135.5	0.55
10	72	180	TC-DD	LLEC13		EEI=B1	14.0	175	210	0.33	65	82	2.0	25/40	50	1	150.0	135.5	0.55
11	91	155	TC-S	LLEC9	89000400	EEI=B1	14.9	155	180	0.40	69	84	1.5	30/35	50	1	150.0	135.5	0.55
11	91	155	TC-S	EC 9 B103K	89003614	EEI=B1	16.2	155	190	0.44	75	97	1.5	50/70	27	-	84.5	76.0	0.33
13	91	175	TC-D	LLEC13		EEI=B1	16.4	170	210	0.40	76	98	2.0	25/40	50	1	150.0	135.5	0.55
13	91	175	TC-T	LLEC13		EEI=B1	16.4	170	210	0.40	76	98	2.0	25/40	50	1	150.0	135.5	0.55
16	103	195	TC-DD	LLEC16		EEI=B1	19.5	195	210	0.42	90	102	2.0	30/50	50	1	150.0	135.5	0.55
18	100	220	TC-D	LLEC18H		EEI=B1	22.4	220	300	0.42	104	148	2.0	30/55	50	1	150.0	135.5	0.55
18	58	375	TC-F	LLEC18/20	89000494	EEI=B1	24.0	370	425	0.27	111	134	5.0	35/55	90	1	195.0	180.0	1.00
18	58	375	TC-L	LLEC18/20	89000494	EEI=B1	24.0	370	425	0.27	111	134	5.0	35/55	90	1	195.0	180.0	1.00
18	100	225	TC-T	LLEC18H		EEI=B1	22.4	220	300	0.42	104	148	2.0	30/55	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	LLEC36/40	89000524	5.0	41.0	370	515	0.46	190	277	3.5	25/50	90	1	195.0	180.0	1.00
2x18	58	375	TC-L	LLEC36/40-20		5.5	41.5	370	515	0.47	192	281	3.5	30/50	90	1	195.0	180.0	1.00
24	87	345	TC-F	LLEC18/20	89000494	EEI=B1	29.4	345	425	0.35	136	176	3.5	35/55	90	1	195.0	180.0	1.00
24	87	345	TC-L	LLEC18/20	89000494	EEI=B1	29.4	345	425	0.35	136	176	3.5	35/55	90	1	195.0	180.0	1.00
26	105	325	TC-D	LLEC18/20	89000494	EEI=B1	30.6	315	425	0.40	142	201	3.0	35/55	90	1	195.0	180.0	1.00
26	105	325	TC-T	LLEC18/20	89000494	EEI=B1	31.1	315	425	0.41	144	204	3.0	35/55	90	1	195.0	180.0	1.00
28	108	320	TC-DD	LLEC18/20	89000494	EEI=B1	33.0	315	420	0.44	153	214	3.0	35/55	90	1	195.0	180.0	1.00
36	106	435	TC-F	LLEC36/40	89000524	EEI=B1	42.0	415	645	0.42	194	317	4.0	35/75	90	1	195.0	180.0	1.00
36	106	435	TC-F	LLEC36/40-20		EEI=B1	42.6	415	645	0.43	197	322	4.0	40/75	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40	89000524	EEI=B1	42.0	415	645	0.42	194	317	4.0	35/75	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40-20		EEI=B1	42.6	415	645	0.43	197	322	4.0	40/75	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40	89000524	EEI=B1	44.5	415	645	0.45	206	336	4.0	35/75	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40-20		EEI=B1	45.1	415	645	0.45	209	341	4.0	40/75	90	1	195.0	180.0	1.00

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

250 V 50 Hz – LLEC low loss ballasts (EEI=B1)

250 V 50 Hz—LLEC 低损耗镇流器 (EEI=B1)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/ abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	LLEC4/6/8		3.6	8.1	165	175	0.20	36	40	2.0	25/35	50	1	150.0	135.5	0.55
6	42	160	225	LLEC4/6/8		3.4	9.4	155	175	0.24	42	49	2.0	25/35	50	1	150.0	135.5	0.55
2x6	42	160	225	LLEC13		3.3	15.3	160	215	0.38	68	96	1.5	25/40	50	1	150.0	135.5	0.55
8	56	145	300	LLEC4/6/8		3.2	10.3	145	175	0.28	46	58	1.5	25/35	50	1	150.0	135.5	0.55
2x8	56	145	300	LLEC13		3.0	17.2	145	215	0.47	76	119	1.5	25/40	50	1	150.0	135.5	0.55
10	49	230	330	LLEC10*		5.0	15.0	230	290	0.26	67	88	3.0	30/40	50	1	150.0	135.5	0.55
13	95	165	525	LLEC13		3.4	16.4	165	215	0.40	73	100	1.5	25/40	50	1	150.0	135.5	0.55
15	55	310	450	LLEC15		EEI=B1	20.7	310	380	0.27	92	118	3.5	30/40	50	1	150.0	135.5	0.55
18	57	370	600	LLEC18/20		EEI=B1	24.5	370	435	0.26	109	134	4.0	40/60	90	1	195.0	180.0	1.00
2x18	57	370	600	LLEC36/40	89000529	5.1	41.1	370	520	0.44	183	270	3.5	30/55	90	1	195.0	180.0	1.00
20	57	370	600	LLEC18/20		6.5	25.8	370	435	0.28	115	142	4.0	40/60	90	1	195.0	180.0	1.00
2x20	57	370	600	LLEC36/40	89000529	5.1	43.7	370	520	0.47	194	287	3.5	30/55	90	1	195.0	180.0	1.00
22	62	400	Ø210	LLEC22		6.8	28.8	400	455	0.29	128	153	5.0	40/60	90	1	195.0	180.0	1.00
30	96	365	900	LLEC30		EEI=B1	36.2	365	455	0.40	161	211	3.5	40/60	90	1	195.0	180.0	1.00
32	81	450	Ø305	LLEC32		7.8	39.8	430	545	0.37	177	235	5.0	45/75	90	1	195.0	180.0	1.00
32	135	265	1,200	LLEC32H*		3.3	33.8	265	450	0.51	150	268	3.0	15/30	90	1	195.0	180.0	1.00
36	103	430	1,200	LLEC36/40	89000529	EEI=B1	42.5	415	655	0.41	189	313	4.0	40/80	90	1	195.0	180.0	1.00
40	103	430	1,200	LLEC36/40	89000529	6.5	46.0	415	655	0.44	204	339	4.0	40/80	90	1	195.0	180.0	1.00
58	110	670	1,500	LLEC58/65		EEI=B1	67.4	660	1,180	0.41	300	562	6.0	40/75	140	2	225.0	211.5	1.40
65	110	670	1,500	LLEC58/65		9.4	73.4	660	1,180	0.44	326	612	6.0	40/75	140	2	225.0	211.5	1.40
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	LLEC9		EEI=B1	9.1	180	185	0.20	40	44	2.0	30/35	50	1	150.0	135.5	0.55
2x5	35	180	TC-S	LLEC13		3.6	14.4	175	215	0.33	64	83	2.0	25/40	50	1	150.0	135.5	0.55
7	47	175	TC-S	LLEC9		EEI=B1	10.7	175	185	0.24	48	53	2.0	30/35	50	1	150.0	135.5	0.55
2x7	47	175	TC-S	LLEC13		3.4	17.6	165	215	0.43	78	107	1.5	25/40	50	1	150.0	135.5	0.55
9	60	170	TC-S	LLEC9		EEI=B1	12.1	165	185	0.29	54	63	2.0	30/35	50	1	150.0	135.5	0.55
2x9	60	170	TC-S	LLEC13		3.2	21.0	155	215	0.54	93	136	1.5	25/40	50	1	150.0	135.5	0.55
10	64	190	TC-D	LLEC13		EEI=B1	13.8	185	215	0.30	61	75	2.0	25/40	50	1	150.0	135.5	0.55
10	72	180	TC-DD	LLEC13		EEI=B1	14.1	175	215	0.32	63	81	2.0	25/40	50	1	150.0	135.5	0.55
11	91	155	TC-S	LLEC9		EEI=B1	15.0	155	185	0.39	67	83	1.5	30/35	50	1	150.0	135.5	0.55
13	91	175	TC-D	LLEC13		EEI=B1	16.5	170	215	0.39	73	97	2.0	25/40	50	1	150.0	135.5	0.55
13	91	175	TC-T	LLEC13		EEI=B1	16.5	170	215	0.39	73	97	2.0	25/40	50	1	150.0	135.5	0.55
16	103	195	TC-DD	LLEC16		EEI=B1	19.6	195	215	0.40	87	101	2.0	30/50	50	1	150.0	135.5	0.55
18	100	220	TC-D	LLEC18H		EEI=B1	22.5	220	305	0.41	100	146	2.0	30/55	50	1	150.0	135.5	0.55
18	58	375	TC-F	LLEC18/20		EEI=B1	24.5	370	435	0.26	109	134	4.0	40/60	90	1	195.0	180.0	1.00
18	58	375	TC-L	LLEC18/20		EEI=B1	24.5	370	435	0.26	109	134	4.0	40/60	90	1	195.0	180.0	1.00
18	100	225	TC-T	LLEC18H		EEI=B1	22.5	220	305	0.41	100	146	2.0	30/55	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	LLEC36/40	89000529	5.1	41.1	370	520	0.44	183	270	3.5	30/55	90	1	195.0	180.0	1.00
24	87	345	TC-F	LLEC18/20		EEI=B1	29.8	345	435	0.35	132	175	3.5	40/60	90	1	195.0	180.0	1.00
24	87	345	TC-L	LLEC18/20		EEI=B1	29.8	345	435	0.35	132	175	3.5	40/60	90	1	195.0	180.0	1.00
26	105	325	TC-D	LLEC18/20		EEI=B1	31.0	315	435	0.39	138	200	3.0	40/60	90	1	195.0	180.0	1.00
26	105	325	TC-T	LLEC18/20		EEI=B1	31.5	315	435	0.40	140	203	3.0	40/60	90	1	195.0	180.0	1.00
28	108	320	TC-DD	LLEC18/20		EEI=B1	33.4	315	425	0.42	148	210	3.0	40/60	90	1	195.0	180.0	1.00
36	106	435	TC-F	LLEC36/40	89000529	EEI=B1	42.5	415	655	0.41	189	313	4.0	40/80	90	1	195.0	180.0	1.00
36	106	435	TC-L	LLEC36/40	89000529	EEI=B1	42.5	415	655	0.41	189	313	4.0	40/80	90	1	195.0	180.0	1.00
38	110	430	TC-DD	LLEC36/40	89000529	EEI=B1	45.0	415	655	0.43	200	331	4.0	40/80	90	1	195.0	180.0	1.00

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

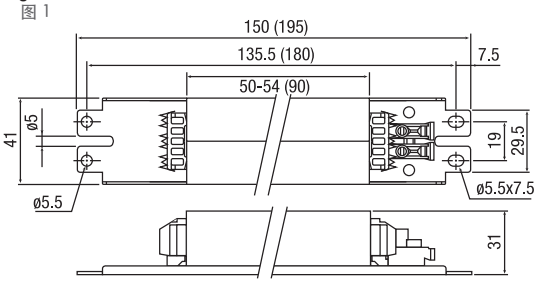
备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

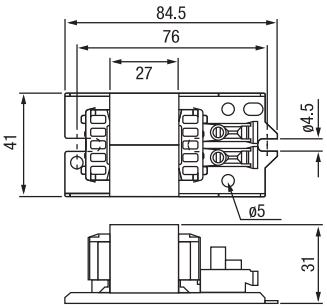
B2 energy control ballasts
B2 节能镇流器

Figure 1
图 1



50, 54 and (90 mm) stack
50、54 和 (90 mm) 堆叠厚度

Figure 2
图 2



27 mm stack
27 mm 堆叠厚度

- ballasts to EEI = B2 energy classification under MEPS and CELMA
- low power consumption
- slim cross-section and compact
- low loss core laminations
- low magnetic stray field
- long service life
- vacuum impregnation
- non-audible noise level
- nomex class “H” gap for fixed calibration
- resistant to moisture and corrosion
- 10 A push-in terminals (screw terminals on request)
- maximum winding temperature tw 130°C low temperature rise

- MEPS 和 CELMA 下的镇流器
- （至 EEI = B2）能量分类
- 功耗低
- 横截面窄，外观紧凑
- 低损耗铁芯叠片
- 低杂散磁场
- 使用寿命长
- 真空浸渍
- 不可闻噪声级
- Nomex “H” 级空隙，用于固定校准
- 耐潮湿、耐腐蚀
- 10 A 推入式端子（可按要求提供螺丝端子）
- 最大绕组温度 tw 130° C 低温升

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz – EC low loss ballasts (EEI=B2)

220 V 50 Hz – EC 低损耗镇流器 (EEI=B2)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率 W	voltage 电压 V	current 电流 mA	length 长度 mm	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	normal/ abnormal 正常/异常温差 Δt	stack 堆叠厚度 mm	figure 噪音系数	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
Linear and circular lamps 线形和环形灯具																			
2x6	42	160	225	EC13	89000039	4.2	16.2	160	200	0.46	82	107	1.5	55/100	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000039	3.8	18.0	145	200	0.56	91	132	1.5	55/100	27	2	84.5	76.0	0.33
13	95	165	525	EC13	89000039	EEI=B2	17.3	165	200	0.48	87	111	1.5	55/100	27	2	84.5	76.0	0.33
18	57	370	600	EC18/20	89003428	EEI=B2	25.9	370	435	0.32	131	161	5.0	55/85	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40		6.5	42.5	370	560	0.52	215	341	3.5	45/130	54	1	150.0	135.5	0.60
20	57	370	600	EC18/20	89003428	7.9	27.2	370	435	0.33	137	170	5.0	55/85	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40		6.5	45.1	370	560	0.55	228	362	3.0	45/130	54	1	150.0	135.5	0.60
36	103	430	1,200	EC36/40		EEI=B2	43.8	415	635	0.48	221	355	4.0	50/150	54	1	150.0	135.5	0.60
40	103	430	1,200	EC36/40		7.8	47.3	415	635	0.52	239	384	4.0	50/150	54	1	150.0	135.5	0.60
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000131	5.7	11.1	180	190	0.28	56	62	3.0	55/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000039	4.6	15.4	175	200	0.40	78	93	2.0	55/100	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000131	EEI=B2	12.6	175	190	0.33	64	73	2.0	55/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000039	4.3	18.5	165	200	0.51	93	119	1.5	55/100	27	2	84. 5	76.0	0.33
9	60	170	TC-S	EC9	89000131	EEI=B2	13.9	165	190	0.38	70	85	2.0	55/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000039	4	21.8	155	200	0.64	110	149	1.5	55/100	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000039	4.8	14.8	185	200	0.36	75	85	2.0	55/100	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000039	4.6	15.1	175	200	0.39	76	91	2.0	55/100	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000131	EEI=B2	16.7	155	190	0.49	84	108	1.5	55/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000039	EEI=B2	17.4	170	200	0.47	88	109	2.0	55/100	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13	89000039	EEI=B2	17.4	170	200	0.47	88	109	2.0	55/100	27	2	84.5	76.0	0.33
16	103	195	TC-DD	EC16		EEI=B2	21.4	195	250	0.50	108	145	2.0	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H	89000096	EEI=B2	23.8	220	315	0.49	120	181	2.0	50/120	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89003428	EEI=B2	25.9	370	435	0.32	131	161	5.0	55/85	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89003428	EEI=B2	25.9	370	435	0.32	131	161	5.0	55/85	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H	89000096	EEI=B2	23.8	220	315	0.49	120	181	2.0	50/120	27	2	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40		6.5	42.5	370	560	0.52	215	341	3.5	45/130	54	1	150.0	135.5	0.60
21	101	270	TC-DD	EC21		EEI=B2	26.6	270	350	0.45	134	183	3.0	40/80	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20	89003428	EEI=B2	31.1	345	435	0.41	157	208	4.0	55/85	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89003428	EEI=B2	31.1	345	435	0.41	157	208	4.0	55/85	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89003428	EEI=B2	32.1	315	435	0.46	162	235	3.0	55/85	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89003428	EEI=B2	32.6	315	435	0.47	164	238	3.0	55/85	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89003428	EEI=B2	34.5	315	410	0.50	174	238	3.0	55/85	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40		EEI=B2	43.8	415	635	0.48	221	355	4.0	50/150	54	1	150.0	135.5	0.60
36	106	435	TC-L	EC36/40		EEI=B2	43.8	415	635	0.48	221	355	4.0	50/150	54	1	150.0	135.5	0.60
38	110	430	TC-DD	EC36/40		EEI=B2	46.3	415	635	0.51	234	376	4.0	50/150	54	1	150.0	135.5	0.60

Notes

Other wattages available on request.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.
Some ballast and lamp combination may not operate within the EEI=B2 rating.

备注：

可按要求提供其他功率。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。
某些镇流器和灯具的组合可能无法在 EEI=B2 等级下工作。

230 V 50 Hz – EC low loss ballasts (EEI=B2)

230 V 50 Hz – EC 低损耗镇流器 (EEI=B2)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/ abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8		5.5	10.0	165	170	0.26	48	52	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8		EEI=B2	11.2	155	170	0.31	54	62	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000041	3.9	15.9	155	210	0.45	77	109	1.5	55/105	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8		EEI=B2	11.9	145	170	0.36	58	71	1.5	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000041	3.5	17.7	140	210	0.55	86	135	1.5	55/105	27	2	84.5	76.0	0.33
13	95	165	525	EC13	89000041	EEI=B2	17.0	160	210	0.46	82	113	1.5	55/105	27	2	84.5	76.0	0.33
15	55	310	450	EC15		EEI=B2	23.2	310	360	0.33	112	137	3.5	50/80	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20	89003333	EEI=B2	26.4	370	430	0.31	128	156	5.0	55/85	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89002851	6.5	42.5	370	560	0.50	205	326	3.5	50/130	54	1	150.0	135.5	0.60
20	57	370	600	EC18/20	89003333	8.4	27.7	370	430	0.33	134	163	4.0	55/8	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89002851	6.5	45.1	370	560	0.53	218	346	3.0	50/130	54	1	150.0	135.5	0.60
22	62	400	Ø210	EC22		EEI=B2	31.5	400	480	0.34	152	192	5.0	50/95	50	1	150.0	135.5	0.55
30	96	365	900	EC30	89003480	EEI=B2	39.0	360	480	0.47	188	264	3.5	50/95	50	1	150.0	135.5	0.55
32	81	450	Ø305	EC32		EEI=B2	41.5	430	520	0.42	200	255	5.0	55/125	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89002851	EEI=B2	44.3	415	630	0.46	214	341	4.0	50/150	54	1	150.0	135.5	0.60
40	103	430	1,200	EC36/40	89002851	8.3	47.8	415	630	0.50	231	368	4.0	50/150	54	1	150.0	135.5	0.60
58	110	670	150	EC58/65	89003334	EEI=B2	68.4	660	960	0.45	330	505	7.0	45/130	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65	89003334	10.4	74.4	660	960	0.49	359	549	6.0	45/130	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000133	5.1	10.5	175	190	0.26	51	58	2.0	55/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000041	4.4	15.2	175	210	0.38	73	92	2.0	55/105	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000133	EEI=B2	12.1	170	190	0.31	58	69	2.0	55/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000041	4.1	18.3	165	210	0.48	89	118	1.5	55/105	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9	89000133	EEI=B2	13.6	165	190	0.36	65	79	2.0	55/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000041	3.9	21.7	155	210	0.61	105	149	1.5	55/105	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000041	4.6	14.6	185	210	0.34	71	84	2.0	55/105	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000041	4.4	14.9	175	210	0.37	72	91	2.0	55/105	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000133	EEI=B2	16.2	150	190	0.47	78	104	1.5	55/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000041	EEI=B2	17.3	170	210	0.44	83	108	2.0	55/105	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13	89000041	EEI=B2	17.3	170	210	0.44	83	108	2.0	55/105	27	2	84.5	76.0	0.33
16	103	195	TC-DD	EC16		EEI=B2	21.5	195	250	0.48	104	140	2.0	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H	89000100	EEI=B2	24.2	220	300	0.48	117	167	2.0	55/120	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89003333	EEI=B2	26.4	370	430	0.31	128	156	5.0	55/85	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89003333	EEI=B2	26.4	370	430	0.31	128	156	5.0	55/85	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H	89000100	EEI=B2	24.2	220	300	0.48	117	167	2.0	55/120	27	2	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89002851	6.5	42.5	370	560	0.50	205	326	3.5	50/130	54	1	150.0	135.5	0.60
21	101	270	TC-DD	EC21		EEI=B2	26.8	270	340	0.43	129	171	3.0	40/80	50	1	150.0	135.5	0.60
24	87	345	TC-F	EC18/20	89003333	EEI=B2	31.5	345	430	0.40	152	199	3.5	55/85	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89003333	EEI=B2	31.5	345	430	0.40	152	199	3.5	55/85	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89003333	EEI=B2	32.4	315	430	0.45	157	225	3.0	55/85	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89003333	EEI=B2	32.9	315	430	0.45	158	228	3.0	55/85	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89003333	EEI=B2	34.8	315	410	0.48	168	230	3.0	55/85	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89002851	EEI=B2	44.3	415	630	0.46	214	341	4.0	50/150	54	1	150.0	135.5	0.60
36	106	435	TC-L	EC36/40	89002851	EEI=B2	44.3	415	630	0.46	214	341	4.0	50/150	54	1	150.0	135.5	0.60
38	110	430	TC-DD	EC36/40	89002851	EEI=B2	46.8	415	630	0.49	226	360	4.0	50/150	54	1	150.0	135.5	0.60

Notes

Other wattages available on request.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.
Some ballast and lamp combination may not operate within the EEI=B2 rating.

备注：

可按要求提供其他功率。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。
某些镇流器和灯具的组合可能无法在 EEI=B2 等级下工作。

240 V 50 Hz – EC low loss ballasts (EEI=B2)

240 V 50 Hz – EC 低损耗镇流器 (EEI=B2)

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8	89000114	5.5	10.0	165	170	0.25	46	50	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8	89000114	EEI=B2	11.2	155	170	0.30	52	60	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000037	4.4	16.4	160	215	0.43	76	107	1.5	55/105	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8	89000114	EEI=B2	11.9	145	170	0.34	55	68	1.5	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000037	4.0	18.2	145	215	0.52	84	131	1.5	55/105	27	2	84.5	76.0	0.33
13	95	165	525	EC13	89000037	EEI=B2	17.5	165	215	0.44	81	111	1.5	55/105	27	2	84.5	76.0	0.33
15	55	310	450	EC15	89002928	EEI=B2	23.7	310	360	0.32	110	134	3.5	55/80	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20	89002929	EEI=B2	26.9	370	425	0.30	125	150	4.0	55/85	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89002931	6.5	42.5	370	560	0.48	197	313	3.5	45/130	54	1	150.0	135.5	0.60
20	57	370	600	EC18/20	89002929	8.9	28.2	370	425	0.32	131	157	4.0	55/85	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89002931	6.5	45.1	370	560	0.51	209	332	3.0	45/130	54	1	150.0	135.5	0.60
22	62	400	Ø210	EC22		EEI=B2	31.5	400	475	0.33	146	182	5.0	55/100	50	1	150.0	135.5	0.55
30	96	365	900	EC30	89002930	EEI=B2	39.5	360	475	0.46	183	253	3.5	55/100	50	1	150.0	135.5	0.55
32	81	450	Ø305	EC32		EEI=B2	41.5	430	520	0.40	192	244	5.0	55/125	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89002931	EEI=B2	44.8	415	625	0.45	207	328	4.0	55/150	54	1	150.0	135.5	0.60
40	103	430	1,200	EC36/40	89002931	8.8	48.3	415	625	0.48	224	354	3.5	55/150	54	1	150.0	135.5	0.60
58	110	670	1,500	EC58/65	89002932	EEI=B2	68.4	660	940	0.43	317	474	7.0	50/135	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65	89002932	10.4	74.4	660	940	0.47	344	515	6.0	50/135	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000128	5.7	11.1	180	187	0.26	51	56	2.0	60/75	27	2	84.5	76. 0	0.33
2x5	35	180	TC-S	EC13	89000037	4.8	15.6	175	215	0.37	72	93	2.0	55/105	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000128	EEI=B2	12.6	175	187	0.30	58	65	2.0	60/75	27	2	84.5	76. 0	0.33
2x7	47	175	TC-S	EC13	89000037	4.5	18.7	165	215	0.47	87	118	1.5	55/105	27	2	84.5	76. 0	0.33
9	60	170	TC-S	EC9	89000128	EEI=B2	13.9	165	187	0.35	64	77	2.0	60/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000037	4.2	22.0	155	215	0.59	102	149	1.5	55/105	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000037	5.0	15.0	185	215	0.34	70	85	2.0	55/105	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000037	4.8	15.3	175	215	0.36	71	91	2.0	55/105	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000128	EEI=B2	16.7	155	187	0.45	77	98	1.5	60/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000037	EEI=B2	17.6	170	215	0.43	82	108	2.0	55/105	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13	89000037	EEI=B2	17.6	170	215	0.43	82	108	2.0	55/105	27	2	84.5	76.0	0.33
16	103	195	TC-DD	EC16	89000076	EEI=B2	21.5	195	250	0.46	100	134	2.0	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H	89000095	EEI=B2	24.5	220	280	0.46	113	152	2.0	65/120	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89002929	EEI=B2	26.9	370	425	0.30	125	150	4.0	55/85	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89002929	EEI=B2	26.9	370	425	0.30	125	150	4.0	55/85	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H	89000095	EEI=B2	24.5	220	280	0.46	113	152	2.0	65/120	27	2	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89002931	6.5	42.5	370	560	0.48	197	313	3.5	45/130	54	1	150.0	135. 5	0.60
21	101	270	TC-DD	EC21	89000259	EEI=B2	26.8	270	340	0.41	124	164	3.0	40/80	50	1	150.0	135.5	0.60
24	87	345	TC-F	EC18/20	89002929	EEI=B2	32.0	345	425	0.39	148	191	3.5	55/85	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89002929	EEI=B2	32.0	345	425	0.39	148	191	3.5	55/85	50	1	150.0	135. 5	0.55
26	105	325	TC-D	EC18/20	89002929	EEI=B2	32.8	315	425	0.43	152	215	3.0	55/85	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89002929	EEI=B2	33.3	315	425	0.44	154	219	3.0	55/85	50	1	150.0	135. 5	0.55
28	108	320	TC-DD	EC18/20	89002929	EEI=B2	35.2	315	410	0.47	163	223	3.0	55/85	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89002931	EEI=B2	44.8	415	625	0.45	207	328	4.0	55/150	54	1	150.0	135.5	0.60
36	106	435	TC-L	EC36/40	89002931	EEI=B2	44.8	415	625	0.45	207	328	4.0	55/150	54	1	150.0	135. 5	0.60
38	110	430	TC-DD	EC36/40	89002931	EEI=B2	47.3	415	625	0.47	219	346	4.0	55/150	54	1	150.0	135. 5	0.60

Notes

Other wattages available on request.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.
Some ballast and lamp combination may not operate within the EEI=B2 rating.

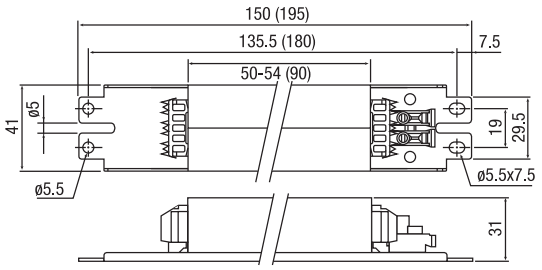
备注：

可按要求提供其他功率。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。
某些镇流器和灯具的组合可能无法在 EEI=B2 等级下工作。

EC energy control ballasts

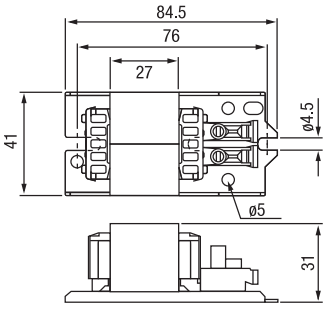
EC 节能镇流器

Figure 1
图 1



50, 54 and (90 mm) stack
50、54 和 (90 mm) 堆叠厚度

Figure 2
图 2



27 mm stack
27 mm 堆叠厚度

- slim cross-section and compact
- low magnetic stray field
- vacuum impregnation
- long service life
- non-audible noise level
- nomex class “H” gap for fixed calibration
- resistant to moisture and condensation
- 10 A push-in terminals (screw terminals on request)
- low power consumption
- maximum winding temperature tw 130°C
- other supply voltages than listed are available i.e.120 V, 277 V etc.

- 横截面窄，外观紧凑
- 低杂散磁场
- 真空浸渍
- 使用寿命长
- 不可闻噪声级
- Nomex “H” 级空隙，用于固定校准
- 耐潮湿、抗凝结
- 10 A 推入式端子（可按要求提供螺丝端子）
- 功耗低
- 最高绕组温度 tw = 130° C
- 可提供未在此处列示的其他电源电压
- 即 120 V、277 V 等

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz – EC energy control ballasts

220 V 50 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8		5.5	10.0	165	170	0.28	51	55	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8		5.2	11.2	155	170	0.33	56	65	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000039	4.2	16.2	160	200	0.46	82	107	1.5	55/100	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8		4.8	11.9	145	170	0.37	60	74	2.0	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000039	3.8	18.0	145	200	0.56	91	132	1.5	55/100	27	2	84.5	76.0	0.33
10	49	230	330	EC10*	89000185	6.2	16.2	225	240	0.33	82	92	3.0	40/105	50	1	150.0	135.5	0.55
13	95	165	525	EC13	89000039	4.3	17.3	165	200	0.48	87	111	1.5	55/100	27	2	84.5	76.0	0.33
15	55	310	450	EC15		8.5	23.5	310	360	0.34	119	145	3.5	50/85	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20	89000208	9.0	27.0	370	440	0.33	136	170	5.0	50/90	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89000325	6.7	42.7	370	620	0.52	216	379	3.5	50/130	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20	89000208	9.0	28.3	370	440	0.35	143	178	5.0	50/90	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89000325	6.7	45.3	370	620	0.56	229	403	3.0	50/130	50	1	150.0	135.5	0.55
22	62	400	Ø210	EC22		10.5	32.5	400	450	0.37	164	194	5.0	65/115	50	1	150.0	135.5	0.55
30	96	365	900	EC30		9.5	39.5	360	450	0.50	199	262	3.5	55/115	50	1	150.0	135.5	0.55
30	55	610	Ø224	EC30L		12.0	42.0	600	670	0.32	212	249	7.0	50/100	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32		10.5	42.5	440	580	0.44	215	297	5.0	55/130	50	1	150.0	135.5	0.55
32	135	265	1,200	EC32H*		4.5	35.0	265	475	0.60	177	333	2.0	35/55	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89000325	8.5	44.5	415	636	0.49	225	362	4.0	55/140	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40	89000325	8.5	48.0	415	636	0.53	242	390	4.0	55/140	50	1	150.0	135.5	0.55
58	110	670	1,500	EC58/65	89000454	12.0	70.0	660	980	0.48	354	551	7.0	45/135	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65	89000454	12.0	76.0	660	980	0.52	384	598	6.0	45/135	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000131	5.7	11.1	180	190	0.28	56	62	3.0	55/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000039	4.6	15.4	175	200	0.40	78	93	2.0	55/100	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000131	5.5	12.6	175	190	0.33	64	73	2.0	55/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000039	4.3	18.5	165	200	0.51	93	119	1.5	55/100	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9	89000131	5.2	13.9	165	190	0.38	70	85	2.0	55/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000039	4.0	21.8	155	200	0.64	110	149	1.5	55/100	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000039	4.8	14.8	185	200	0.36	75	85	2.0	55/100	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000039	4.6	15.1	175	200	0.39	76	91	2.0	55/100	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000131	4.9	16.7	155	190	0.49	84	108	1.5	55/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000039	4.4	17.4	170	200	0.47	88	109	2.0	55/100	27	2	84.5	76.0	0.33
13	59	285	TC-S	EC13L		7.6	20.6	285	320	0.33	104	123	3.5	40/85	50	1	150.0	135.5	0.55
13	91	175	TC-T	EC13	89000039	4.4	17.4	170	200	0.47	88	109	2.0	55/100	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89000208	9.0	27.0	370	440	0.33	136	170	5.0	50/90	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89000208	9.0	27.0	370	440	0.33	136	170	5.0	50/90	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	EC36/40	89000325	6.7	42.7	370	620	0.52	216	379	3.5	50/130	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20	89000208	8.0	32.0	345	440	0.42	162	217	3.5	50/90	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89000208	8.0	32.0	345	440	0.42	162	217	3.5	50/90	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89000208	6.9	32.9	315	440	0.47	166	244	3.0	50/90	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89000208	6.9	33.4	315	440	0.48	169	247	3.0	50/90	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89000208	6.9	35.3	315	410	0.51	178	244	3.0	50/90	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89000325	8.5	44.5	415	636	0.49	225	362	4.0	55/140	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89000325	8.5	44.5	415	636	0.49	225	362	4.0	55/140	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40	89000325	8.5	47.0	415	636	0.51	237	382	4.0	55/140	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。

220 V 60 Hz – EC energy control ballasts

220 V 60 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/ abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8	89000120	5.0	9.5	165	170	0.26	48	52	2.0	45/90	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8	89000120	4.7	10.7	155	170	0.31	54	62	1.5	45/90	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000040	4.2	16.2	160	206	0.46	82	110	1.5	50/100	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8	89000120	4.4	11.5	145	170	0.36	58	71	1.5	45/90	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000040	3.8	18.0	145	206	0.56	91	135	1.5	50/100	27	2	84.5	76.0	0.33
10	49	230	330	EC10*		7.0	17.0	225	250	0.34	86	100	3.0	55/110	27	2	84.5	76.0	0.33
13	95	165	525	EC13	89000040	4.3	17.3	165	206	0.48	87	115	1.5	50/100	27	2	84.5	76.0	0.33
15	55	310	450	EC15	89000199	8.5	23.5	310	360	0.34	119	145	3.0	55/85	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20	89000206	9.0	27.0	370	440	0.33	136	170	3.5	50/90	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89000330	6.5	42.5	370	620	0.52	215	378	3.0	50/130	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20	89000206	9.0	28.3	370	440	0.35	143	178	3.5	50/90	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89000330	6.5	45.1	370	620	0.55	228	401	3.0	50/130	50	1	150.0	135.5	0.55
22	62	400	Ø210	EC22		9.8	31.8	400	450	0.36	161	190	4.0	50/115	50	1	150.0	135.5	0.55
30	96	365	900	EC30		8.8	38.8	360	450	0.49	196	257	3.0	50/115	50	1	150.0	135.5	0.55
30	55	610	Ø224	EC30L		11.0	41.0	600	670	0.31	207	243	6.0	50/100	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32	89000311	10.2	42.2	440	580	0.44	213	295	4.0	55/130	50	1	150.0	135.5	0.55
32	135	265	1,200	EC32H*		4.2	34.7	265	485	0.60	175	337	2.0	35/55	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89000330	8.5	44.5	415	640	0.49	225	364	3.5	50/140	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40	89000330	8.5	48.0	415	640	0.53	242	393	3.0	50/140	50	1	150.0	135.5	0.55
58	110	670	1,500	EC58/65	89000449	10.9	68.9	660	980	0.47	348	543	6.0	40/130	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65	89000449	10.9	74.9	660	980	0.52	378	590	5.0	40/130	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000137	5.1	10.5	180	190	0.27	53	59	2.0	55/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000040	4.6	15.4	175	206	0.40	78	96	1.5	50/100	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000137	5.0	12.1	175	190	0.31	61	70	2.0	55/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000040	4.3	18.5	165	206	0.51	93	122	1.5	50/100	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9	89000137	4.7	13.4	165	190	0.37	68	82	1.5	55/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000040	4.0	21.8	155	206	0.64	110	154	1.5	50/100	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000040	4.8	14.8	185	206	0.36	75	88	2.0	50/100	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000040	4.6	15.1	175	206	0.39	76	94	1.5	50/100	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000137	4.4	16.2	155	190	0.48	82	105	1.5	55/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000040	4.4	17.4	170	206	0.47	88	112	1.5	50/100	27	2	84.5	76.0	0.33
13	59	285	TC-S	EC13L		7.1	20.1	285	315	0.32	102	118	3.0	35/65	50	1	150.0	135.5	0.55
13	91	175	TC-T	EC13	89000040	4.4	17.4	170	206	0.47	88	112	1.5	50/100	27	2	84.5	76.0	0.33
16	103	195	TC-DD	EC16		5.4	21.4	195	255	0.50	108	148	1.5	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H	89000097	5.3	23.3	220	315	0.48	118	177	2.0	50/110	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89000206	9.0	27.0	370	440	0.33	136	170	3.5	50/90	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89000206	9.0	27.0	370	440	0.33	136	170	3.5	50/90	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H	89000097	5.3	23.3	220	315	0.48	118	177	2.0	50/110	27	2	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89000330	6.5	42.5	370	620	0.52	215	378	3.0	50/130	50	1	150.0	135.5	0.55
21	101	270	TC-DD	EC21		5.6	25.6	270	350	0.43	129	176	3.0	40/80	50	1	150.0	135.5	0.60
24	87	345	TC-F	EC18/20	89000206	8.0	32.0	345	440	0.42	162	217	3.0	50/90	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89000206	8.0	32.0	345	440	0.42	162	217	3.0	50/90	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89000206	6.9	32.9	315	440	0.47	166	244	3.0	50/90	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89000206	6.9	33.4	315	440	0.48	169	247	3.0	50/90	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89000206	6.9	35.3	315	420	0.51	178	250	3.0	50/90	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89000330	8.5	44.5	415	640	0.49	225	364	3.5	50/140	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89000330	8.5	44.5	415	640	0.49	225	364	3.5	50/140	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40	89000330	8.5	47.0	415	640	0.51	237	384	3.0	50/140	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。

220 V 60 Hz – EC energy control ballasts for Taiwan

220 V 60 Hz – EC 节能镇流器（适用于台湾）

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率 W	voltage 电压 V	current 电流 mA	length 长度 mm	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	normal/ abnormal 正常/异常温差 Δt	stack 堆叠厚度 mm	figure 噪音系数	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
Linear and circular lamps 线形和环形灯具																			
10	49	230	330	EC10*		6.6	16.0	225	250	0.32	81	94	3.0	55/110	27	2	84.5	76.0	0.33
20	59	350	580	EC18/20*		6.0	24.0	350	410	0.31	121	149	3.5	40/100	50	1	150.0	135.5	0.55
30	96	365	900	EC30		7.0	37.0	360	490	0.47	187	267	3.0	50/115	50	1	150.0	135.5	0.55
30	55	590	Ø233	EC30L*	89000446	9.3	40.0	590	670	0.31	202	241	6.0	45/90	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32		7.2	39.2	450	590	0.40	198	273	4.0	40/150	50	1	150.0	135.5	0.55
40	113	415	1,198	EC36/40*		6.6	43.0	415	590	0.47	217	324	3.5	40/150	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.
* Lamps not included in IEC 60081 or IEC 60901.

备注：

可按要求提供其他功率。
* IEC 60081 或 IEC 60901 中未包括灯具。

230 V 50 Hz – EC energy control ballasts

230 V 50 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage	voltage	current	length	type	article number	loss hot	input power	lamp current	lamp start current	circuit	line current	line start current	capacitor	normal/ abnormal	stack	figure	length	mtg centres	weight
功率	电压	电流	长度	类型	商品号	热损失	输入功率	灯具电流	灯具启动电流	电路	线路电流	线路启动电流	电容器	正常/异常温差	堆叠厚度	噪音系数	长度	两颗固定螺丝的距离	重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8		5.5	10.0	165	170	0.26	48	52	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8		EEI=B2	11.2	155	170	0.31	54	62	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000041	3.9	15.9	155	210	0.45	77	109	1.5	55/105	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8		EEI=B2	11.9	145	170	0.36	58	71	1.5	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000041	3.5	17.7	140	210	0.55	86	135	1.5	55/105	27	2	84.5	76.0	0.33
10	49	230	330	EC10*		6.8	16.8	225	245	0.32	81	93	3.0	40/105	50	1	150.0	135.5	0.55
13	95	165	525	EC13	89000041	EEI=B2	17.0	160	210	0.46	82	113	1.5	55/105	27	2	84.5	76.0	0.33
15	55	310	450	EC15		8.8	23.8	310	360	0.33	115	140	3.5	55/90	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20		10.0	28.0	370	430	0.33	135	165	4.0	60/95	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89000334	7.2	43.2	370	580	0.51	209	344	3.5	50/130	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20		10.0	29.3	370	430	0.34	142	173	4.0	60/95	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89000334	7.2	45.8	370	580	0.54	221	364	3.0	50/130	50	1	150.0	135.5	0.55
22	62	400	Ø210	EC22		11.0	33.0	400	450	0.36	159	188	5.0	65/105	50	1	150.0	135.5	0.55
30	96	365	900	EC30		9.9	39.9	360	450	0.48	193	253	3.5	65/105	50	1	150.0	135.5	0.55
30	55	610	Ø224	EC30L		14.5	44.5	600	660	0.32	215	248	7.0	55/100	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32		11.0	43.0	440	550	0.42	208	273	5.0	65/130	50	1	150.0	135.5	0.55
32	135	265	1,200	EC32H*		5.3	35.8	265	455	0.59	173	312	2.0	40/60	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89000334	10.0	46.0	415	630	0.48	222	354	4.0	55/160	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40(54mm)**		10.0	46.0	415	610	0.48	222	343	4.0	55/140	54	1	150.0	135.5	0.60
40	103	430	1,200	EC36/40	89000334	10.0	49.5	415	630	0.52	239	381	3.5	55/160	50	1	150.0	135.5	0.55
58	110	670	1,500	EC58/65		13.0	71.0	660	960	0.47	343	524	6.0	50/140	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65		13.0	77.0	660	960	0.51	372	568	6.0	50/140	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000133	5.1	10.5	175	190	0.26	51	58	2.0	55/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000041	4.4	15.2	175	210	0.38	73	92	2.0	55/105	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000133	EEI=B2	12.1	170	190	0.31	58	69	2.0	55/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000041	4.1	18.3	165	210	0.48	89	118	1.5	55/105	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9	89000133	EEI=B2	13.6	165	190	0.36	65	79	2.0	55/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000041	3.9	21.7	155	210	0.61	105	149	1.5	55/105	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000041	4.6	14.6	185	210	0.34	71	84	2.0	55/105	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000041	4.4	14.9	175	210	0.37	72	91	2.0	55/105	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000133	EEI=B2	16.2	150	190	0.47	78	104	1.5	55/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000041	EEI=B2	17.3	170	210	0.44	83	108	2.0	55/105	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13	89000041	EEI=B2	17.3	170	210	0.44	83	108	2.0	55/105	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20		10.0	28.0	370	430	0.33	135	165	4.0	60/95	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20		10.0	28.0	370	430	0.33	135	165	4.0	60/95	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	EC36/40	89000334	7.2	43.2	370	580	0.51	209	344	3.5	50/130	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20		8.9	32.9	345	430	0.42	159	208	3.5	60/95	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20		8.9	32.9	345	430	0.42	159	208	3.5	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20		7.7	33.7	315	430	0.46	163	233	3.0	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20		7.7	34.2	315	430	0.47	165	237	3.0	60/95	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20		7.7	36.1	315	410	0.50	174	238	3.0	60/95	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89000334	10.0	46.0	415	630	0.48	222	354	4.0	55/160	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89000334	10.0	46.0	415	630	0.48	222	354	4.0	55/160	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40	89000334	10.0	48.5	415	630	0.51	234	373	3.5	55/160	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.

** Ballasts suitable for use in Class F luminaires.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。

** 镇流器适用于 F 类照明灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

240 V 50 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8	89000114	5.5	10.0	165	170	0.25	46	50	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8	89000114	EEI=B2	11.2	155	170	0.30	52	60	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13	89000037	4.4	16.4	160	215	0.43	76	107	1.5	55/105	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8	89000114	EEI=B2	11.9	145	170	0.34	55	68	1.5	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13	89000037	4.0	18.2	145	215	0.52	84	131	1.5	55/105	27	2	84.5	76.0	0.33
10	49	230	330	EC10*	89000184	7.0	17.0	225	245	0.31	79	90	3.0	40/105	50	1	150.0	135.5	0.55
13	95	165	525	EC13	89000037	EEI=B2	17.5	165	215	0.44	81	111	1.5	55/105	27	2	84.5	76.0	0.33
15	55	310	450	EC15		9.0	24.0	310	360	0.32	111	135	3.5	60/90	50	1	150.0	135.5	0.55
15	57	300	550	EC15 ES8*		9.0	24.0	300	340	0.33	111	132	3.5	50/85	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20	89000200	10.3	28.3	370	425	0.32	131	158	4.0	60/95	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89000319	7.5	43.5	370	560	0.49	201	320	3.5	50/130	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20	89000200	10.3	29.6	370	425	0.33	137	165	4.0	60/95	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89000319	7.5	46.1	370	560	0.52	213	339	3.0	50/130	50	1	150.0	135.5	0.55
22	62	400	Ø210	EC22	89000263	11.5	33.5	400	450	0.35	155	183	5.0	65/135	50	1	150.0	135.5	0.55
23		290	970	EC18/20	89000200	7.9	27.2	290	425	0.39	126	194	3.0	60/95	50	1	150.0	135.5	0.55
30	96	365	900	EC30		10.5	40.5	365	450	0.46	187	243	3.5	65/135	50	1	150.0	135.5	0.55
30	55	610	Ø224	EC30L		15.0	45.0	600	660	0.31	208	241	7.0	55/100	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32	89000307	11.0	43.0	430	520	0.42	199	253	4.0	60/130	50	1	150.0	135.5	0.55
32	135	265	1,200	EC32H*		5.9	36.4	265	445	0.57	169	297	2.0	40/60	50	1	150.0	135.5	0.55
33	103	380	1,150	EC33 ES8*		9.5	42.5	380	500	0.47	197	272	3.5	50/130	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89000319	10.0	46.0	415	625	0.46	213	337	4.0	60/160	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40 (54mm)**		10.0	46.0	415	605	0.46	213	326	4.0	60/145	54	1	150.0	135.5	0.60
40	103	430	1,200	EC36/40	89000319	10.0	49.5	415	625	0.50	229	362	3.5	60/160	50	1	150.0	135.5	0.55
58	110	670	1,500	EC58/65		13.0	71.0	660	940	0.45	329	492	6.0	60/145	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65		13.0	77.0	660	940	0.49	356	533	6.0	60/145	90	1	195.0	180.0	1.00
75	120	670	1,800	EC75		12.5	87.5	660	950	0.55	405	612	5.0	55/150	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9	89000128	5.7	11.1	180	187	0.26	51	56	2.0	60/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13	89000037	4.8	15.6	175	215	0.37	72	93	2.0	55/105	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9	89000128	EEI=B2	12.6	175	187	0.30	58	65	2.0	60/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13	89000037	4.5	18.7	165	215	0.47	87	118	1.5	55/105	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9	89000128	EEI=B2	13.9	165	187	0.35	64	77	2.0	60/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13	89000037	4.2	22.0	155	215	0.59	102	149	1.5	55/105	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13	89000037	5.0	15.0	185	215	0.34	70	85	2.0	55/105	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13	89000037	4.8	15.3	175	215	0.36	71	91	2.0	55/105	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9	89000128	EEI=B2	16.7	155	187	0.45	77	98	1.5	60/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13	89000037	EEI=B2	17.6	170	215	0.43	82	108	2.0	55/105	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13	89000037	EEI=B2	17.6	170	215	0.43	82	108	2.0	55/105	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89000200	10.3	28.3	370	425	0.32	131	158	4.0	60/95	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89000200	10.3	28.3	370	425	0.32	131	158	4.0	60/95	50	1	150.0	135. 5	0.55
2x18	58	375	TC-L	EC36/40	89000319	7.5	43.5	370	560	0.49	201	320	3.5	50/130	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20	89000200	9.2	33.2	345	425	0.40	154	199	3.5	60/95	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89000200	9.2	33.2	345	425	0.40	154	199	3.5	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89000200	7.9	33.9	315	425	0.45	157	222	3.0	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89000200	7.9	34.4	315	425	0.45	159	226	3.0	60/95	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89000200	7.9	36.3	315	410	0.48	168	230	3.0	60/95	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89000319	10.0	46.0	415	625	0.46	213	337	4.0	60/160	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89000319	10.0	46.0	415	625	0.46	213	337	4.0	60/160	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40	89000319	10.0	48.5	415	625	0.49	225	355	3.5	60/160	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.

** Ballasts suitable for use in Class F luminaires.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。

** 镇流器适用于 F 类照明灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

250 V 50 Hz – EC energy control ballasts

250 V 50 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage	voltage	current	length	type	article number	loss hot	input power	lamp current	lamp start current	circuit	line current	line start current	capacitor	normal/ abnormal	stack	figure	length	mtg centres	weight
功率	电压	电流	长度	类型	商品号	热损失	输入功率	灯具电流	灯具启动电流	电路	线路电流	线路启动电流	电容器	正常/异常温差	堆叠厚度	噪音系数	长度	两颗固定螺丝的距离	重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
4	29	170	150	EC4/6/8		6.0	10.5	165	170	0.25	47	50	2.0	60/95	27	2	84.5	76.0	0.33
6	42	160	225	EC4/6/8		EEI=B2	11.6	155	170	0.30	52	60	2.0	60/95	27	2	84.5	76.0	0.33
2x6	42	160	225	EC13		4.8	16.8	160	215	0.42	75	106	1.5	55/105	27	2	84.5	76.0	0.33
8	56	145	300	EC4/6/8		EEI=B2	12.4	145	170	0.34	55	68	1.5	60/95	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13		4.4	18.6	145	215	0.51	83	129	1.5	55/105	27	2	84.5	76.0	0.33
10	49	230	330	EC10*		7.2	17.2	225	245	0.31	76	87	3.0	40/105	50	1	150.0	135.5	0.55
13	95	165	525	EC13		EEI=B2	18.0	165	215	0.44	80	109	1.5	55/105	27	2	84.5	76.0	0.33
15	55	310	450	EC15		9.2	24.2	310	360	0.31	108	131	3.5	60/90	50	1	150.0	135.5	0.55
18	57	370	600	EC18/20		10.6	28.6	370	425	0.31	127	153	4.0	60/95	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40		7.8	43.8	370	560	0.47	195	309	3.5	50/130	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20		10.6	29.9	370	425	0.32	133	160	4.0	60/95	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40		7.8	46.4	370	560	0.50	206	328	3.0	50/130	50	1	150.0	135.5	0.55
22	62	400	Ø210	EC22		12.0	34.0	400	450	0.34	151	179	4.0	65/135	50	1	150.0	135.5	0.55
30	96	365	900	EC30		11.0	41.0	365	450	0.45	182	236	3.5	65/135	50	1	150.0	135.5	0.55
30	55	610	Ø224	EC30L		15.5	45.5	600	660	0.30	202	234	7.0	55/100	90	1	195.0	180.0	1.00
32	81	450	Ø305	EC32	89000310	11.0	43.0	430	520	0.40	191	243	4.0	65/130	50	1	150.0	135.5	0.55
32	135	265	1,200	EC32H*		6.0	36.5	265	445	0.55	162	286	2.0	40/60	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40		10.0	46.0	415	625	0.44	204	323	4.0	60/160	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40		10.0	49.5	415	625	0.48	220	348	3.5	60/160	50	1	150.0	135.5	0.55
58	110	670	1,500	EC58/65		13.0	71.0	660	940	0.43	316	472	6.0	60/145	90	1	195.0	180.0	1.00
65	110	670	1,500	EC58/65		13.0	77.0	660	940	0.47	342	512	6.0	60/145	90	1	195.0	180.0	1.00
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9		6.2	11.6	180	187	0.26	51	56	2.0	60/75	27	2	84.5	76.0	0.33
2x5	35	180	TC-S	EC13		5.3	16.1	175	215	0.37	72	92	2.0	55/105	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9		EEI=B2	13.1	175	187	0.30	58	65	2.0	60/75	27	2	84.5	76.0	0.33
2x7	47	175	TC-S	EC13		5.0	19.2	165	215	0.47	85	117	1.5	55/105	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9		EEI=B2	14.4	165	187	0.35	64	76	2.0	60/75	27	2	84.5	76.0	0.33
2x9	60	170	TC-S	EC13		4.7	22.5	155	215	0.58	100	146	1.5	55/105	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13		5.6	15.6	185	215	0.34	69	85	2.0	55/105	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13		5.3	15.8	175	215	0.36	70	91	2.0	55/105	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9		EEI=B2	17.1	155	187	0.44	76	96	1.5	60/75	27	2	84.5	76.0	0.33
13	91	175	TC-D	EC13		EEI=B2	18.2	170	215	0.43	81	107	1.5	55/105	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13		EEI=B2	18.2	170	215	0.43	81	107	1.5	55/105	27	2	84.5	76.0	0.33
18	58	375	TC-F	EC18/20		10.6	28.6	370	425	0.31	127	153	4.0	60/95	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20		10.6	28.6	370	425	0.31	127	153	4.0	60/95	50	1	150.0	135.5	0.55
2x18	58	375	TC-L	EC36/40		7.8	43.8	370	560	0.47	195	309	3.5	50/130	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20		9.5	33.5	345	425	0.39	149	192	3.5	60/95	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20		9.5	33.5	345	425	0.39	149	192	3.5	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20		8.1	34.1	315	425	0.43	152	215	3.0	60/95	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20		8.1	34.6	315	425	0.44	154	218	3.0	60/95	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20		8.1	36.5	315	410	0.46	162	222	3.0	60/95	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40		10.0	46.0	415	625	0.44	204	323	4.0	60/160	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40		10.0	46.0	415	625	0.44	204	323	4.0	60/160	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40		10.0	48.5	415	625	0.47	216	341	3.5	60/160	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

* Lamps not included in IEC 60081 or IEC 60901.
Refer to Energy Classification System table for ballasts from CELMA and/or MEPS.

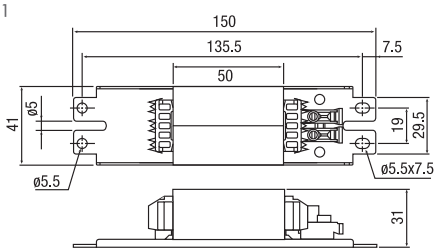
备注：

可按要求提供其他功率。

* IEC 60081 或 IEC 60901 中未包括灯具。
有关 CELMA 和/或 MEPS 的镇流器，请参见“能源分类系统”表。

EC optimised ballasts
EC 优化镇流器

Figure 1
图 1



50 mm stack
50 mm 堆叠厚度

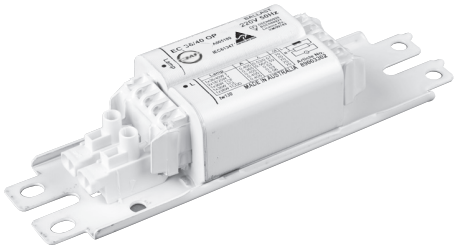
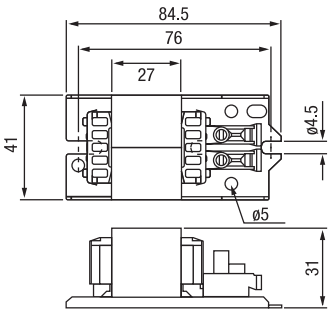


Figure 2
图 2



27 mm stack
27 mm 堆叠厚度

- slim cross-section and compact
- low magnetic stray field
- long service life
- vacuum impregnation
- non-audible noise level
- nomex class “H” gap for fixed calibration
- resistant to moisture and condensation
- 10 A push-in terminals (screw terminals on request)
- maximum winding temperature tw 130°C

- 横截面窄，外观紧凑
- 低杂散磁场
- 使用寿命长
- 真空浸渍
- 不可闻噪声级
- Nomex “H” 级空隙，用于固定校准
- 耐潮湿、抗凝结
- 10 A 推入式端子（可按要求提供螺丝端子）
- 最高绕组温度 tw = 130° C

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz – EC energy control ballasts

220 V 50 Hz – EC 节能镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage	voltage	current	length	type	article number	loss hot	input power	lamp current	lamp start current	circuit	line current	line start current	capacitor	normal/ abnormal	stack	figure	length	mtg centres	weight
功率	电压	电流	长度	类型	商品号	热损失	输入功率	灯具电流	灯具启动电流	电路	线路电流	线路启动电流	电容器	正常/异常温差	堆叠厚度	噪音系数	长度	两颗固定螺丝的距离	重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
2x6	42	160	225	EC13		4.8	16.8	160	220	0.48	85	123	1.5	55/110	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13		4.4	18.6	145	220	0.58	94	150	1.5	55/110	27	2	84.5	76.0	0.33
13	95	165	525	EC13		5.0	18.0	165	220	0.50	91	127	1.5	55/110	27	2	84.5	76.0	0.33
18	57	370	600	EC18/20	89003329	11.3	29.3	370	440	0.36	148	185	5.0	65/100	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89003302	8.9	44.9	365	640	0.56	227	418	3.0	70/160	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20	89003329	11.3	30.6	370	440	0.38	155	193	4.0	65/100	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89003302	8.9	47.5	365	640	0.59	240	442	3.0	70/160	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89003302	11.0	47.0	405	640	0.53	237	394	3.5	70/160	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40	89003302	11.0	50.5	405	640	0.57	255	423	3.5	70/160	50	1	150.0	135.5	0.55
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9		6.2	11.6	180	192	0.29	58	65	3.0	55/80	27	1	84.5	76.0	0.33
2x5	35	180	TC-S	EC13		5.3	16.1	175	220	0.42	81	107	2.0	55/110	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9		6.0	13.1	175	192	0.34	66	76	2.0	55/80	27	1	84.5	76.0	0.33
2x7	47	175	TC-S	EC13		5.0	19.2	165	220	0.53	97	136	1.5	55/110	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9		5.7	14.4	165	192	0.40	73	89	2.0	55/80	27	1	84.5	76.0	0.33
2x9	60	170	TC-S	EC13		4.7	22.5	155	220	0.66	114	169	1.5	55/110	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13		5.6	15.6	185	220	0.38	79	98	2.0	55/110	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13		5.3	15.8	175	220	0.41	80	105	2.0	55/110	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9		5.3	17.1	155	192	0.50	86	112	1.5	55/80	27	1	84.5	76.0	0.33
13	91	175	TC-D	EC13		5.2	18.2	170	220	0.49	92	125	2.0	55/110	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13		5.2	18.2	170	220	0.49	92	125	2.0	55/110	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H		6.8	24.8	220	285	0.51	125	170	2.0	65/125	27	1	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89003329	11.3	29.3	370	440	0.36	148	185	5.0	65/100	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89003329	11.3	29.3	370	440	0.36	148	185	5.0	65/100	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H		6.8	24.8	220	285	0.51	125	170	2.0	65/125	27	1	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89003302	8.9	44.9	365	640	0.56	227	418	3.0	70/160	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20	89003329	10.1	34.1	345	440	0.45	172	231	3.5	65/100	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89003329	10.1	34.1	345	440	0.45	172	231	3.5	65/100	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89003329	8.7	34.7	315	440	0.50	175	257	3.0	65/100	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89003329	8.7	35.2	315	440	0.51	178	260	3.0	65/100	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89003329	8.7	37.1	315	440	0.53	187	275	3.0	65/100	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89003302	11.0	47.0	405	640	0.53	237	394	3.5	70/160	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89003302	11.0	47.0	405	640	0.53	237	394	3.5	70/160	50	1	150.0	135.5	0.55
36	110	430	TC-DD	EC36/40	89003302	11.0	49.5	405	640	0.56	250	415	3.5	70/160	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

备注：

可按要求提供其他功率。

220 V 60 Hz – EC optimised ballasts

220 V 60 Hz – EC 优化镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
2x6	42	160	225	EC13		4.8	16.8	160	220	0.48	85	123	1.5	55/110	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13		4.4	18.6	145	220	0.58	94	150	1.5	55/110	27	2	84.5	76.0	0.33
13	95	165	525	EC13		5.0	18.0	165	220	0.50	91	127	1.5	55/110	27	2	84.5	76.0	0.33
18	57	370	600	EC18/20		11.3	29.3	370	440	0.36	148	185	3.5	65/100	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40		8.9	44.9	365	640	0.56	227	418	3.0	65/160	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20		11.3	30.6	370	440	0.38	155	193	3.5	65/100	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40		8.9	47.5	365	640	0.59	240	442	3.0	65/160	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40		11.0	47.0	405	640	0.53	237	394	3.0	65/160	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40		11.0	50.5	405	640	0.57	255	423	3.0	65/160	50	1	150.0	135.5	0.55
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9		6.2	11.6	180	192	0.29	58	65	2.0	55/80	27	1	84.5	76.0	0.33
2x5	35	180	TC-S	EC13		5.3	16.1	175	220	0.42	81	107	1.5	55/110	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9		6.0	13.1	175	192	0.34	66	76	2.0	55/80	27	1	84.5	76.0	0.33
2x7	47	175	TC-S	EC13		5.0	19.2	165	220	0.53	97	136	1.5	55/110	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9		5.7	14.4	165	192	0.40	73	89	1.5	55/80	27	1	84.5	76.0	0.33
2x9	60	170	TC-S	EC13		4.7	22.5	155	220	0.66	114	169	1.5	55/110	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13		5.6	15.6	185	220	0.38	79	98	2.0	55/110	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13		5.3	15.8	175	220	0.41	80	105	1.5	55/110	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9		5.3	17.1	155	192	0.50	86	112	1.5	55/80	27	1	84.5	76.0	0.33
13	91	175	TC-D	EC13		5.2	18.2	170	220	0.49	92	125	1.5	55/110	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13		5.2	18.2	170	220	0.49	92	125	1.5	55/110	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H		6.8	24.8	220	285	0.51	125	170	2.0	65/125	27	1	84.5	76.0	0.33
18	58	375	TC-F	EC18/20		11.3	29.3	370	440	0.36	148	185	3.5	65/100	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20		11.3	29.3	370	440	0.36	148	185	3.5	65/100	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H		6.8	24.8	220	285	0.51	125	170	2.0	65/125	27	1	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40		8.9	44.9	365	640	0.56	227	418	3.0	65/160	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20		10.1	34.1	345	440	0.45	172	231	3.0	65/100	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20		10.1	34.1	345	440	0.45	172	231	3.0	65/100	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20		8.7	34.7	315	440	0.50	175	257	3.0	65/100	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20		8.7	35.2	315	440	0.51	178	260	3.0	65/100	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20		8.7	37.1	315	440	0.53	187	275	3.0	65/100	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40		11.0	47.0	405	640	0.53	237	394	3.0	65/160	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40		11.0	47.0	405	640	0.53	237	394	3.0	65/160	50	1	150.0	135.5	0.55
36	110	430	TC-DD	EC36/40		11.0	49.5	405	640	0.56	250	415	3.0	65/160	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

备注：

可按要求提供其他功率。

230 V 50 Hz – EC optimised ballasts

230 V 50 Hz – EC 优化镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率 W	voltage 电压 V	current 电流 mA	length 长度 mm	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	normal/ abnormal 正常/异常温差 Δt	stack 堆叠厚度 mm	figure 噪音系数	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
Linear and circular lamps 线形和环形灯具																			
2x6	42	160	225	EC13		4.8	16.8	160	215	0.46	81	115	1.5	60/115	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13		4.4	18.6	145	215	0.56	90	140	1.5	60/115	27	2	84.5	76.0	0.33
13	95	165	525	EC13		5.0	18.0	165	215	0.47	87	119	1.5	60/115	27	2	84.5	76.0	0.33
18	57	370	600	EC18/20		12.0	30.0	370	430	0.35	145	177	4.0	70/105	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89002896	9.7	45.7	365	630	0.54	221	400	3.0	70/170	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20		12.0	31.3	370	430	0.37	151	185	4.0	70/105	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89002896	9.7	48.3	365	630	0.58	233	423	3.0	70/170	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89002896	12.0	48.0	405	630	0.52	232	379	3.5	70/170	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40	89002896	12.0	51.5	405	630	0.55	249	406	3.5	70/170	50	1	150.0	135.5	0.55
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9		6.2	11.6	180	187	0.28	56	61	3.0	60/85	27	1	84.5	76.0	0.33
2x5	35	180	TC-S	EC13		5.3	16.1	175	215	0.40	78	100	2.0	60/115	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9		6.0	13.1	175	187	0.33	63	71	2.0	60/85	27	1	84.5	76.0	0.33
2x7	47	175	TC-S	EC13		5.0	19.2	165	215	0.51	93	127	1.5	60/115	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9		5.7	14.4	165	187	0.38	69	83	2.0	60/85	27	1	84.5	76.0	0.33
2x9	60	170	TC-S	EC13		4.7	22.5	155	215	0.63	109	158	1.5	60/115	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13		5.6	15.6	185	215	0.37	75	92	2.0	60/115	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13		5.3	15.8	175	215	0.39	76	98	2.0	60/115	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9		5.3	17.1	155	187	0.48	83	105	1.5	60/85	27	1	84.5	76.0	0.33
13	91	175	TC-D	EC13		5.2	18.2	170	215	0.46	88	116	2.0	60/115	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13		5.2	18.2	170	215	0.46	88	116	2.0	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H		7.2	25.2	220	280	0.50	122	163	2.0	70/130	27	1	84.5	76.0	0.33
18	58	375	TC-F	EC18/20		12.0	30.0	370	430	0.35	145	177	4.0	70/105	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20		12.0	30.0	370	430	0.35	145	177	4.0	70/105	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H		7.2	25.2	220	280	0.50	122	163	2.0	70/130	27	1	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89002896	9.7	45.7	365	630	0.54	221	400	3.0	70/170	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20		10.7	34.7	345	430	0.44	168	220	3.5	70/105	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20		10.7	34.7	345	430	0.44	168	220	3.5	70/105	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20		9.2	35.2	315	430	0.49	170	244	3.0	70/105	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20		9.2	35.7	315	430	0.49	172	247	3.0	70/105	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20		9.2	37.6	315	430	0.52	182	260	3.0	70/105	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89002896	12.0	48.0	405	630	0.52	232	379	3.5	70/170	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89002896	12.0	48.0	405	630	0.52	232	379	3.5	70/170	50	1	150.0	135.5	0.55
36	110	430	TC-DD	EC36/40	89002896	12.0	50.5	405	630	0.54	244	398	3.5	70/170	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

备注：

可按要求提供其他功率。

240 V 50 Hz – EC optimised ballasts

240 V 50 Hz – EC 优化镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage 功率	voltage 电压	current 电流	length 长度	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	normal/abnormal 正常/异常温差	stack 堆叠厚度	figure 噪音系数	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
Linear and circular lamps 线形和环形灯具																			
2x6	42	160	225	EC13		5.3	17.3	160	215	0.45	80	113	1.5	60/115	27	2	84.5	76.0	0.33
2x8	56	145	300	EC13		4.8	19.0	145	215	0.55	88	137	1.5	60/115	27	2	84.5	76.0	0.33
13	95	165	525	EC13		5.5	18.5	165	215	0.47	86	117	1.5	60/115	27	2	84.5	76.0	0.33
18	57	370	600	EC18/20	89002968	12.8	30.8	370	425	0.35	143	172	4.0	70/105	50	1	150.0	135.5	0.55
2x18	57	370	600	EC36/40	89003304	10.2	46.2	365	625	0.53	214	385	3.0	70/170	50	1	150.0	135.5	0.55
20	57	370	600	EC18/20	89002968	12.8	32.1	370	425	0.36	149	179	4.0	70/105	50	1	150.0	135.5	0.55
2x20	57	370	600	EC36/40	89003304	10.2	48.8	365	625	0.56	226	406	3.0	70/170	50	1	150.0	135.5	0.55
36	103	430	1,200	EC36/40	89003304	12.5	48.5	405	625	0.50	225	364	3.5	70/170	50	1	150.0	135.5	0.55
40	103	430	1,200	EC36/40	89003304	12.5	52.0	405	625	0.53	241	390	3.5	70/170	50	1	150.0	135.5	0.55
Compact lamps 紧凑型灯具																			
5	35	180	TC-S	EC9		6.7	12.1	180	187	0.28	56	61	2.0	60/85	27	1	84.5	76.0	0.33
2x5	35	180	TC-S	EC13		5.8	16.6	175	215	0.40	77	99	2.0	60/115	27	2	84.5	76.0	0.33
7	47	175	TC-S	EC9		6.5	13.6	175	187	0.32	63	71	2.0	60/85	27	1	84.5	76.0	0.33
2x7	47	175	TC-S	EC13		5.5	19.7	165	215	0.50	91	125	1.5	60/115	27	2	84.5	76.0	0.33
9	60	170	TC-S	EC9		6.1	14.8	165	187	0.37	69	82	2.0	60/85	27	1	84.5	76.0	0.33
2x9	60	170	TC-S	EC13		5.2	23.0	155	215	0.62	106	155	1.5	60/115	27	2	84.5	76.0	0.33
10	64	190	TC-D	EC13		6.2	16.2	185	215	0.36	75	91	2.0	60/115	27	2	84.5	76.0	0.33
10	72	180	TC-DD	EC13		5.8	16.3	175	215	0.39	76	98	2.0	60/115	27	2	84.5	76.0	0.33
11	91	155	TC-S	EC9		5.8	17.6	155	187	0.47	81	103	1.5	60/85	27	1	84.5	76.0	0.33
13	91	175	TC-D	EC13		5.7	18.7	170	215	0.46	86	115	1.5	60/115	27	2	84.5	76.0	0.33
13	91	175	TC-T	EC13		5.7	18.7	170	215	0.46	86	115	1.5	60/115	27	2	84.5	76.0	0.33
18	100	220	TC-D	EC18H		7.5	25.5	220	280	0.48	118	158	2.0	70/130	27	1	84.5	76.0	0.33
18	58	375	TC-F	EC18/20	89002968	12.8	30.8	370	425	0.35	143	172	4.0	70/105	50	1	150.0	135.5	0.55
18	58	375	TC-L	EC18/20	89002968	12.8	30.8	370	425	0.35	143	172	4.0	70/105	50	1	150.0	135.5	0.55
18	100	225	TC-T	EC18H		7.5	25.5	220	280	0.48	118	158	2.0	70/130	27	1	84.5	76.0	0.33
2x18	58	375	TC-L	EC36/40	89003304	10.2	46.2	365	625	0.53	214	385	3.0	70/170	50	1	150.0	135.5	0.55
24	87	345	TC-F	EC18/20	89002968	11.4	35.4	345	425	0.43	164	212	3.5	70/105	50	1	150.0	135.5	0.55
24	87	345	TC-L	EC18/20	89002968	11.4	35.4	345	425	0.43	164	212	3.5	70/105	50	1	150.0	135.5	0.55
26	105	325	TC-D	EC18/20	89002968	9.8	35.8	315	425	0.47	166	235	3.0	70/105	50	1	150.0	135.5	0.55
26	105	325	TC-T	EC18/20	89002968	9.8	36.3	315	425	0.48	168	238	3.0	70/105	50	1	150.0	135.5	0.55
28	108	320	TC-DD	EC18/20	89002968	9.8	38.2	315	425	0.51	177	251	3.0	70/105	50	1	150.0	135.5	0.55
36	106	435	TC-F	EC36/40	89003304	12.5	48.5	405	625	0.50	225	364	3.5	70/170	50	1	150.0	135.5	0.55
36	106	435	TC-L	EC36/40	89003304	12.5	48.5	405	625	0.50	225	364	3.5	70/170	50	1	150.0	135.5	0.55
38	110	430	TC-DD	EC36/40	89003304	12.5	51.0	405	625	0.52	236	383	3.5	70/170	50	1	150.0	135.5	0.55

Notes

Other wattages available on request.

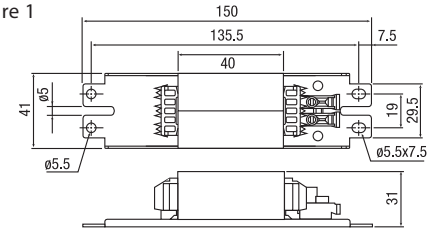
备注：

可按要求提供其他功率。

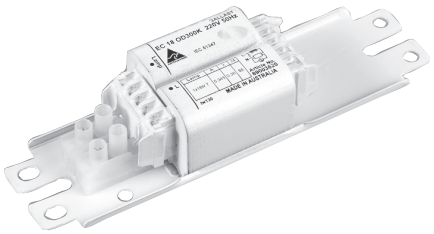
EC lean ballasts

EC 精益镇流器

figure 1



40 mm stack



- slim cross-section and compact
- low magnetic stray field
- long service life
- vacuum impregnation
- non-audible noise level
- nomex class “H” gap for fixed calibration
- resistant to moisture and condensation
- 10 A push-in terminals (screw terminals on request)
- maximum winding temperature tw 130°C

- 横截面窄，外观紧凑
- 低杂散磁场
- 使用寿命长
- 真空浸渍
- 不可闻噪声级
- Nomex “H” 级空隙，用于固定校准
- 耐潮湿、抗凝结
- 10 A 推入式端子（可按要求提供螺丝端子）
- 最高绕组温度 tw = 130° C

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz, 220 V 60 Hz and 230 V 50 Hz – EC lean ballasts

220 V 50 Hz、220 V 60 Hz 和 230 V 50 Hz—EC 精益镇流器

Lamp 灯具				**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理				
wattage	voltage	current	length	type	article number	loss hot	input power	lamp current	lamp start current	circuit	line current	line start current	capacitor	normal/ abnormal	stack	figure	length	mtg centres	weight
功率	电压	电流	长度	类型	商品号	热损失	输入功率	灯具电流	灯具启动电流	电路	线路电流	线路启动电流	电容器	正常/异常温差	堆叠厚度	噪音系数	长度	两颗固定螺丝的距离	重量
W	V	mA	mm			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
220 V 50 Hz Linear lamps 220 V 50 Hz 线形灯具																			
18	57	370	600	EC 18 OD100K	89003600	9.1	26.7	345	435	0.36	130	170	4.0	55/90	40	1	150.0	135.5	0.45
18	57	370	600	EC 18 OD300K *	89003620	9.1	26.7	345	435	0.36	130	170	4.0	55/90	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD100K	89003587	8.0	40.1	370	830	0.49	200	467	3.5	45/200	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD300K *	89003606	8.0	40.1	370	830	0.49	200	467	3.5	45/200	40	1	150.0	135.5	0.45
220 V 60 Hz Linear lamps 220 V 60 Hz 线形灯具																			
18	57	370	600	EC 18 OD103K	89003601	8.8	26.6	350	435	0.35	190	145	3.5	55/90	40	1	150.0	135.5	0.45
18	57	370	600	EC 18 OD303K *	89003621	8.8	26.6	350	435	0.35	190	145	3.5	55/90	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD103K	89003602	8.0	41.8	385	665	0.49	210	375	3.0	50/180	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD303K *	89003623	8.0	41.8	385	665	0.49	210	375	3.0	50/180	40	1	150.0	135.5	0.45
230 V 50 Hz Linear lamps 230 V 50 Hz 线形灯具																			
18	57	370	600	EC 18 OD101K	89003603	9.6	27.3	350	465	0.34	125	175	4.0	60/110	40	1	150.0	135.5	0.45
18	57	370	600	EC 18 OD301K *	89003622	9.6	27.3	350	465	0.34	125	175	4.0	60/110	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD101K	89003604	8.8	39.6	360	650	0.49	185	355	3.5	55/200	40	1	150.0	135.5	0.45
36	103	430	1,200	EC 36 OD301K *	89003624	8.8	39.6	360	650	0.49	185	355	3.5	55/200	40	1	150.0	135.5	0.45

Notes

Other wattages available on request.
* With screw terminals

备注：

可按要求提供其他功率。
* 带螺丝端子

Index 索引

page 页码

High-pressure mercury vapour (HM) lamps
高压汞蒸汽 (HM) 灯

The high-pressure mercury vapour (HM) lamps are used in a wide variety of applications.

Ambient temperature has little, if any, effect on the performance of these lamps as the temperature in the discharge tube is usually over 500°C. Most high-pressure mercury vapour lamps will strike and operate from -30°C on standard control equipment. Once struck, the upper ambient temperature limit is determined by the maximum allowable lamp cap and bulb temperatures.

High-pressure mercury vapour lamps require a cooling period of approximately 5–10 minutes before they will reignite. These lamps are not affected by short-term mains voltage variations. However, prolonged operation at other than normal wattage should be avoided if full lamp life is expected. Stroboscopic effects should be minimised by operating adjacent lamps on different phases or using lead / lag control equipment. Flicker factors for good quality lamps should be 3% or less.

No ignitor is required for starting high-pressure mercury lamps. In order to achieve the performance values, three basic types of ballasts are offered and tapped versions which can be adjusted to various supply voltages are also available. With the aid of power tappings on the ballasts, e.g. OMB 125/80, and a power switch, high-pressure mercury vapour lamps can be step-dimmed to 50% of the standard output.

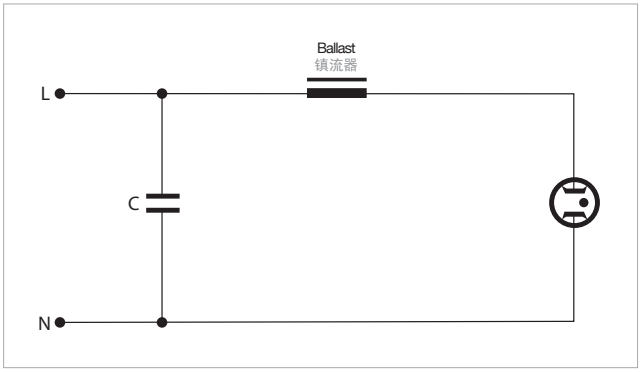
高压汞蒸汽 (HM) 灯应用非常广泛。

环境温度对这些灯具的性能造成的影响极小（如有），因为放电管内的温度通常要超过 500° C。大部分高压汞蒸汽灯将在标准控制设备上从 -30° C 的温度下引弧和操作。一旦启动，环境温度上限值则由灯具的电容器和灯泡的最高允许温度来决定。

高压汞蒸汽灯在重新点亮之前，需要约 5 到 10 分钟的冷却时间。这些灯具短期内不会受到电源电压变化的影响。但如果想要实现灯具的预期使用寿命，应避免灯具在非正常功率下长时间工作。应通过操作不同相位的相邻灯具或使用引线 / 滞后控制设备来最大程度减少频闪效应。优质灯具的闪烁系数应为 3% 或更低。

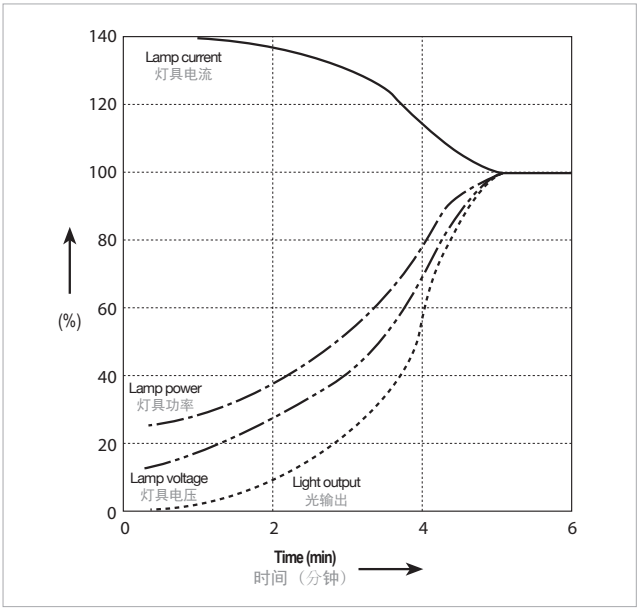
启动高压汞蒸汽灯时无需使用启辉器。为了实现性能值，提供了三种基本类型的镇流器，还提供了可适应各种电源电压的抽头电感版本。借助镇流器上的功率分接 (例如 OMB 125/80) 和电源开关，

可逐步将高压汞蒸汽灯的亮度降至 50% 的标准输出。



Single-voltage circuit for mercury vapour lamps

汞蒸汽灯的单电压电路



Unlike fluorescent lamps, mercury vapour lamps require several minutes to develop full light output as shown by these starting curves for a 400 W mercury vapour lamp.

与日光灯不同，汞蒸汽灯需要数分钟时间才能达到全光输出，如图中 400W 汞蒸汽灯的这些启动曲线所示。

Metal halide (HI) lamps
金属卤化物 (HI)灯的

Metal halide (HI) lamps are similar in their construction to mercury vapour lamps. They are popular for their excellent colour rendering which is achieved by the inclusion of rare earth elements in the discharge tube.

金属卤化物 (HI) 灯的结构类似于汞蒸汽灯。这种灯具的放电管内包含稀土元素，可实现出色的色彩渲染效果，因而广受欢迎。

Metal halide lamps are temperature sensitive and operate optimal at 100°C to 180°C ambient temperature and luminaires should be designed to provide suitable conditions. Ballasts must operate lamps from the correct supply voltage and their impedance should not vary more than ±3% from the specified value. The supply voltage should not deviate for extended periods of more than 3% of the nominal rated voltage of the ballast and the supply frequency should not deviate by more than ±3%.

金属卤化物灯对温度很敏感，

最适合在 100° C 至 180° C 的环境温度下工作，照明设备的设计应可提供合适的条件。镇流器必须在正确的电源电压下操作灯具，其阻抗变化范围不应超过

指定值的 ±3%。电源电压不应长时间偏离镇流器标称额定电压的 3% 以上，且供电频率范围不应偏离超过 ±3%。

Metal halide lamps require higher voltages for starting than the usual supply voltages. Various circuits are used to achieve the required starting conditions. They are leakage reactance ballasts, constant wattage auto-transformer control equipment or series reactor type ballasts with ignitor. The latter is the most economical solution.

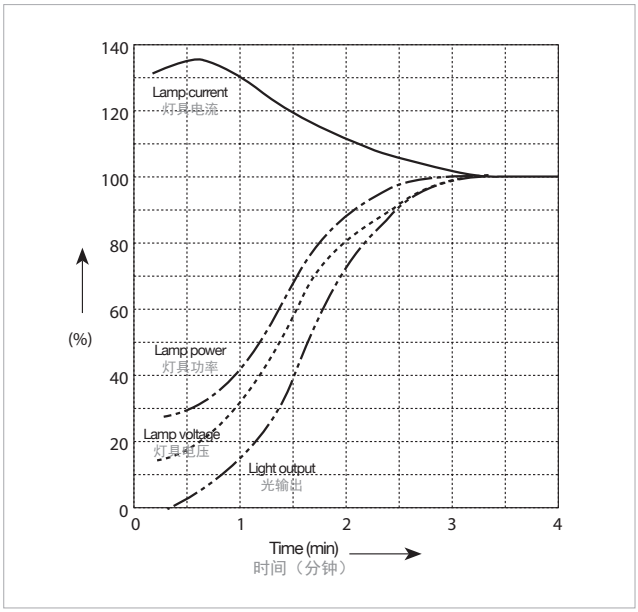
比起常用电源电压，金属卤化物灯需要的启动电压更高。采用各种电路实现所需的启动条件。它们是漏抗镇流器、恒功率自耦变压器控制设备或带启辉器的串联电抗器型镇流器。后者是最经济的解决方案。

Most metal halide lamps will require an ignitor to start the discharge in the arc. The ignition voltage is generally 4.0–5.0 kV peak for a cold start with the lamps requiring a cooling period of between 10–15 minutes before they will re-ignite. Certain lamps are capable of hot re-ignition in which cases voltages of up to 35 kV peak are required. Some of the higher wattage 2,000 and 3,500 W lamps can require hot instant re-strike voltages of up to 60 kV peak.

大多数金属卤化物灯需要启辉器来启动电弧中的放电。冷启动时，启辉电压峰值通常为 4.0—5.0 kV，灯具在重新点亮之前需要 10 到 15 分钟的冷却时间。某些灯具能够实现热重启辉，这种情况下，需要高达 35 kV 的峰值电压。某些更高功率的 2000 和 3500 W 灯具需要的热瞬时复弧电压高达 60 kV（峰值）。

Note: Not all makes and/or types of metal halide lamps can be operated on ignitor circuits — consult the lamp manufacturer or CMP for information or lamp control gear compatibility.

注意：并非所有构造和/或类型的金属卤化物灯都可在启辉器电路上操作—要了解更多信息或灯具控制装置兼容性，请咨询灯具制造商或 CMP。



Similar to the mercury vapour lamps, metal halide lamps also require several minutes to develop full light output as is illustrated by the starting curves for a 400 W metal halide lamp.

与汞蒸汽灯类似，金属卤化物灯也需要几分钟时间来实现全光输出，如图中 400 W 金属卤化物灯的启动曲线所示

Control gear protection for compact metal halide lamps

The concentrated optics of short-arc metal halide lamps are ideal for compact luminaire designs, particularly in ratings of 20, 35, 70 and 150 W. However, as some of these particular type of metal halide lamps age, they may become polarised. The polarisation superimposes a d.c. component on the a.c. lamp current. The combination of the a.c. and d.c. components results in a higher than normal current to flow (up to three times the nominal current) causing overheating of the control equipment.

Because of this characteristic, the IEC International Standards have published data on short-arc metal halide lamps which states: “Because of the possible risk of abnormal operating conditions that may occur at the end of lamp life which can lead to ballast over-loading, suitable protected circuits shall be used for operation of this lamp.”

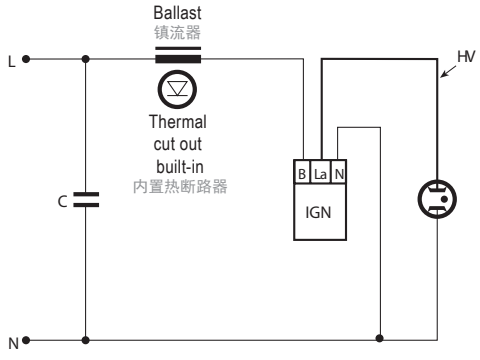
紧凑型金属卤化物灯的控制保护装置

短弧金属卤化物灯的集中式光学器件非常适用于紧凑型的灯具设计，尤其是适用于额定功率为 20 W、35 W、70 W 和 150 W 的灯具。但当这些特定类型的金属卤化物灯随着时间的推移发生老化时，其中某些灯具会出现极化现象。此极化指在灯具交流电流上添加直流组件。交流和直流组件的混合使用会使灯具中的电流高于正常电流（最高达标称电流的三倍），从而导致控制设备过热。

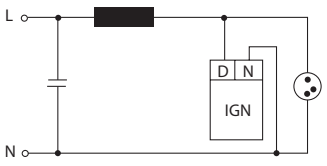
由于这一特性，IEC 国际标准发布了有关短弧金属卤化物灯的数据，称：“由于灯具使用寿命结束时可能会出现异常工作状况，导致镇流器过载，因此应使用合适的保护电路确保灯具的正常使用。”

Circuit protection can be provided in a number of ways. However, the most common is a self-resetting thermal cut-out against the ballast winding. This switches the circuit off when the temperature of the ballast increases beyond the maximum permissible winding temperature. Once the device cools down, the lamp will re-ignite and the circuit will continue to cycle. Bearing in mind that the polarisation tends to occur at the end of lamp life, replacement of the lamp at the end of rated life will ensure that the control equipment is not abnormally stressed, even though the circuit may be protected.

电路保护的实现方法有很多。但最常见的是针对镇流器绕组的自复位热断路器。当镇路器的温度超出最大允许绕组温度时，此断路器将关闭电路。一旦设备冷却下来，灯具会重新点亮，电路将继续循环。请记住，即使电路得到保护，但灯具使用寿命结束时容易发生极化，因此在使用寿命结束时更换灯具可确保控制设备不会承受异常压力。



Single-voltage circuit with superimposed-pulse ignitor for short-arc metal halide lamps
带叠加脉冲启辉器的单电压电路，适用于短弧金属卤化物灯



Parallel pulse circuit for metal halide lamps up to 1 kV$_p$ ignition voltage
并联脉冲电路，适用于启辉电压最高达 1 kV 的金属卤化物灯

High pressure sodium (HS) lamps
高压钠 (HS) 灯

High pressure sodium (HS) lamps can operate satisfactorily from -30°C to 100°C on series reactor ballast circuits, but precautions against increase arc tube voltage, due to thermal back radiation when mounted in luminaires should be considered. Only a typical 10 volt increase in lamp voltage is tolerable.

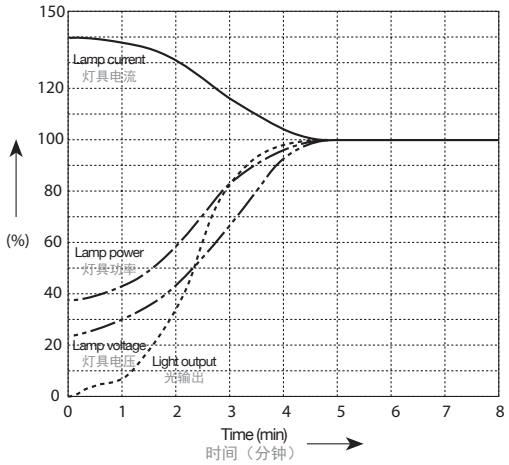
高压钠 (HS) 灯在串联电抗器型镇流器电路上的最佳工作温度范围为 -30° C 至 100° C，但如果要安装在照明设备内，由于热逆辐射的影响，需预防电弧管电压增高。灯具电压可容忍的唯一电压升幅为 10 V。

Standard lamps will re-ignite after 60 to 90 seconds with an ignition voltage of 2.5–5.0 kV peak for cold start depending on the lamp specifications. High pressure sodium lamps can only be re-ignited hot if they are of linear double ended construction because hot re-strike requires 18 to 25 kV peak starting pulses.

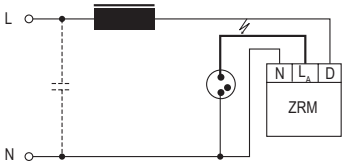
标准灯具将在 60 至 90 秒后重新点亮，冷启动的启辉电压为 2.5—5.0 kV（峰值），这取决于灯具的规格。如果高压钠光灯采用线形双端构造，则它们仅可在较高温度下重新点亮，因为热复弧需要 18 至 25 kV 的峰值启动脉冲。

High pressure sodium lamps are most commonly used in a series reactor ballast and ignitor circuit. The lamp power and discharge tube temperature are highly dependent upon the lamp voltage. It is therefore important that the mains voltage does not exceed 105% of the nominal rated voltage of the ballast for extended periods. The ballast should exhibit a closely controlled current/voltage characteristic to prevent the lamp from exceeding the maximum power limit as it ages and the lamp voltage rises.

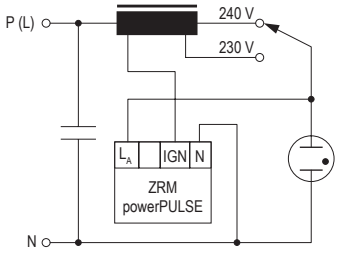
高压钠光灯最常用于串联电抗器型镇流器和启辉器电路。灯具的功率和放电管温度主要取决于灯具电压。因此电源电压不得长时间超过镇流器标称额定电压的 105%。镇流器应表现出得到严密控制的电流/电压特性，以防止在灯具老化或灯具电压上升时，灯具超出最高功率限制。



Run-up to full light output takes approximately 4 minutes from a cold start as is illustrated by the starting curves of a 400 W high pressure sodium lamp
从冷启动达到全光输出需要约 4 分钟
如图中 400 W 高压钠光灯的启动曲线所示。



Single-voltage circuit with superimposed-pulse ignitor for sodium vapour lamps and metal halide lamps
带叠加脉冲启辉器的单电压电路，适用于钠蒸汽灯和金属卤化物灯

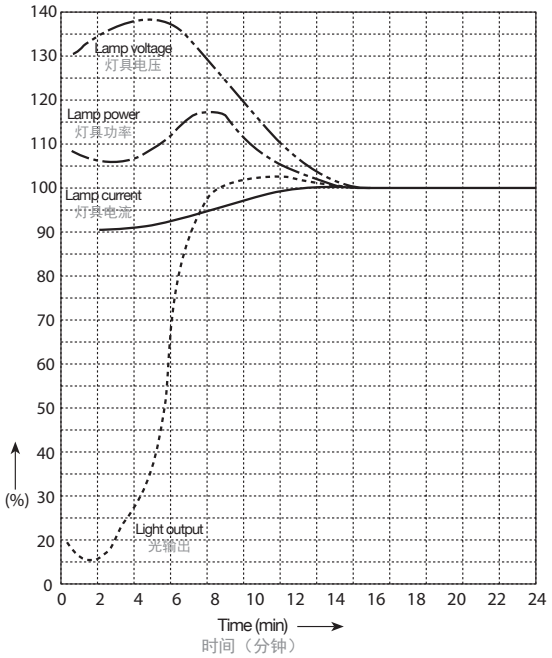


Multi-voltage circuit with pulse ignitors ZRM 4000 powerPULSE for sodium vapour lamps and metal halide lamps
带脉冲启辉器 ZRM 4000 powerPULSE 的多电压电路
适用于钠蒸汽灯和金属卤化物灯

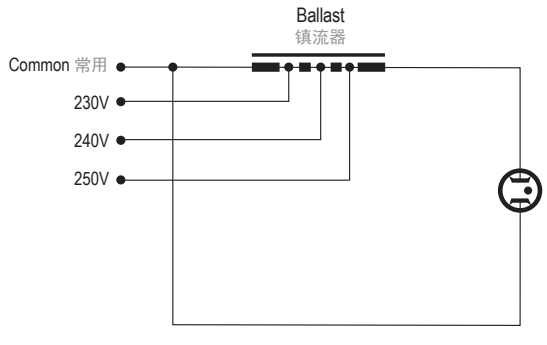
Low pressure sodium (LPS) lamps
低压钠光 (LPS) 灯

Low pressure sodium (LPS) lamps are the most efficient of the common HID lamps. However, their main drawback is the monochromatic light output at 590 nm (yellow). Low pressure sodium lamps require voltages from 390 to 670 V (ballast open-circuit voltage) for ignition and are therefore operated on leakage reactance ballasts or on series reactor ballasts with an ignitor. The latter system is only suitable for lamp ratings up to 100 W on 240 V supply.

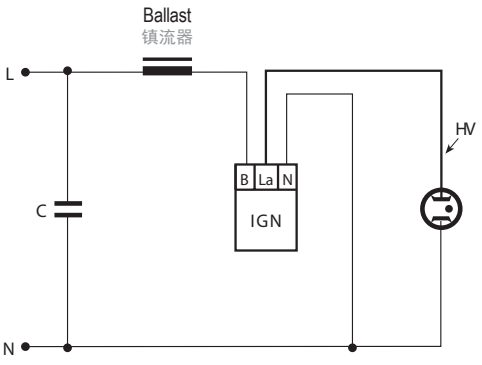
低压钠光（LPS）灯是最高效的常用 HID 灯。然而，它们的主要缺陷是波长590nm的单色光输出(黄色)。低压钠光灯需要 390 至 670 V 的电压（镇流器开路电压）启辉，因此要使用带启辉器的漏抗镇流器或串联电抗器型镇流器。后一个镇流器仅适用于电源电压 240 V，额定功率最高位 100 W 的灯具。



Typical starting curves for a 90W low pressure sodium lamp.
These lamps re-strike immediately after a mains interruption.
90W 低压钠光灯的典型启动曲线这些灯具会在电源中断之后立即复弧。



Leakage reactor ballast circuit for LPS lamps
LPS 灯的漏抗镇流器电路



Superimposed-pulse ignitor circuit for LPS lamps
适用于 LPS 灯的叠加脉冲启辉器电路

Magnetic ballasts for HID lamps
HID 灯的电感镇流器

Ballasts are required to operate high-intensity dis-charge lamps. Magnetic ballasts work on the self-inductance principle and limit lamp current and lamp wattage with a high level of efficiency. The impedance of the ballast is set to match the particular type of lamp, which ensures that the correct lamp performance is achieved.

In some cases, a ballast can be used for more than one lamp. Supply voltage and supply frequency influence ballast requirements and so the operating devices should be matched to the current supply voltage. It is possible to expand the scope of application by using ballasts with several voltage tappings.

Optimum performance
Optimum performance is achieved by careful control of the main parameters. The tight tolerances used in manufacture ensure that the correct lamp current, the correct wattage and the expected luminous flux are achieved.

Minimum consumption
An inefficient ballast means high losses and has a dramatic effect on the overall efficiency.

Technical specific data
The hot losses specified in the technical data is an indicative figure, measured at 25°C and at nominal lamp current according to IEC 61347-1. Furthermore, the circuit power is calculated by adding the nominal lamp power and the ballast losses.

高强度放电灯需要使用镇流器。电感镇流器遵循自电感原理，可高效地限制灯具电流和功率。设置镇流器的阻抗与特定类型的灯具相匹配，确保实现正确的灯具性能。

某些情况下，一个镇流器可用于多个日光灯。电源电压和供电频率会影响镇流器的要求，因此操作装置应与当前电源电压相匹配。可使用带多个电压分接的镇流器来扩大应用范围。

最佳性能
通过谨慎控制主要参数，实现最佳性能。制造时使用的严密公差可确保实现正确的灯具电流、正确的功率和预期光通量。

最低消耗
镇路器低效意味着高功损，并会对整体效率产生巨大的影响。

技术特定数据
技术数据中指定的热损失是一个指示性数字，是根据 IEC 61347-1 标准在 25° C 的温度和灯具标称电流下测量得到的。此外，电路功率是标称灯具功率加上镇流器损耗计算得来。

Minimum stray field
CMP ballasts are designed to keep the stray field to a minimum. This considerably reduces the noise generated near to magnetically sensitive parts as well as magnetic influences on sensitive parts.

National and international test marks
CMP ballasts are approved by national and international test houses. Standard ballasts for the European market are all ENEC-approved without exception.

Consistent high quality
Our Quality Assurance system, based on AS/NZS ISO 9001, guarantees consistent high quality. CMP's Quality Assurance department monitors all incoming materials, performs continuous production tests and 100% of our finished products are comprehensively tested.

最低杂散场
CMP 镇流器的设计可保持最低的杂散场。这可大大减少磁敏部件旁产生的噪声以及对敏感部件的磁性影响。

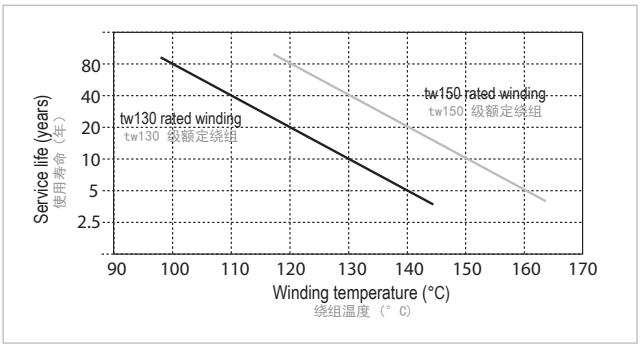
国家及国际测试标志
CMP 镇流器通过了国家和国际测试机构的审批。适用于欧洲市场的标准镇流器无一例外，全都通过了 ENEC 审批。

一致的高品质
我们基于 AS/NZS ISO 9001 的质量保证体系确保始终如一的高品质。CMP 的质量保证部门监控所有入厂材料，执行持续地生产测试，并对所有成品进行综合测试。

Maintenance-free long service life

CMP HID ballast windings are designed and constructed using Class H insulation materials, the tw130 (or in some OG models, tw150) rated winding ensuring maximum service life. In normal operation, in a 40°C ambient temperature, probable service life of more than 50 years could be expected.

The graph shows the theoretical service life of a CMP HID ballast. Even when arduously operated at the maximum recommended temperature, more than 10 years service life can be expected. Every 10°C over maximum winding temperature of 130°C (or 150°C) halves ballast life. The winding temperature is the ambient temperature plus Δt, the temperature rise, which is a function of ballast power consumption.



The manufacturing technique used by CMP is to vacuum impregnate the ballast with an unsaturated polyester resin. Typical characteristics are thermal class "H" (180°C IEC 60085). Vacuum impregnation improves quality and longevity because the resin is drawn into the heart of the core and coil. This maximises heat transfer and also ensures silent operation.

Based on the concept of thermal conduction, vacuum impregnation eliminates air pockets within the ballast winding, maximising heat transfer. The surface temperature of a vacuum impregnated ballast may be higher than one which is simply dipped in resin. However, the winding temperature of a vacuum impregnated ballast will be correspondingly lower because of the insulation system's optimised ability to transfer the heat from the coil to the core, resulting in a longer service life in comparison. Reducing the ballast winding temperature by 10°C will effectively double its service life.

The high quality and reliability of insulated conductors is dependent not only on the production process, but also on the choice of raw materials. Many years of experience, both as a user and manufacturer of enamelled winding wire, has given CMP the knowledge and expertise to select the best raw materials from internationally approved suppliers.

The copper is made from a high conductivity hot rolled copper rod and complies with the chemical composition limits and resistivity requirements of International Registered Alloy Designation 110.

Critical attention is paid to the enamel as the material utilised to insulate the conductor. Choice of enamel is a key factor and is linked both to the enameling system as well as the electrical, mechanical and technical characteristics of the finished product. The insulation enamels specified by CMP Controls are supplied by internationally approved manufacturers specialising within this field. Class H+ (200ºC) insulation is used in all CMP ballasts.

无需维护，使用寿命长

CMP HID 镇路器绕组是使用 H 级绝缘材料设计和制造的，tw130（某些 OG 型号中是 tw150）级的绕组可确保使用寿命最长。正常运行时，在 40˚C 的环境温度下，预期使用寿命很可能达到 50 年以上。

图中显示了 CMP HIP 镇流器的理论使用寿命。即使在最大建议温度下费力地运行，估计也可获得 10 年以上的使用寿命。最大绕组温度 130˚C (或 150˚C)，每超出 10˚C，镇流器使用寿命就减半。绕组温度 = 环境温度 + 温差 (温升)，温差是镇流器功耗的一个函数。

CMP 使用的制造技术是将镇流器在不饱和聚酯树脂中进行真空浸渍。其典型特性是耐热等级为 "H" (180˚C IEC 60085)。真空浸渍可提高品质和使用寿命，因为树脂会被吸收进铁芯和线圈的核心。这可最大程度增强热传递，还可确保静音操作。

基于热传导概念，真空浸渍消除了镇流器绕组内的气穴，可最大程度增强热传递。

真空浸渍后的镇流器的表面温度可能会高于仅浸泡了树脂的镇流器。然而，由于绝缘系统可以更好地将热量从线圈传递到铁芯，真空浸渍后的镇流器的绕组温度将相应地降低，从而延长了使用寿命。镇流器绕组温度每下降 10˚C，镇流器使用寿命就增加一倍。

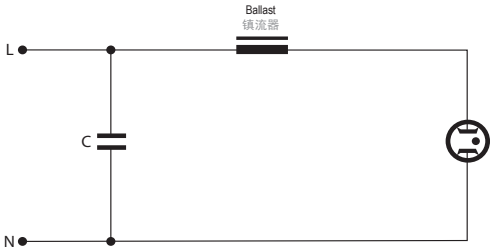
绝缘导体的高品质和高可靠性不仅取决于生产工艺，还取决于选择的原材料。CMP 在这方面拥有多年经验，它既是漆包绕组线的生产商又是用户，因此积累了丰富的知识和专业技术，可从各家国际认可的供应商处选出最佳的原材料。

使用的铜由高导热轧铜条所制，符合国际注册合金牌号 110 的化学成分限制和电阻率要求。

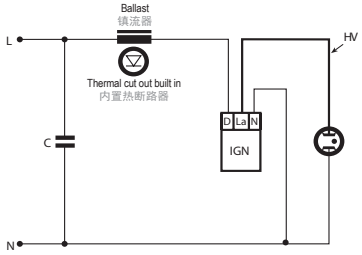
重点关注瓷釉，因为这种材料可用作导体绝缘材料。如何正确选择瓷釉十分关键，因为它会影响到漆包系统以及成品的电气、机械和技术特性。CMP Controls 指定的绝缘瓷釉由国际认可的专业制造商提供。所有 CMP 镇流器中都采用 H+ (200˚C) 级绝缘。

Technical tips for HID reactor / ignitor circuits
HID 电抗器/启辉器电路的技术小常识

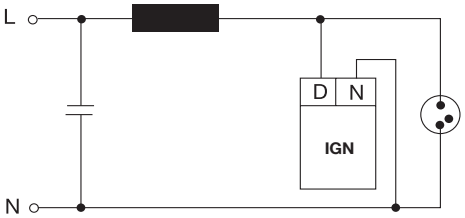
Symptom 症状	Possible fault 可能的故障	Test and remedy 测试和补救措施
Lamp intact but will not light 灯具完好无损但不亮	Failed lamp 灯具失效	Replace lamp 更换灯具
	Supply fault 电源故障	Check supply volts and circuit fuse 检查电源电压和电路保险丝
	Wiring fault 布线故障	Check for loose connections and correct connections to ignitor 检查连接是否松动，并纠正启辉器的连接。
		Check that insulation of cable be tween ballast or ignitor and lamp is sound 检查镇流器或启辉器与灯具之间的电缆绝缘性是否正常
		Look for signs of breakdown due to ignitor high voltage pulses 寻找是否有因启辉器高压脉冲导致的崩溃迹象
		Check that cable length between ignitor and lamp are within limits specified 检查启辉器与灯具之间的电缆长度是否处于指定限制范围内
	Ignitor fault 启辉器故障	Check with ignitor tester or remove ignitor and try another 用启辉器测试仪进行检查，或拆下启辉器，尝试使用另一个启辉器
	Ballast fault 镇流器故障	Disconnect ignitor. Check for mains volts at ballast output terminal 断开启辉器的连接。检查镇流器输出端子上的电源电压
		Try substitute ballast 尝试使用替代的镇流器
Low light output 光输出过低	Low lamp power 灯具功率过低	Check supply voltage is correct 检查电源电压是否正确
		Check correct compatible ballast is in use 检查是否使用了正确的兼容镇流器
	Failing lamp 灯具失效	Try another lamp 尝试使用另一个灯具
	Wiring 布线	Check circuit is correctly wired, that all connections are tight and lamp is making contact in holder 检查电路布线是否正确，所有连接是否紧密，灯具是否接通灯座
Light output unstable or fluctuating 光输出不稳定或有波动	Unsuitable fitting 接头不合适	Check that fitting is recommended for the lamp, eg. high pressure sodium lamp voltage may rise and cause extinction 检查该接头是否适用于灯具，例如高压钠光灯电压会升高并导致消光
	Failing lamp 灯具失效	Replace lamp 更换灯具



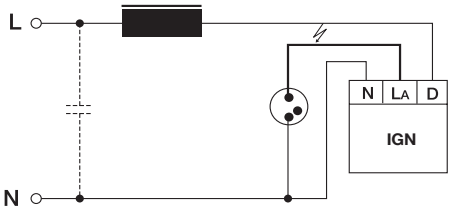
Single-voltage circuit for mercury vapour lamps
汞蒸汽灯的单电压电路



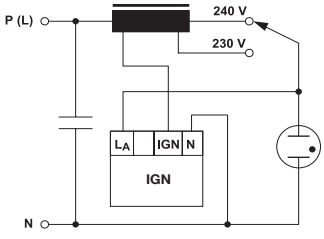
Single-voltage circuit with superimposed-pulse ignitor for short-arc metal halide lamps
带叠加脉冲启辉器的单电压电路，适用于短弧金属卤化物灯



Parallel pulse circuit for metal halide lamps up to 1 kV$_p$ ignition voltage
并联脉冲电路，适用于启辉电压最高达 1 kV 的金属卤化物灯



Single-voltage circuit with superimposed-pulse ignitor
for sodium vapour lamps and metal halide lamps
带叠加脉冲启辉器的单电压电路，适用于钠蒸汽灯和金属卤化物灯



Multi-voltage circuit with pulse ignitors
for sodium vapour lamps and metal halide lamps
带脉冲启辉器 的多电压电路，适用于钠蒸汽灯和金属卤化物灯

Remote assemblies for high-intensity discharge lamps
高强度放电灯的遥控组件

The OM PAK assemblies from CMP combine choke, ignitor, p.f. correction capacitor and terminals in a compact casing. These independent units in safety class 2 are very easy to install. No tools are needed at all, so they save an enormous amount of time on site.

CMP 的 OM PAK 组件的紧凑机壳内集成了扼流圈、启辉器、功率因数补偿电容器和端子。这些安全级别为 2 级的独立单元极易安装。它们不需要任何工具，因此可以节省许多现场工作时间。

All the assemblies for operating metal halide lamps or sodium lamps are generally temperature-protected and are suitable for mounting on normally flammable material (fire category F).

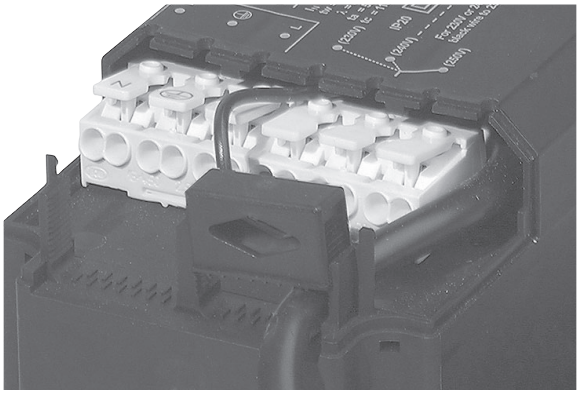
所有用于金属卤化物灯或钠光灯的组件通常都有温度保护机制，适合安装在普通易燃材料上（F 类火灾）。

The robust design also means that the units can be used at high ambient temperatures (ta). The compact casing design results in exceptionally quiet operation.

这种强大的设计也意味着这些单元都可在较高的环境温度下使用。紧凑的机壳设计导致其拥有出色的静音操作。

The assemblies are available with or without prewired lamp cables. Screw terminals make it easy to connect to the mains. Quick fastening of the terminal covers and tool-less cable clamps add-up to efficient installation.

可以选择为这些组件预配灯具电缆。螺丝端子用于方便地连接到电源。可快速固定的端盖和免工具电缆夹使安装工作更加高效。



The ignitors used are an essential quality feature of the OM PAK series from CMP. There is a choice of two superimposed-pulse ignitors – the successful standard ZRM ES/C ignitor or the ZRM/CT ignitor with digital timer and pulse-pause operation.

使用的启辉器是 CMP 的 OM PAK 系列的重要质量特征。可选择两种叠加脉冲启辉器—成功的标准 ZRM ES/C 启辉器或带数字计时器和脉冲暂停功能的 ZRM/CT 启辉器。

With these different versions, CMP presents a rounded application-oriented range of OM PAK assemblies that ensure that high-intensity discharge lamps are operated in accordance with manufacturers' specifications.

利用这些不同的版本，CMP 提供了大量面向应用的 OM-PAK 组件，可确保根据制造商的规格操作高强度放电灯。

50 W High-pressure mercury vapour lamps

50 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 50 ...	E27	95	0.60	–	EMV 50; OMB 50	–
Iwasaki	HF50 PD	E27	95	0.61	–	EMV 50; OMB 50	–
Osram	HQL 50	E27	95	0.62	–	EMV 50; OMB 50	–
Philips	HPL-N50 W	E27	95	0.61	–	EMV 50; OMB 50	–
Radium	HRL50	E27	95	0.62	–	EMV 50; OMB 50	–
Sylvania	HSL-BW50	E27	95	0.61	–	EMV 50; OMB 50	–

80 W High-pressure mercury vapour lamps

80 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE NDX	H 80 ...	E27, B22	115	0.80	–	EMV 80; OMB 80	–
Iwasaki	HF 80 PD	E27	115	0.80	–	EMV 80; OMB 80	–
Osram	HQL 80	E27	115	0.80	–	EMV 80; OMB 80	–
Philips	HPL-N 80 W	E27	115	0.80	–	EMV 80; OMB 80	–
Radium	HRL 80	E27	115	0.80	–	EMV 80; OMB 80	–
Sylvania	HSL-BW 80	E27	115	0.80	–	EMV 80; OMB 80	–

125 W High-pressure mercury vapour lamps

125 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 125 ...	E27, B22	125	1.15	–	EMV 125; OMB 125	–
Iwasaki	HF 125 PD	E27, E40	125	1.15	–	EMV 125; OMB 125	–
Osram	HQL 125	E27	125	1.15	–	EMV 125; OMB 125	–
Philips	HPL-N 125 W	E27, E40	125	1.15	–	EMV 125; OMB 125	–
Radium	HRL 125	E27	125	1.15	–	EMV 125; OMB 125	–
Sylvania	HSL-BW 125	E40	125	1.15	–	EMV 125; OMB 125	–

175 W High-pressure mercury vapour lamps

175 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Sylvania	H39KC-175/DX	E39	130	1.15	–	OMB 175	–

250 W High-pressure mercury vapour lamps

250 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 250 ...	E40	130	2.15	–	OMB 250; OGB 250	–
Iwasaki	HF 250 PD	E40	130	2.13	–	OMB 250; OGB 250	–
Osram	HQL 250	E40	130	2.15	–	OMB 250; OGB 250	–
Philips	HPL-N 250 W	E40	135	2.10	–	OMB 250; OGB 250	–
Radium	HRL 250	E40	130	2.15	–	OMB 250; OGB 250	–
Sylvania	HSL-BW 250	E40	130	2.15	–	OMB 250; OGB 250	–

400 W High-pressure mercury vapour lamps

400 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 400 ...	E40	135	3.25	–	OGB 400	–
Iwasaki	HF 400 PD	E40	135	3.25	–	OGB 400	–
Osram	HQL 400	E40	135	3.25	–	OGB 400	–
Philips	HPL-N 400 W	E40	140	3.25	–	OGB 400	–
Radium	HRL 400	E40	135	3.25	–	OGB 400	–
Sylvania	HSL-BW 400	E40	135	3.25	–	OGB 400	–

700 W High-pressure mercury vapour lamps

700 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 700 ...	E40	140	5.50	–	OGB 700	–
Iwasaki	HF 700 PD	E40	140	5.40	–	OGB 700	–
Osram	HQL 700	E40	140	5.40	–	OGB 700	–
Philips	HPL 700 W	E40	145	5.40	–	OGB 700	–

1,000 W High-pressure mercury vapour lamps

1,000 W 高压汞蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	H 1000 ...	E40	145	7.50	–	OGB 1000	–
Iwasaki	HF 1000 PD	E40	145	7.50	–	OGB 1000	–
Osram	HQL 1000	E40	145	7.50	–	OGB 1000	–
Philips	HPL-N 1000 W	E40	145	7.50	–	OGB 1000	–
Radium	HRL 1000	E40	145	7.50	–	OGB 1000	–
	HRLV 1000	E40	145	7.50	–	OGB 1000	–
Sylvania	H34GW 1000 /DX	E39	135	8.00	–	OGB 1000	–
	H36GW 1000 /DX	E39	265	4.00	–	OGB 1000H	–
	HSL-BW 1000	E40	145	7.50	–	OGB 1000	–

20 W Metal halide lamps

20 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	CMH 20 …	G8.5	90	0.23	–	–	–
	CMH 20 MR16	GX10	90	0.21	–	–	–
	CMH 20 Super Mini	GU6.5	90	0.21	–	–	–
Osram	HCI-TC 20	G8.5	100	0.23	–	–	–
Philips	CDM-R111 20 W	GX8.5	101	0.22	–	–	–
	CDM-TM 20 W	PGJ5	100	0.22	–	–	–
Radium	RCC-PAR20 20 W...	E27	100	0.23	–	–	–
	RCC-TC 20 ...	G8.5	100	0.23	–	–	–
Sylvania	Britespot ES50 20 W	GX10	100	0.22	–	–	–
	CMI-TC 20 W/SB	G8.5	100	0.20	–	–	–

35 W Metal halide lamps

35 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	C-HIT 35	G12	95	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
GE	CMH 35 /PAR	E27	90	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMH 35/T	G12, RX7s	90	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMH 35/TC	G8.5	90	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
Osram	HCI-T 35...	G12	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	HCI-TC 35 W/WDL	G8.5	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
Philips	CDM-R 35 W	E27	88	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CDM-R111 35 W	GX8.5	88	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CDM-T 35 W	G12	88	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CDM-TC 35 W	G8.5	88	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
Radium	RCC-PAR30 35 W...	E27	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	RCC-T 35	G12	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	RCC-TC 35 ...	G8.5	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
Sylvania	Britespot ES111 35 W	GX10	100	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	Britespot ES50 35 W	GX10	95	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	Britespot ESD50 35 W	GX10	95	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMI-PAR 20 35 W/SB	E27	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMI-PAR 30 35 W/SB	E27	90	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMI-T 35 W/SB	G12	90	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
	CMI-TC 35 W/SB	G8.5	90	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMS 35TH	OM PAK 35 M
Venture	HIE 35 /x/x	E27	95	0.53	ZRM 6-ES/C 3.5KV	EPS 35; OMS 35	–
	MH 35 …	E26	85	0.47	ZRM 6-ES/C 3.5KV	EPS 35; OMS 35	–

50 W Metal halide lamps

50 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	MXR/MVR 50	E26/27	85	0.68	ZRM 6-ES/C 3.5KV	EMV 50; OMB 50	–
Venture	MH 50 … (M110)	E26	85	0.68	ZRM 6-ES/C 3.5KV	EMV 50; OMB 50	–

70 W Metal halide lamps

70 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	C-HIT 70 DE	RX7s	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	C-HIT 70 WW	G12	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HIE … 70 …	E27	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HIE-P 70	E27	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HIT 70 DE	RX7s	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
GE	ARC 70...	G12, RX7s	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMH 70 PAR	E27	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMH 70 T...	G12	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMH 70 T Mini	G8.5	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMH 70 TD...	RX7s	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	MXR/MVR 70	E26/27	85	0.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 70	OM PAK 70 M
Iwasaki	MT 70 Color Arc	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70ATH, OMS 70ATH	–
	MT 70 Color Arc	G12	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	MTD 70 Color Arc	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
Osram	HCI-E/P 70 W/WDL	E27	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HCI-PAR 30 70 W/WDL	E27	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HCI-T 70...	G12	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HCI-TC 70 W/WDL	G8.5	95	0.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HCI-TS 70...	RX7s	95	0.96	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HQI-E 70 W/WDL	E27	95	0.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HQI-T 70...	G12	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HQI-TS 70...	RX7s	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
Philips	CDM-ET 70 W	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70ATH, OMS 70ATH	–
	CDM-R 70 W	E27	90	0.97	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CDM-R111 70 W	Gx8.5	83	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CDM-T 70 W	G12	88	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CDM-TC 70 W	G8.5	83	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CDM-TD 70 W	RX7s	92	0.97	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CDM-TT 70 W	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70ATH, OMS 70ATH	–
	CDO-ET 70 W	E27	87	0.98	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70ATH, OMS 70ATH	–
	CDO-TT 70 W	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70ATH, OMS 70ATH	–
	MHN-TD 70 W	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	MHW-TD 70 W	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
Radium	HRI-E 70 W...	E27	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HRI-T 70...	G12	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HRI-TS 70...	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	RCC-PAR30 70 W...	E27	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	RCC-T 70	G12	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	RCC-TC 70 ...	G8.5	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	RCC-TS 70	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
Sylvania	Britespot DE 70 …	RX7s	95	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	Britespot ESD111 70 …	GX10	100	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMI-MCP 70 W PAR 38	E26	88	0.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 70	OM PAK 70 M
	CMI-MP 70 W/SB	E27	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMI-PAR 30 70 W/SB	E27	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMI-T 70 W/SB	G12	100	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	CMI-TT 70 W/SB	E27	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HSI-MP 70 W	E27	95	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HSI-T 70 W	G12	95	0.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	HSI-TD 70 W	RX7s	90	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	MP 70 W PAR 38	E26	85	0.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 70	OM PAK 70 M
Venture	HIE 70/x/x	E27	85	0.90	ZRM 6-ES/C 3.5KV	OMS 70	–
	MH 70 / … (M98)	E26	85	0.91	ZRM 6-ES/C 3.5KV	OMS 70	–
	MH-DE 70 / … (M85)	RX7s	95	0.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70ATH, OMS 70ATH	OM PAK 70 M
	MS 70 / … (M98)	E26	85	0.91	ZRM 6-ES/C 3.5KV	OMS 70	–

100 W Metal halide lamps

100 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	HIE 100	E27	95	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	MHR 100	plug	95	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
GE	CMH 100...	E27	100	1.15	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	MXR 100	E27	95	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
Osram	HQI-E 100 W/WDL...	E27	95	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	HQI-EP 100 W/WDL	E27	95	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
Philips	CDO-ET 100 W	E40	90	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	CDO-TT 100 W	E40	95	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
Radium	HRI-E 100 W...	E27	90	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
Sylvania	CMI-MCP PAR 38 100 W/SB…	E26	100	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	CMI MP 100 W/SB...	E27	100	1.15	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	HSI-MP 100 ...	E27	100	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
	MP PAR 38 100 W...	E26	100	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	OM PAK 100 M
Venture	HIE 100/x/x	E27	100	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	–
	HIE 100 W/C/U/LU3K	E27	100	1.10	ZRM 6-ES/C 3.5KV	OMH 100TH	OM PAK 100 M
	MH 100 /... (M90)	E26	100	1.10	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMH 100TH	–
	MH-DE 100 (M90)	RX7s	100	1.10	ZRM 6-ES/C 3.5KV	OMH 100TH	–
	MH-DE 100 (M90)	E26	100	1.10	ZRM 6-ES/C 3.5KV	OMH 100TH	–

150 W Metal halide lamps

150 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	C-HIT 150 DE	RX7s	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	C-HIT 150 WW	G12	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HIE 150	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HIT 150	E40	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HIT 150 DE	RX7s	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MHR 150	plug	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
GE	ARC 150...	G12; RX7s	105-110	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CMH 150	E27, G12, RX7s	95-105	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MBI 150 /T	G12	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MXR/MVR 150	E26/27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Iwasaki	MT 150 CEH-W/BU	E27	95	1.90	ZRM 2-ES/C; ZRM 2-ES/CT	OMS 150TH, OGS 150TH	–
	MT 150 Color Arc	E27	95	1.90	ZRM 2-ES/C; ZRM 2-ES/CT	OMS 150TH, OGS 150TH	–
	MT 150 Color Arc	G12	95	1.90	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MTD 150 Color Arc	RX7s	95	1.90	ZRM 2.5-ES/C; ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Osram	HCI-E/P 150 W/WDL	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HCI-T 150...	G12	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HCI-TS 150...	RX7s 24	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HQI-E 150...	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HQI-R 150...	plugg	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HQI-T 150...	G12	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HQI-TS 150...	RX7s 24	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HTI 150 W (Display Optics)	GY9.5	90	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Philips	CDM-ET 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDM-SA/T 150 W	G12	96	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDM-T 150 W	G12	96	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDM-TD 150 W	RX7s	96	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDM-TT 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDO-ET 150 W	E40	93	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CDO-TT 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MHN-TD 150 W	RX7s	98	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MHW-TD 150 W	RX7s	96	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Radium	HRI-E 150...	E27	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HRI-T 150...	G12	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HRI-TS 150...	RX7s	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	RCC-T 150…	G12	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	RCC-TS 150…	RX7s	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Sylvania	Britespot DE 150…	RX7s	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CMI-MCP PAR 38 150 W	E26	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CMI-MP 150 W	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CMI-T 150 W/SB	G12	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	CMI-TT 150 W/SB	E40	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HSI-MP 150 W	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HSI-T 150 W…	G12	95	1.82	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HSI-TD 150 W…	RX7s	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MP PAR 38 150 W	E26	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
Venture	HIE 150/x/x	E27, RX7s	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	HIT 150 W/U/LU/T38/4K	E27	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MH 150 /... /LV	E26	95	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150TH, OGS 150TH	OM PAK 150 M
	MH 150 /… (M102)	E26	95	1.80	ZRM 6-ES/C 3.5KV	OMS 150TH, OGS 150TH	–

175 W Metal halide lamps

175 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	MVR/MXR 175 /E	E26/E27	135	1.40	–	CWMH 175	–
					ATIG-14	OMB 175	–
Iwasaki	M 175 X/U	E40	130	1.50	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMB 175	–
Osram	MI 175 /C/U	E40	130	1.50	–	CWMH 175	–
					ATIG-14	OMB 175	–
Sylvania	M 175	E27, E39	132	1.50	–	CWMH 175	–
	MP 175 …BU	EX39	132	1.50	–	CWMH 175	–
	MS 175 …HOR	E39POM	132	1.50	–	CWMH 175	–
	MS 175 …PS	E39	132	1.50	ZRM 6-ES/C 3.5kV	OMB 175	–
Venture	MH 175 /… (M57)	E39	130	1.50	–	CWMH 175	–
					ATIG-14	OMB 175	–
	MH 175 /MED	E26	130	1.50	–	CWMH 175	–
					ATIG-14	OMB 175	–

200 W Metal halide lamps

200 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Venture	MP 200 /V/.../PS	E39	132	1.60	ZRM 6-ES/C 3.5kV	OMH 200	–
	MS 200 /.../PS	E39	132	1.60	ZRM 6-ES/C 3.5kV	OMH 200	–

250 W Metal halide lamps

250 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	HIT 250...	E40, Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
GE	ARC 250...	E40, Fc2	110	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	CMH 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	MVR 250	E40	133	2.10	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
Iwasaki	MF 250 LSH	E40	130	2.13	–	OMB 250, OGB 250	–
	MF 250 X/U	E40	130	2.13	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
	MT 250	E40	130	2.13	–	OMB 250, OGB 250	–
	MT 250 –BH	E40	130	2.13	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
	MT 250 Color arc	E40	130	2.13	–	OMB 250, OGB 250	–
	MT 250 LSH	E40	130	2.13	–	OMB 250, OGB 250	–
Osram	HCI-E 250 W/…	E40	95	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HQI-E 250 /D	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HQI-E 250 W/N/SI	E40	133	2.15	ATIG-14	OMB 250, OGB 250	–
	HQI-R 250 W/NDL		100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HQI-T 250 /D	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HQI-T 250 W/N/SI	E40	133	2.15	ATIG-14	OMB 250, OGB 250	–
	HQI-TS 250 W/…	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
Philips	CDM-T 250 W	G12	93	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	CDM-TT 250 W	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HPI plus 250 W +	E40	128	2.15	ATIG-14	OMB 250, OGB 250	–
	HPI-T 250 W +	E40	128	2.15	ATIG-14	OMB 250, OGB 250	–
	HPI-T plus 250 W +	E40	128	2.15	ATIG-14	OMB 250, OGB 250	–
	MH 250 W	E40	133	2.10	ATIG-14	OMB 250, OGB 250	–
	MHN-TD 250 W	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
Radium	HRI-E 250 W/D	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HRI-E 250 W/NSI	E40	130	2.10	ATIG-14	OMB 250, OGB 250	–
	HRI-T 250 W/D	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	HRI-TS 250 …	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250TH	–
	RCC-T 250 W/D	E40	100	3.00	ZRM 2.5-ES/CT, ZRM 4.5-ES/CT	OGS 250TH	–
	RCC-TS 250 …	Fc2	100	3.00	ZRM 2.5-ES/CT, ZRM 4.5-ES/CT	OGS 250TH	–

\+ can also be operated with HPS gear 也可使用 HPS 装置操作

250 W Metal halide lamps
250 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Sylvania	CMI-TT 250 W/G22/SB	G22	95	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	CMI-TT 250 W/SB	E40	105	2.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HSI-HX 250 ...	E40	130	2.10	ATIG-14	OMB 250, OGB 250	–
	HSI-SX 250 /P...	E40	100	2.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HSI-T 250 /6K…	E40	98	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HSI-TD 250 …	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HSI-THX 250 ...	E40	130	2.10	ATIG-14	OMB 250, OGB 250	–
	HSI-TSX 250 ...	E40	100	2.90	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	M 250 …U	E39	133	2.10	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
	MP 250 …BU	EX39	133	2.10	–	CWMH 250	–
	MP 250 …PS	EX39	133	2.10	ZRM 6-ES/C 3.5kV	OMB 250, OGB 250	–
	MS 250 ...HOR	E39POM	133	2.10	–	CWMH 250	–
					ZRM 6-ES/C 3.5kV	OMB 250, OGB 250	–
	MS 250 …PS	E39	133	2.10	ZRM 6-ES/C 3.5kV	OMB 250, OGB 250	–
Venture	HIE 250 /LU/x	E40	95	3.10	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OGS 250	–
	HIE 250 /x/x/EURO/x	E40	133	2.10	ATIG-14	OMB 250, OGB 250	–
	MH 250 /... (M58)	E39	133	2.10	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
	MH-DE 250 (M80)	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OFB 250, OGS 250	–
	MP 250 /V/.../PS	E39	133	2.10	ZRM 6-ES/C 3.5kV	OMB 250, OGB 250	–
	MS 250 /... (M58)	E39	133	2.10	–	CWMH 250	–
					ATIG-14	OMB 250, OGB 250	–
	MS 250 /.../PS	E39	133	2.10	ZRM 6-ES/C 3.5kV	OMB 250, OGB 250	–

320 W Metal halide lamps
320 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Sylvania	MP 320/350 ...PS	EX39	132	2.60	ZRM 6-ES/C 3.5kV	OGH 320	–
	MS 320 ...PS	E39	135	2.63	ZRM 6-ES/C 3.5kV	OGH 320	–
Venture	MP 320 /V/.../PS	E39	135	2.63	ZRM 6-ES/C 3.5kV	OGH 320	–
	MS 320 /.../PS	E39	135	2.63	ZRM 6-ES/C 3.5kV	OGH 320	–

350 W Metal halide lamps
350 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Sylvania	MP 320/350 ...PS	EX39	135	2.90	ZRM 6-ES/C 3.5kV	OGH 350	–
	MP 350/400 ...PS	EX39	135	2.90	ZRM 6-ES/C 3.5kV	OGH 350	–
Venture	MP 350 /V/.../PS	E39	135	2.80	ZRM 6-ES/C 3.5kV	OGH 350	–
	MS 350 /.../PS	E39	135	2.80	ZRM 6-ES/C 3.5kV	OGH 350	–

400 W Metal halide lamps

400 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	HIT 400...	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
GE	ARC 400/D	E40	120	4.35	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	CMH 400 /…E	E40	125	4.20	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	KRC 400...	E40	130	3.50	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGB 400, OGH 400	–
	MVR 400 /…E	E40	135	3.20	–	CWMH 400	–
					ATIG-14		–
Iwasaki	MF 400 /BUH	E40	135	3.25	ATIG-14	OGB 400	–
	MF 400 LSH/U	E40	135	3.25	–	OGB 400	–
	MF 400 SX	E40	135	3.25	ATIG-14	OGB 400	–
	MF 400 X/U	E40	135	3.25	ATIG-14	OGB 400	–
	MT 400 /BH	E40	135	3.25	ATIG-14	OGB 400	–
	MT 400 LSH	E40	135	3.25	–	OGB 400	–
Osram	HQI-BT 400 W/D HPS Gear	E40	120	4.00	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	HQI-E 400 W/N/SI	E40	135	3.25	ATIG-14	OGB 400	–
	HQI-E 400 W/... HPS Gear	E40	120	4.00	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	HQI-T 400 W/N/SI	E40	135	3.25	ATIG-14	OGB 400	–
	HQI-T 400 W/N HPS Gear	E40	120	4.00	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	HQI-TS 400 W/…	Fc2	120	4.10	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	MI 400 /.../U	E40	135	3.25	ATIG-14	OGB 400	–
Philips	CDM-TT 400 W	E40	95	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	HPI 400 W	E40	125	3.40	ATIG-14	OGB 400, OGH 400	–
	HPI plus 400 W +	E40	125	3.40	ATIG-14	OGB 400, OGH 400	–
	HPI plus 400 W BUS +	E40	125	3.40	–	OGB 400, OGH 400	–
	HPI-T 400 W	E40	125	3.40	ATIG-14	OGB 400, OGH 400	–
	HPI-T plus 400 W +	E40	125	3.40	ATIG-14	OGB 400, OGH 400	–
	MH 400 W	E40	135	3.25	ATIG-14	OGB 400	–
Radium	HRI-BT 400 …	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	HRI-E 400 …	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
	HRI-E 400 W/NSI	E40	135	3.25	ATIG-14	OGB 400	–
	HRI-TS 400 …	Fc2	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400TH	–
Sylvania	HSI-HX 400	E40	130	3.40	ATIG-14	OGB 400, OGH 400	–
	HSI-HX 400 /CO/I	E40	130	3.40	–	OGB 400, OGH 400	–
	HSI-SX 400 /P…	E40	120	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	HSI-T 400 /6K…	E40	122	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	HSI-THX 400	E40	130	3.25	ATIG-14	OGB 400	–
	HSI-TSX 400 …	E40	105	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	M 400 …	E39	135	3.25	–	CWMH 400	–
					ATIG-14	OGB 400	–
	M 400 …BT28	E39	135	3.25	–	CWMH 400	–
					ATIG-14	OGB 400	–
	MP 350/400 ...PS	EX39	135	3.25	ZRM 6-ES/C 3.5kV	OGB 400	–
	MP 400 …	EX39	135	3.25	–	CWMH 400	–
					ZRM 6-ES/C 3.5kV	OGB 400	–
	MS 400 …	E39POM	135	3.25	–	CWMH 400	–
					ZRM 6-ES/C 3.5kV	OGB 400	–
Venture	HIE 400 / LU	E40	120	4.00	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	HIE 400 /x/x	E40	135	3.20	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGB 400	–
	HIE 400 W/x/x/EURO/x	E40	135	3.25	ATIG-14	OGB 400	–
	MH 400 /… (M59)	E39	135	3.20	ATIG-14	OGB 400	–
	MP 400 /V/.../PS	E39	135	3.20	ZRM 6-ES/C 3.5kV	OGB 400	–
	MS 400 /.../PS	E39	135	3.20	ZRM 6-ES/C 3.5kV	OGB 400	–
	MS 400 /… (M59)	E39	135	3.20	ATIG-14	OGB 400	–

\+ can also be operated with HPS gear 也可使用 HPS 装置操作

450 W Metal halide lamps
450 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
Venture	MP 450 /V/.../PS	E39	135	3.70	ZRM 6-ES/C 3.5kV	OGH 450	–
	MS 450 /.../PS	E39	135	3.70	ZRM 6-ES/C 3.5kV	OGH 450	–

1,000 W Metal halide lamps
1,000 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
BLV	HIT 1000	E40	120	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
GE	MVR 1000	E40	250	4.30	–	CWMH 1000	–
	SPL 1000	RX7sM	270	4.20	ZRM 12-ES/C 400	OGH 1000H	–
	SPL 1000	E40	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
Iwasaki	MF 1000 B SX	E40	230	4.70	–	CWMH 1000	–
	MF 1000 B X/U	E40	263	4.10	–	CWMH 1000	–
	MT 1000 ...	E40	130	8.25	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000	–
	MT 1000 A-BH/67	E40	145	7.50	ATIG-14	OGB 1000	–
	MT 1000 B	E40	230	4.70	–	CWMH 1000	–
	MT 1000 B-BH	E40	230	4.70	ZRM 1200/400 A001	OGH 1000H	–
Osram	HQI-E 1000 ...	E40	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
	HQI-T 1000 ...	E40	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
	HQI-TS 1000 W/D/S	cable	120	9.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
	HQI-TS 1000 W/NDL/S	cable	120	9.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
Philips	HPI-T 1000 W	E40	130	8.25	ATIG-14	OGH 1000	–
	MHN-LA 1000 W	cable	125	9.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
Radium	HRI-T 1000 ...	E40	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
	HRI-TS 1000 /D	Fc2	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
	HRI-TS 1000 W/D/S	cable	130	9.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGH 1000A	–
Sylvania	HSI-T 1000 W/4K	E40	130	8.25	ATIG-14	OGH 1000	–
	M 1000 ...	E39	263	4.10	–	CWMH 1000	–
	M 1000 ...BT37	E39	263	4.10	–	CWMH 1000	–
	MP 1000 ...	EX39	263	4.10	–	CWMH 1000	–
	MS 1000 ...	E39	263	4.10	–	CWMH 1000	–
Venture	MH 1000	E39	263	4.30	–	CWMH 1000	–

1,500 W Metal halide lamps
1,500 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
GE	MVR 1500	E40	270	6.00	–	CWMH 1500	–
	SPL 1500 /L/H	RX7sM	250	6.80	ZRM 12-ES/C 400	OGH 1500	–
Sylvania	M 1500 ...	E39	268	6.20	–	CWMH 1500	–
	M 1500 T7/DE	RSC	500	3.30	–	CWBL 1500	–
	M 1500 T8/DE	CER/SP	265	6.30	–	CWMH 1500	–
Venture	MBILS 1500	RSC (RX7s)	250	6.70	ZRM 12-ES/C 400	OGH 1500	–
	MH 1500 /	E39	268	6.20	–	CWMH 1500	–

1,800 W Metal halide lamps
1,800 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
Philips	MHN-SA 1800 W/230V	X830R, (P) SFC	120	17.30	ZRM 20-ES/B	MHD 1800	–

	MHN-SA 1800 W/400V	(P)SFC	205	10.50	ZRM 12-ES/C 400	MHD 1800H	–

2,000 W Metal halide lamps
2,000 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
GE	SPL 2000 /L	special	250	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	SPL 2000 /T	E40	250	10.30	ZRM 1200/400 A001	HQI 2000/D	–
	SPL 2000 /T/HR	E40	250	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	SPL 2000 /T/I	E40	250	10.30	–	HQI 2000/D	–
Iwasaki	MT 2000 B-BH-L	E40	230	9.20	ZRM 1200/400 A001	HQI 2000	–
	MT 2000 B-BH-L/T	E40	230	9.20	–	HQI 2000	–
Osram	HQI-T 2000 /D	E40	230	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	HQI-T 2000 /D/I	E40	230	10.30	–	HQI 2000/D	–
	HQI-T 2000 /N	E40	245	8.80	–	HQI 2000	–
	HQI-T 2000 /N/230 V	E40	120	16.50	ATIG-14	HQI 2000L, 2 x OGH 1000	–
	HQI-T 2000 /N/E/SUPER	E40	220	8.80	ZRM 12-ES/C 400	HQI 2000	–
	HQI-T 2000 /N/SN/SUPER	E40	220	8.80	ZRM 1200/400 A001	HQI 2000	–
	HQI-TS 2000 /D	cable	205	11.30/10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	HQI-TS 2000 /DS	cable	205	11.30/10.30	ZRM 12-ES/C 400	HQI 2000/D	–
Philips	HPI-T 2000 W/220V	E40	130	16.50	ZRM 20-ES/B	HQI 2000L, 2 x OGH 1000	–
	HPI-T 2000 W/380V	E40	240	8.80	ZRM 12-ES/C 400	HQI 2000	–
	MHN-LA 2000 W/400V	cable	225/235	10.30/9.60	ZRM 12-ES/C 400	HQI 2000/D	–
	MHN-SA 2000 W/400V	X830R	205	11.30	ZRM 12-ES/C 400	HQI 2000/D	–
	MHN-TD 2000 W	cable	235	9.60	ZRM 12-ES/C 400	HQI 2000/D	–
	MHT-TD 2000 W	cable	225	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
Radium	HRI-T 2000 /D	E40	230	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	HRI-T 2000 /D/I	E40	230	10.30	–	HQI 2000/D	–
	HRI-T 2000 /N/230V	E40	130	16.50	ATIG-14	HQI 2000L, 2 x OGH 1000	–
	HRI-T 2000 /N/I	E40	245	8.80	–	HQI 2000	–
	HRI-T 2000 /NSC/400	E40	245	8.80	ZRM 12-ES/C 400	HQI 2000	–
	HRI-TS 2000 /D	E40	205	10.30	ZRM 12-ES/C 400	HQI 2000/D	–
	HRI-TS 2000 /DS	cable	205	11.30	ZRM 12-ES/C 400	HQI 2000/D	–
	HRI-TS 2000 /NDL/S	cable	205	11.30	ZRM 12-ES/C 400	HQI 2000/D	–
Sylvania	HSI-T 2000 W/S	E40	235	9.00	ZRM 1200/400 A001	HQI 2000	–
	HSI-T 2000 WS/I	E40	235	9.00	–	HQI 2000	–
	HSI-TD 2000 W/D	cable	205	11.30	ZRM 12-ES/C 400	HQI 2000/D	–
	M 2000 T8/DE	RSC	250	8.50	ZRM 12-ES/C 400	CWBL 2000	–
	M 2000 T9/DE	CER/SP	250	8.50	ZRM 12-ES/C 400	CWBL 2000	–
	M 2000 T10/DE	CER/SP	220	10.70	ZRM 12-ES/C 400	HQI 2000/D	–
Venture	MBILS 2000	special	230	10.30	ZRM 12-ES/C 400	HQI 2000/D	–

3,500 W Metal halide lamps
3,500 W 金属卤化物灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
Osram	HQI-T 3500 W/D	E40	220	18.00	ZRM 20-ES/B 400	HQI 3500	–
Radium	HRI-T 3500 /D	E40	220	18.00	ZRM 20-ES/B 400	HQI 3500	–
	HRI-TS 3500 /D	E40	220	18.00	ZRM 20-ES/B 400	HQI 3500	–

35 W High pressure sodium vapour lamps

35 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
Philips	SDW-T 35 W	PG12-1	96	0.48	Philips CSLS 35	EPS 35, OMS 35	–
Sylvania	SHP-S 35 …	E27	90	0.49	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 35, OMS 35	–
	SHP-TS 35 W	E27	90	0.49	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 35, OMS 35	–

50 W High pressure sodium vapour lamps

50 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	LU 50/90	E27	85	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	LU 50/90...I	E27	85	0.76	–	EPS 50, OMS 50	–
Iwasaki	NH 50 .../HV/…	E27	85	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	NH 50 F/HV/I	E27	85	0.76	–	EPS 50, OMS 50	–
	NHT 50 /I	E27	85	0.76	–	EPS 50, OMS 50	–
Osram	NAV E 50	E27	85	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	NAV E 50 I	E27	85	0.76	–	EPS 50, OMS 50	–
	NAV T 50 SUPER 4Y	E27	90	0.80	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
Philips	SDW-T 50 W	PG12-1	92	0.76	Philips CSLS 50	EPS 50, OMS 50	–
	SON 50 W-E	E27	90	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	SON 50 W-I	E27	90	0.76	–	EPS 50, OMS 50	–
	SON-T … 50 W	E27	88	0.75	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
Radium	RNP-E 50 W	E27	85	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	RNP-E 50 W/I	E27	85	0.76	–	EPS 50, OMS 50	–
Sylvania	SHP 50 W… I	E27	85	0.76	–	EPS 50, OMS 50	–
	SHP-S 50 W...	E27	85	0.76	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 50, OMS 50	–
	SHP-TS 50 W	E27	85	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 50, OMS 50	–

70 W High pressure sodium vapour lamps

70 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	NAH-E 70	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	NAH-TR 70	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70A, OMS 70A	OM PAK 70 M
GE	LU 70 /90...	E27	85	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	LU 70 /90…I	E27	85	0.98	–	EPS 70A, OMS 70A	–
Iwasaki	NH 70 /HV/… 70 S	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	NH 70 F/HV/I	E27	90	0.98	–	EPS 70A, OMS 70A	–
	NHT 70	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	NHT 70 /I	E27	90	0.98	–	EPS 70A, OMS 70A	–
Osram	NAV E 70 …	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	NAV E 70 I	E27	90	0.98	–	EPS 70A, OMS 70A	–
	NAV T 70 …	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	NAV TS 70 SUPER 4Y	RX7s	85	0.98	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70A, OMS 70A	OM PAK 70 M
Philips	SON 70 W…	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SON 70 W-E	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SON 70 W-I	E27	90	0.98	–	EPS 70A, OMS 70A	–
	SON Hg free 70 W…	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SON-T 70 W…	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SON Hg free 70 W...	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SON-T plus 70 W…	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
Radium	RNP-E 70 W	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	RNP-E 70 W/I	E27	90	1.00	–	EPS 70A, OMS 70A	–
	RNP-T 70 W	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	RNP-TS 70 W	RX7s	90	1.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	EPS 70A, OMS 70A	OM PAK 70 M
Sylvania	SHP 70 W/CO-E	E27	90	0.98	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SHP 70 W…	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SHP 70 W… I	E27	90	1.00	–	EPS 70A, OMS 70A	–
	SHP-S 70 W…	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SHP-T 70 W…	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70A, OMS 70A	–
	SHP-TD 70 W…	E27	90	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	EPS 70A, OMS 70A	–

	SHP-TS 70 W…	E27	90	1.00	ZRM 2-ES/C, ZRM 2-ES/CT	EPS 70A, OMS 70A	–

100 W High pressure sodium vapour lamps

100 W 高压钠蒸汽灯

Lamps 灯具					**Ignitors** 启辉器	**Magnetic ballast** 电感镇流器	**Remote gear boxes** 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
GE	LU 100 …	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
	TCF 100	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
Iwasaki	NH 100 F	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
	NH 100 F/HV/I	E40	100	1.20	–	OMS 100	–
	NHT 100	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
	NHT 100 /I	E40	100	1.20	–	OMS 100	–
Osram	NAV E 100 SUPER 4Y	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
	NAV T 100 SUPER 4Y	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
Philips	SDW-T 100 W	PG12-1	98	1.31	Philips CSLS 100	OMS 100A	–
	SON plus 100 W	E40	100	1.20	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 100	OM PAK 100 M
	SON … 100 W	E40	100	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMS 100	OM PAK 100 M

150 W High pressure sodium vapour lamps

150 W 高压钠蒸汽灯

Lamps 灯具					**Ignitors** 启辉器	**Magnetic ballast** 电感镇流器	**Remote gear boxes** 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
BLV	HST-DE 150	Fc2, RX7s	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	NAH-T 150	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
GE	LU 150 /100 (S56)	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	TCF 150	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Iwasaki	NH 150 /I	E40	100	1.80	–	OMS 150, OGS 150	–
	NH 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	NH 150 F/HV/I	E40	100	1.80	–	OMS 150, OGS 150	–
	NHT 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Osram	NAV E 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	NAV T 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	NAV TS 150 …	RX7s	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Philips	SON Comfort 150 W	E40	105	1.82	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON Hg free 150 W	E40	98	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON plus 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON-E 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON-T Comfort 150 W	E40	105	1.82	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON-T Hg free 150 W	E40	98	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON-T plus 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SON-T 150 W	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Radium	RNP-E 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	RNT-T 150 …	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	RNT-TS 150 ...	RX7s	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Sylvania	LU 150 … (100V)	E39	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SHP-S 150 W…	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SHP-T 150 W...	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SHP-TD 150 W...	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
	SHP-TS 150 W...	E40	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M
Venture	LU 150 /100 (S56)	Mogul	100	1.80	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C	OMS 150, OGS 150	OM PAK 150 M

250 W High pressure sodium vapour lamps

250 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	HST-DE 250	Fc2, RX7s	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	NAH-T 250	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
GE	LU 250 .../40 (S50)	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	LU 250 /TD	RX7s	100	2.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Iwasaki	NH 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	NH 250 F/I	E40	100	3.00	–	OGS 250	–
	NHT 250 /I	E40	100	3.00	–	OGS 250	–
	NHT 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Osram	NAV E 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	NAV T 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	NAV TS 250	Fc2	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Philips	SON… 250 W	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	SON-T… 250 W	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Radium	RNP-E 250 …	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	RNP-T 250	E40	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Sylvania	LU 250 … (S50)	E39	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	SHP 250 W…	E40	100	2.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	SHP-S 250 W…	E40	100	2.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	SHP-T 250 W…	E40	100	2.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	SHP-TS 250 W…	E40	100	2.95	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
Venture	LU 250 (S50)	Mogul	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–
	LU 250 /T7/ (S50)	RSC	100	3.00	ZRM 2.5-ES/C, ZRM 2.5-ES/CT, ZRM 4.5-ES/C,	OGS 250	–

400 W High pressure sodium vapour lamps

400 W 高压钠蒸汽灯

Lamps 灯具					**Ignitors** 启辉器	**Magnetic ballast** 电感镇流器	**Remote gear boxes** 遥控装置盒
manufacturer 制造商	**description** 说明	**lamp holder** 灯具座	**nominal voltage (V)** 标称电压 (V)	**nominal current (A)** 标称电流 (A)			
BLV	HST-DE 400	Fc2, RX7s	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NAH-T 400	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
GE	LU 400 .../TD	RX7s	100	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	LU 400...	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Iwasaki	NH 400 …	E40	105	4.45	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NH 400 F/I	E40	105	4.45	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NHT 400 /I	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NHT 400 …	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Osram	NAV E 400 …	E40	105	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NAV T 400 …	E40	105	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	NAV TS 400 …	Fc2	105	4.40	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Philips	SON… 400 W	E40	105	4.45	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SON-T… 400 W	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SON-T-AGRO	E40	116	4.13	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Radium	RNP-E 400 W	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	RNP-T 400 W	E40	100	4.60	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Sylvania	LU 400 … (S51)	E39	100	4.70	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SHP 400 W…	E40	100	4.50	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SHP-T 400 W…	E40	100	4.50	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SHP-TS 400 W Grolux	E40	120	4.00	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	SHP-TS 400 W…	E40	100	4.50	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
Venture	LU 400 /T7/ (S51)	RSC	100	4.70	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–
	LU 400 … (S51)	Mogul	100	4.70	ZRM 4.5-ES/C, ZRM 4.5-ES/CT, ZRM 6-ES/C	OGS 400	–

600 W High pressure sodium vapour lamps

600 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
BLV	NAH-T 600	E40	112	6.20	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
GE	LU 600	E40	115	6.00	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
Osram	NAV-T 600 SUPER 4Y	E40	112	6.20	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
Philips	SON-T plus 600 W	E40	115	5.80	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
Radium	RNP-T 600 W	E40	112	6.20	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
Sylvania	SHP-TS 600	E40	110	5.90	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–
	SHP-TS 600 Grolux	E40	125	5.50	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 600	–

1,000 W High pressure sodium vapour lamps

1,000 W 高压钠蒸汽灯

Lamps 灯具					Ignitors 启辉器	Magnetic ballast 电感镇流器	Remote gear boxes 遥控装置盒
manufacturer 制造商	description 说明	lamp holder 灯具座	nominal voltage (V) 标称电压 (V)	nominal current (A) 标称电流 (A)			
GE	LU 1000 (S52)	E40	250	4.70	ATIG-10	CWHS 1000	–
	LU 1000 /110	E40	100	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
Iwasaki	NH 1000	E40	100	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
	NHT 1000	E40	100	10.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
	NHT 1000 B	E40	250	4.70	ATIG-10	CWHS 1000	–
	NHT 1000 F/I	E40	100	10.60	–	OGS 1000	–
	NHT 1000 I	E40	100	10.60	–	OGS 1000	–
Osram	NAV E 1000	E40	115	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
	NAV T 1000	E40	100	10.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
Philips	SON 1000 W	E40	100	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
	SON-T 1000 W	E40	105	10.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
Radium	RNP-E 1000 W	E40	115	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
	RNP-T 1000 W	E40	115	10.30	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
Sylvania	LU 1000 (S52)	E40	250	4.70	ATIG-10	CWHS 1000	–
	SHP-T 1000 W…	E40	100	10.60	ZRM 12-ES/C, ZRM 12-ES/CT	OGS 1000	–
Venture	LU 1000 (S52)		250	4.70	ATIG-10	CWHS 1000	–

EC type HID ballasts
EC 型 HID 镇流器

- slim cross-section and compact
- very short magnetic paths
- low magnetic stray field
- vacuum impregnation and short heat paths
- long service life
- non-audible noise level
- nomex fixed air-gap ensuring permanent calibration
- resistant to moisture and corrosion
- 24A double screw terminal
- low power consumption
- winding insulation class H materials
- tw130 winding temperature rating

- 横截面窄，外观紧凑
- 磁路极短
- 低杂散磁场
- 真空浸渍，导热路径较短
- 使用寿命长
- 不可闻噪声级
- Nomex 固定气隙，确保永久性标定
- 耐潮湿、耐腐蚀
- 24A 双螺丝端子
- 功耗低
- 绕组由 H 级绝缘材料制成
- tw130 绕组温度额定

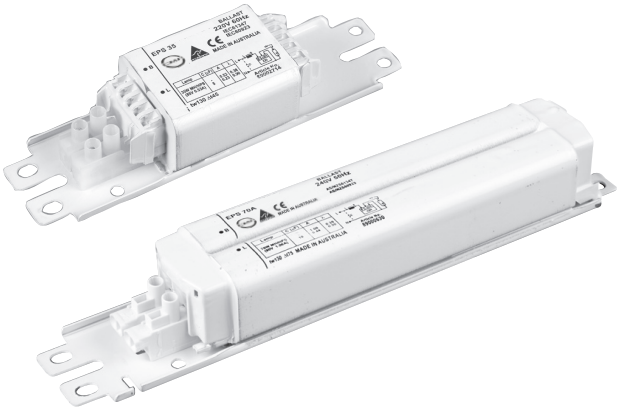


Figure 1
图 1

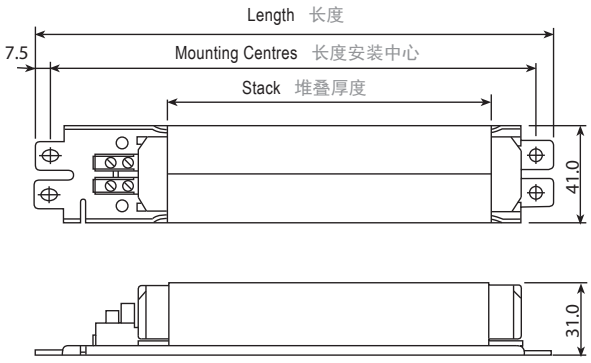
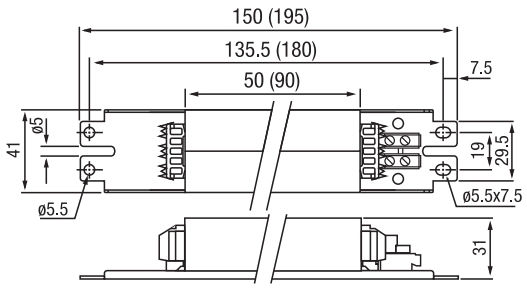


Figure 2
图 2



50 mm (90 mm) stack
50 mm（90 mm）堆叠厚度

100% final testing

- continuity
- winding short circuit
- core to coil high voltage test
- operating values

100% 最终测试

- 持续性
- 绕组短路
- 铁芯到线圈的高压测试
- 工作值

220 V 50 Hz and 220 V 60 Hz – EC ballasts

220 V 50 Hz 和 220 V 60 Hz—EC 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器		stack 堆叠厚度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm	mm	mm	kg
220 V 50 Hz																	
High-pressure mercury vapour 高压汞蒸汽灯																	
50	95	0.61	EMV50		13.0	63.0	0.610	0.810	0.47	0.318	0.444	6	65	90	195.0	180.0	1.00
80	115	0.80	EMV80-03		14.0	94.0	0.800	1.310	0.53	0.475	0.816	7	60	90	195.0	180.0	1.00
125	125	1.15	EMV125-02		21.0	146.0	1.150	1.710	0.58	0.737	1.150	9	70	140	225.0	210.0	1.40
Metal-halide 金属卤化物灯																	
35	85	0.53	EPS35		11.4	46.4	0.530	0.665	0.40	0.234	0.309	6	55	90	195.0	180.0	1.00
50	95	0.61	EMV50		13.0	63.0	0.610	0.810	0.47	0.318	0.444	6	65	90	195.0	180.0	1.00
70	90	1.00	EPS70A-04		22.5	92.5	1.000	1.280	0.42	0.467	0.628	11	80	130	225.0	210.0	1.30
70	90	1.00	EPS70A (TH)[1]		22.5	92.5	1.000	1.280	0.42	0.467	0.628	11	80	130	225.0	210.0	1.30
High-pressure sodium 高压钠																	
35	85	0.53	EPS35		11.4	46.4	0.530	0.665	0.40	0.234	0.309	6	55	90	195.0	180.0	1.00
50	85	0.76	EPS50-01		15.5	65.5	0.760	0.947	0.39	0.331	0.433	8	60	105	195.0	180.0	1.10
70	90	1.00	EPS70A-04		22.5	92.5	1.000	1.280	0.42	0.467	0.628	11	80	130	225.0	210.0	1.30
70	90	1.00	EPS70A (TH)[1]		22.5	92.5	1.000	1.280	0.42	0.467	0.628	11	80	130	225.0	210.0	1.30
220 V 60 Hz																	
High-pressure mercury vapour 高压汞蒸汽灯																	
50	95	0.61	EMV50-02		11.0	61.0	0.610	0.810	0.45	0.308	0.430	5	65	90	195.0	180.0	1.00
80	115	0.80	EMV80-04		13.0	93.0	0.800	1.310	0.53	0.470	0.808	6	60	90	195.0	180.0	1.00
125	125	1.15	EMV125-03		18.0	143.0	1.150	1.730	0.57	0.722	1.14	8	70	120	205.0	190.0	1.25
Metal halide 金属卤化物灯																	
35	85	0.53	EPS35	89002714	10.1	45.1	0.530	0.665	0.39	0.228	0.300	5	55	50	150.0	135.5	0.55
50	95	0.61	EMV50-02		11.0	61.0	0.610	0.810	0.45	0.308	0.430	5	65	90	195.0	180.0	1.00
70	90	1.00	EPS70A-03		19.0	89.0	1.000	1.270	0.40	0.449	0.599	9	75	105	195.0	180.0	1.10
70	90	1.00	EPS70A (TH)[1]		19.0	89.0	1.000	1.270	0.40	0.449	0.599	9	75	105	195.0	180.0	1.10
High pressure sodium 高压钠																	
35	85	0.53	EPS35	89002714	10.1	45.1	0.530	0.665	0.39	0.228	0.300	5	55	50	150.0	135.5	0.55
50	85	0.76	EPS50		13.7	63.7	0.760	0.947	0.38	0.322	0.421	7	65	90	195.0	180.0	1.00
70	90	1.00	EPS70A-03		19.0	89.0	1.000	1.270	0.40	0.449	0.599	9	75	105	195.0	180.0	1.10
70	90	1.00	EPS70A (TH)[1]		19.0	89.0	1.000	1.270	0.40	0.449	0.599	9	75	105	195.0	180.0	1.10

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps. Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热切断装置可按要求提供其他额定功率的镇流器。

230 V 50 Hz and 240 V 50 Hz – EC ballasts

230 V 50 Hz 和 240 V 50 Hz—EC 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器		stack 堆叠厚度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm	mm	mm	kg
230 V 50 Hz																	
High-pressure mercury vapour 高压汞蒸汽灯																	
50	95	0.61	EMV50-03		13.5	63.5	0.610	0.800	0.45	0.307	0.422	6	65	90	195.0	180.0	1.00
80	115	0.80	EMV80-05		16.5	96.5	0.800	1.200	0.52	0.466	0.734	7	60	120	205.0	190.0	1.25
125	125	1.15	EMV125		21.0	146.0	1.150	1.660	0.55	0.705	1.070	9	70	160	245.0	230.0	1.55
Metal-halide 金属卤化物灯																	
35	85	0.53	EPS35		11.8	46.8	0.530	0.653	0.38	0.226	0.292	6	55	90	195.0	180.0	1.00
50	95	0.61	EMV50-03		13.5	63.5	0.610	0.800	0.45	0.307	0.422	6	65	90	195.0	180.0	1.00
70	90	1.00	EPS70A-05		23.5	93.5	1.000	1.240	0.41	0.452	0.588	10	75	140	225.0	210.0	1.40
70	90	1.00	EPS70A (TH) [1]		23.5	93.5	1.000	1.240	0.41	0.452	0.588	10	75	140	225.0	210.0	1.40
High-pressure sodium 高压钠																	
35	85	0.53	EPS35		11.8	46.8	0.530	0.653	0.38	0.226	0.292	6	55	90	195.0	180.0	1.00
50	85	0.76	EPS50		17.0	67.0	0.760	0.930	0.38	0.324	0.416	8	65	120	205.0	190.0	1.25
70	90	1.00	EPS70A-05		23.5	93.5	1.000	1.240	0.41	0.452	0.588	10	75	140	225.0	210.0	1.40
70	90	1.00	EPS70A (TH) [1]		23.5	93.5	1.000	1.240	0.41	0.452	0.588	10	75	140	225.0	210.0	1.40
240 V 50 Hz																	
High-pressure mercury vapour 高压汞蒸汽灯																	
50	95	0.61	EMV50		14.0	64.0	0.610	0.791	0.44	0.296	0.403	6	65	90	195.0	180.0	1.00
75	130	0.64	EMV75		12.5	87.5	0.640	0.972	0.57	0.405	0.646	5	50	90	195.0	180.0	1.00
80	115	0.80	EMV80-00		17.0	97.0	0.800	1.110	0.51	0.449	0.654	7	60	120	205.0	190.0	1.25
125	125	1.15	EMV125	89000605	24.0	149.0	1.150	1.610	0.54	0.690	1.010	9	70	160	245.0	230.0	1.55
175	130	1.50	EMV175.5 [3]		29.0	204.0	1.500	2.500	0.57	0.944	1.650	11	60	90	195.0	180.0	1.00
Metal halide 金属卤化物灯																	
35	85	0.53	EPS35		12.2	47.2	0.530	0.642	0.37	0.219	0.278	6	55	90	195.0	180.0	1.00
50	95	0.61	EMV50		14.0	64.0	0.610	0.791	0.44	0.296	0.403	6	65	90	195.0	180.0	1.00
70	90	1.00	EPS70A	89000630	24.5	94.5	1.000	1.220	0.39	0.438	0.560	10	75	140	225.0	210.0	1.40
70	90	1.00	EPS70A-01(TH) [1]		24.5	94.5	1.000	1.220	0.39	0.438	0.560	10	75	140	225.0	210.0	1.40
150	100	1.80	EPS150.5 [3]		38.5	188.5	1.800	2.120	0.44	0.873	1.080	18	75	140	225.0	210.0	1.40
150	100	1.80	EPS150.5-01(TH) [1 3]		38.5	188.5	1.800	2.120	0.44	0.873	1.080	18	75	140	225.0	210.0	1.40
175	130	1.50	EMV175.5 [3]		29.0	204.0	1.500	2.500	0.57	0.944	1.650	11	60	90	195.0	180.0	1.00
High pressure sodium 高压钠																	
35	85	0.53	EPS35		12.2	47.2	0.530	0.642	0.37	0.219	0.278	6	55	90	195.0	180.0	1.00
50	85	0.76	EPS50		17.5	67.5	0.760	0.915	0.37	0.313	0.395	8	65	120	205.0	190.0	1.25
70	90	1.00	EPS70A	89000630	24.5	94.5	1.000	1.220	0.39	0.438	0.560	10	75	140	225.0	210.0	1.40
70	90	1.00	EPS70A-01(TH) [1]		24.5	94.5	1.000	1.220	0.39	0.438	0.560	10	75	140	225.0	210.0	1.40
150	100	1.80	EPS150.5 [3]		38.5	188.5	1.800	2.120	0.44	0.873	1.080	18	75	140	225.0	210.0	1.40
150	100	1.80	EPS150.5-01(TH) [1 3]		38.5	188.5	1.800	2.120	0.44	0.873	1.080	18	75	140	225.0	210.0	1.40
Low-pressure sodium 低压钠光灯																	
18	57	0.35	ECLS18 [2]		10.5	28.5	0.350	0.390	0.90	0.145	0.170	5	60	50	150.0	135.0	0.55
18	57	0.35	ECLS18-01 [2]	89000003	10.5	28.5	0.350	0.390	0.90	0.145	0.170	5	60	50	110.0	101.5	0.55

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. Capacitor - dual function - power factor correction and starting aid.
3. Split ballast, two required.
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热切断装置。
2. 电容器—双重功能—功率因数补偿和启动辅助。
3. 需要两个分体式镇流器。
   可按要求提供其他额定功率的镇流器。

OM type ballasts
OM 型镇流器

- Compact size
- Vacuum impregnation and short heat paths
- Long service life
- Very low noise level
- Glass-fibre filled nylon coil end covers
- Winding insulation Class H materials
- Nomex fixed air gap ensuring permanent calibration
- Integral terminals
- tw130 winding temperature rating
- Resistant to moisture and corrosion

- 紧凑型
- 真空浸渍，导热路径较短
- 使用寿命长
- 极低噪声级
- 玻璃纤维填充的尼龙线圈端盖
- 绕组由 H 级绝缘材料制成
- Nomex 固定气隙，确保永久性标定
- 集成端子
- tw130 绕组温度额定
- 耐潮湿、耐腐蚀

100% final testing

- continuity
- winding short circuit
- insulation
- impedance

100% 最终测试

- 持续性
- 绕组短路
- 绝缘
- 阻抗

Figure 1

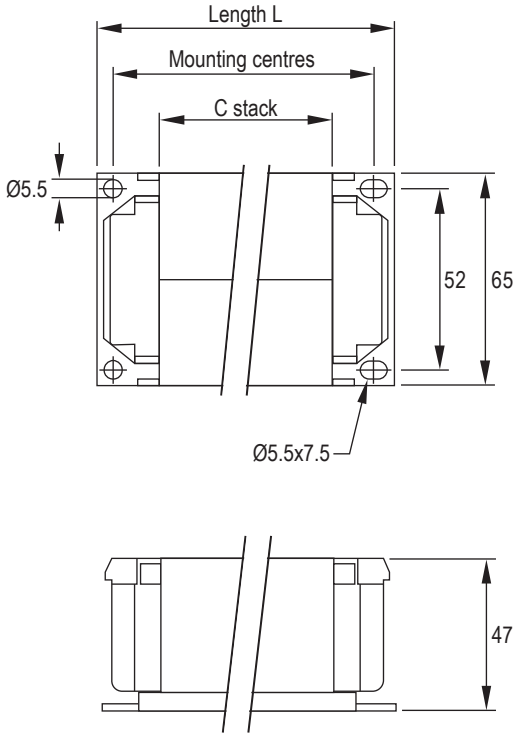
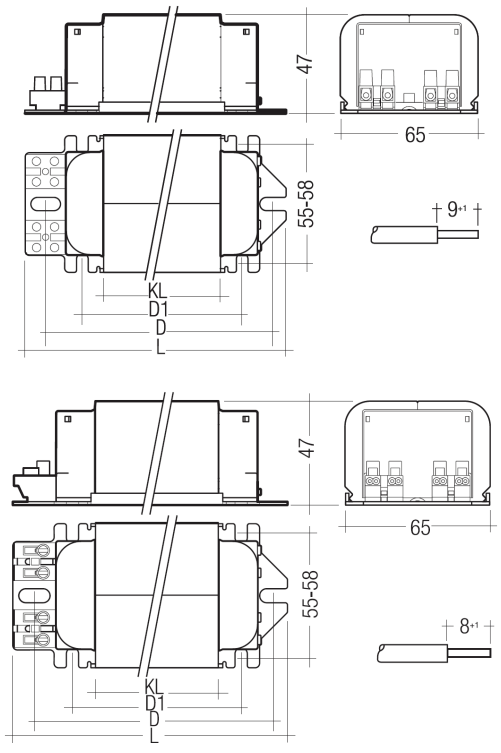


Figure 2



OM Pro

220 V 50 Hz – OM ballasts

220 V 50 Hz—OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器		stack 堆叠厚度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm	mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																	
40	90	0.53	OMB40-01		8.0	48.0	0.53	0.66	0.41	0.24	0.32	6	65	30	65	51	0.8
50	95	0.61	OMB50-04		8.5	58.5	0.61	0.80	0.44	0.30	0.41	7	60	30	65	51	0.8
80	115	0.80	OMB80-06	89001036	9.0	89.0	0.80	1.10	0.51	0.45	0.65	8	65	35	70	56	1.0
80	115	0.80	OMB80-11		13.0	93.0	0.80	1.15	0.53	0.47	0.71	7	70	30	70	56	0.9
100	130	0.85	OMB100-01		8.5	108.5	0.85	1.35	0.58	0.55	0.91	7	45	55	90	76	1.3
100	130	0.85	OMB100-03		11.5	111.5	0.85	1.50	0.60	0.56	1.04	7	65	40	90	76	1.2
100	115	1.00	OMB100A-06		11.5	111.5	1.00	1.36	0.51	0.56	0.80	9	65	55	90	76	1.3
125	125	1.15	OMB125-06	89000981	11.5	136.5	1.15	1.66	0.54	0.69	1.04	10	55	55	90	76	1.3
125	125	1.15	OMB125-10		14.5	139.5	1.15	1.91	0.55	0.70	1.23	10	70	40	90	76	1.2
175	130	1.50	OMB175-01		14.5	189.5	1.50	2.48	0.57	0.96	1.66	12	65	75	110	96	1.7
175	130	1.50	OMB175-09		17.5	192.5	1.50	2.56	0.58	0.97	1.74	12	70	55	110	96	1.6
250	130	2.13	OMB250-02		19.5	269.5	2.13	3.25	0.58	1.36	2.18	18	65	105	140	126	2.4
250	130	2.13	OMB250-04		21.0	271.0	2.13	3.50	0.58	1.37	2.36	18	70	85	140	126	2.1
250	130	2.13	OMB250-06		22.0	272.0	2.13	3.60	0.58	1.37	2.44	18	75	75	140	126	1.8
400	135	3.25	OMB400-01		31.0	431.0	3.25	5.64	0.60	2.18	3.97	25	75	120	180	166	2.9
Metal halide 金属卤化物灯																	
35	85	0.53	OMS35-01	89001137	8.0	43.0	0.53	0.65	0.37	0.22	0.28	6	55	30	65	51	0.8
35	85	0.53	OMS35-03 (TH) [1]		8.0	43.0	0.53	0.65	0.37	0.22	0.28	6	55	30	65	51	0.8
50	95	0.61	OMB50-04		8.5	58.5	0.61	0.80	0.44	0.30	0.41	7	60	30	65	51	0.8
70	90	1.00	OMS70A-04		13.0	83.0	1.00	1.16	0.38	0.42	0.51	11	60	55	90	76	1.3
70	90	1.00	OMS70A-08 (TH) [1]		13.0	83.0	1.00	1.16	0.38	0.42	0.51	11	60	55	90	76	1.3
70	90	1.00	OMS70A-16	89001172	15.0	85.0	1.00	1.29	0.39	0.43	0.58	11	65	40	90	76	1.2
70	90	1.00	OMS70A-20 (TH) [1]		15.0	85.0	1.00	1.29	0.39	0.43	0.58	11	65	40	90	76	1.2
100	100	1.10	OMH100-03 (TH) [1]	89001058	13.0	113.0	1.10	1.45	0.47	0.57	0.79	11	65	65	100	86	1.5
100	100	1.10	OMH100-06		16.0	116.0	1.10	1.50	0.48	0.59	0.84	11	70	55	100	86	1.4
150	100	1.80	OMS150-26 [2]	89001109	18.5	168.5	1.80	2.30	0.43	0.85	1.14	20	55	105	155	141	2.5
150	100	1.80	OMS150-08	89001100	20.0	170.0	1.80	2.32	0.43	0.86	1.16	20	65	85	140	126	2.1
150	100	1.80	OMS150-10 (TH) [1]	89001102	20.0	170.0	1.80	2.32	0.43	0.86	1.16	20	65	85	140	126	2.1
150	100	1.80	OMS150-27	89001110	22.0	172.0	1.80	2.35	0.43	0.87	1.19	18	70	75	140	126	1.8
175	130	1.50	OMB175-01		14.5	189.5	1.50	2.48	0.57	0.96	1.66	12	65	75	110	96	1.7
175	130	1.50	OMB175-09		17.5	192.5	1.50	2.56	0.58	0.97	1.74	12	70	55	110	96	1.6
250	130	2.13	OMB250-02		19.5	269.5	2.13	3.25	0.58	1.36	2.18	18	65	105	140	126	2.4
250	130	2.13	OMB250-04		21.0	271.0	2.13	3.50	0.58	1.37	2.36	18	70	85	140	126	2.1
250	130	2.13	OMB250-06		22.0	272.0	2.13	3.60	0.58	1.37	2.44	18	75	75	140	126	1.8
250	100	3.00	OMS250-01	89001132	35.0	285.0	2.95	3.67	0.44	1.44	1.88	30	75	120	180	166	2.9
400	135	3.25	OMB400-01		31.0	431.0	3.25	5.64	0.60	2.18	3.97	25	75	120	180	166	2.9
High pressure sodium 高压钠																	
35	85	0.53	OMS35-01	89001137	8.0	43.0	0.53	0.65	0.37	0.22	0.28	6	55	30	65	51	0.8
35	85	0.53	OMS35-03 (TH) [1]		8.0	43.0	0.53	0.65	0.37	0.22	0.28	6	55	30	65	51	0.8
50	85	0.76	OMS50-02		10.5	60.5	0.76	0.90	0.36	0.31	0.38	9	65	40	75	61	1.1
70	90	0.95	OMS70-03		11.5	81.5	0.94	1.16	0.39	0.41	0.53	10	60	55	90	76	1.4
70	90	1.00	OMS70A-04		13.0	83.0	1.00	1.16	0.38	0.42	0.51	11	60	55	90	76	1.3
70	90	1.00	OMS70A-08 (TH) [1]		13.0	83.0	1.00	1.16	0.38	0.42	0.51	11	60	55	90	76	1.3
70	90	1.00	OMS70A-16	89001172	15.0	85.0	1.00	1.29	0.39	0.43	0.58	11	65	40	90	76	1.2
70	90	1.00	OMS70A-20 (TH) [1]		15.0	85.0	1.00	1.29	0.39	0.43	0.58	11	65	40	90	76	1.2
100	100	1.20	OMS100-01	89001078	13.5	113.5	1.20	1.50	0.43	0.57	0.75	13	70	65	100	86	1.5
150	100	1.80	OMS150-26 [2]	89001109	18.5	168.5	1.80	2.30	0.43	0.85	1.14	20	55	105	155	141	2.5
150	100	1.80	OMS150-08	89001100	20.0	170.0	1.80	2.32	0.43	0.86	1.16	20	65	85	140	126	2.1
150	100	1.80	OMS150-10 (TH) [1]	89001102	20.0	170.0	1.80	2.32	0.43	0.86	1.16	20	65	85	140	126	2.1
150	100	1.80	OMS150-27	89001110	22.0	172.0	1.80	2.35	0.43	0.87	1.19	18	70	75	140	126	1.8
150	100	1.80	OMS150/100		20.0	170.0	1.80	2.30	0.43	0.86	1.15	20	55	105	155	141	2.5
250	100	3.00	OMS250-01	89001132	35.0	285.0	2.95	3.67	0.44	1.44	1.88	30	75	120	180	166	2.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With multiple voltage tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热切断装置。
2. 带多个电压分接。
   可按要求提供其他额定功率的镇流器。

220 V 60 Hz – OM ballasts

220 V 60 Hz – OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器		stack 堆叠厚度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm	mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																	
40	90	0.53	OMB40-02		8.0	48.0	0.53	0.65	0.41	0.24	0.31	5	65	30	65	51	0.8
50	95	0.61	OMB50-05		8.0	58.0	0.61	0.84	0.43	0.29	0.42	6	60	30	65	51	0.8
80	115	0.80	OMB80-07		8.5	88.5	0.80	1.30	0.50	0.45	0.76	6	65	30	65	51	0.8
100	130	0.85	OMB100-02		9.0	109.0	0.85	1.50	0.58	0.55	1.02	6	65	40	75	61	1.1
100	115	1.00	OMB100A-05		10.0	110.0	1.00	1.60	0.50	0.56	0.93	8	65	40	75	61	1.1
125	125	1.15	OMB125-08		10.0	135.0	1.15	1.80	0.53	0.68	1.12	9	65	55	90	76	1.3
125	125	1.15	OMB125-16		13.0	138.0	1.15	1.90	0.55	0.70	1.21	8	70	35	90	76	1.1
175	130	1.50	OMB175-03	89000993	13.5	188.5	1.50	2.35	0.57	0.95	1.57	10	65	75	110	96	1.7
250	130	2.13	OMB250-09		16.5	266.5	2.13	3.15	0.57	1.35	2.09	15	60	105	140	126	2.4
250	130	2.13	OMB250-05		18.0	268.0	2.13	3.20	0.57	1.35	2.14	15	65	85	140	126	2.1
250	130	2.13	OMB250-10	89001014	19.5	269.5	2.13	3.25	0.58	1.36	2.18	15	70	75	140	126	1.8
400	135	3.25	OMB400-02		26.0	426.0	3.25	5.00	0.60	2.15	3.48	25	65	120	180	166	2.9
400	135	3.25	OMB400-03		27.5	427.5	3.25	5.30	0.60	2.16	3.70	25	70	105	180	166	2.5
Metal halide 金属卤化物灯																	
35	85	0.53	OMS35-08	89002543	8.0	43.0	0.53	0.65	0.37	0.22	0.28	5	55	30	65	51	0.8
35	85	0.53	OMS35-05 (TH) [1]	89001141	8.0	43.0	0.53	0.65	0.37	0.22	0.28	5	55	30	65	51	0.8
50	95	0.61	OMB50-05		8.0	58.0	0.61	0.84	0.43	0.29	0.42	6	60	30	65	51	0.8
70	90	1.00	OMS70A-01		11.5	81.5	1.00	1.30	0.37	0.41	0.56	9	60	40	75	61	1.1
70	90	1.00	OMS70A-09 (TH) [1]	89001167	11.5	81.5	1.00	1.30	0.37	0.41	0.56	9	60	40	75	61	1.1
70	90	1.00	OMS70A-32		13.0	83.0	1.00	1.45	0.38	0.42	0.64	9	70	35	75	61	1.1
100	100	1.10	OMH100-04		14.0	114.0	1.10	1.46	0.47	0.58	0.80	9	70	45	90	76	1.3
100	100	1.10	OMH100-12 (TH) [1]	89001065	14.0	114.0	1.10	1.46	0.47	0.58	0.80	9	70	45	90	76	1.3
150	100	1.80	OMS150-02		18.5	168.5	1.80	2.26	0.43	0.85	1.12	16	65	75	120	106	1.8
150	100	1.80	OMS150-09 (TH) [1]	89001101	18.5	168.5	1.80	2.26	0.43	0.85	1.12	16	65	75	120	106	1.8
150	100	1.80	OMS150-32		20.5	170.5	1.80	2.26	0.43	0.86	1.14	16	70	65	120	106	1.6
175	130	1.50	OMB175-03	89000993	13.5	188.5	1.50	2.35	0.57	0.95	1.57	10	65	75	110	96	1.7
250	130	2.13	OMB250-09		16.5	266.5	2.13	3.15	0.57	1.35	2.09	15	60	105	140	126	2.4
250	130	2.13	OMB250-05		18.0	268.0	2.13	3.20	0.57	1.35	2.14	15	65	85	140	126	2.1
250	130	2.13	OMB250-10	89001014	19.5	269.5	2.13	3.25	0.58	1.36	2.18	15	70	75	140	126	1.8
250	100	3.00	OMS250-02		31.0	281.0	2.95	3.70	0.43	1.42	1.87	25	80	105	180	166	2.5
250	100	3.00	OMS250		31.0	281.0	2.95	3.70	0.43	1.42	1.87	25	80	105	155	141	2.4
400	135	3.25	OMB400-02		26.0	426.0	3.25	5.00	0.60	2.15	3.48	25	65	120	180	166	2.9
400	135	3.25	OMB400-03		27.5	427.5	3.25	5.30	0.60	2.16	3.70	25	70	105	180	166	2.5
High pressure sodium 高压钠																	
35	85	0.53	OMS35-08	89002543	8.0	43.0	0.53	0.65	0.37	0.22	0.28	5	55	30	65	51	0.8
35	85	0.53	OMS35-05 (TH) [1]	89001141	8.0	43.0	0.53	0.65	0.37	0.22	0.28	5	55	30	65	51	0.8
50	85	0.76	OMS50-04		10.0	60.0	0.76	0.92	0.36	0.30	0.39	7	60	35	70	56	1.0
70	90	0.95	OMS70-04		10.5	80.5	0.94	1.16	0.39	0.41	0.53	9	60	40	75	61	1.1
70	90	1.00	OMS70A-01		11.5	81.5	1.00	1.30	0.37	0.41	0.56	9	60	40	75	61	1.1
70	90	1.00	OMS70A-09 (TH) [1]	89001167	11.5	81.5	1.00	1.30	0.37	0.41	0.56	9	60	40	75	61	1.1
70	90	1.00	OMS70A-32		13.0	83.0	1.00	1.45	0.38	0.42	0.64	9	70	35	75	61	1.1
70	90	1.00	OMS70A/50 [2]		12.3	82.3	1.00	1.30	0.37	0.42	0.57	9	65	40	75	61	1.1
100	100	1.20	OMS100-05		12.5	112.5	1.20	1.50	0.43	0.57	0.75	11	60	55	90	76	1.3
150	100	1.80	OMS150-02		18.5	168.5	1.80	2.26	0.43	0.85	1.12	16	65	75	120	106	1.8
150	100	1.80	OMS150-09 (TH) [1]	89001101	18.5	168.5	1.80	2.26	0.43	0.85	1.12	16	65	75	120	106	1.8
150	100	1.80	OMS150-32		20.5	170.5	1.80	2.26	0.43	0.86	1.14	16	70	65	120	106	1.6
250	100	3.00	OMS250-02		31.0	281.0	2.95	3.70	0.43	1.42	1.87	25	80	105	180	166	2.5
250	100	3.00	OMS250		31.0	281.0	2.95	3.70	0.43	1.42	1.87	25	80	105	155	141	2.4

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With power tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带功率分接。
   可按要求提供其他额定功率的镇流器。

230 V 50 Hz – OM ballasts

230 V 50 Hz – OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率 W	voltage 电压 V	current 电流 mA	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	Δt	stack 堆叠厚度 mm	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
High-pressure mercury vapour 高压汞蒸汽灯																	
50	95	0.61	OMB50-01		9.0	59.0	0.61	0.78	0.42	0.29	0.38	6	65	30	65	51	0.8
80	115	0.80	OMB80-05		9.5	89.5	0.80	1.20	0.49	0.43	0.68	8	65	40	75	61	1.1
80	115	0.80	OMB80-08		13.0	93.0	0.80	1.25	0.51	0.45	0.74	7	70	30	75	61	0.9
125	125	1.15	OMB125-03		12.0	137.0	1.15	1.66	0.52	0.66	1.00	10	60	55	90	76	1.4
125	125	1.15	OMB125-09		14.5	139.5	1.15	1.92	0.53	0.67	1.18	10	65	45	90	76	1.3
175	130	1.50	OMB175-02		15.0	190.0	1.50	2.34	0.55	0.92	1.50	12	65	85	120	106	2.0
250	130	2.13	OMB250-15		19.5	269.5	2.13	3.15	0.55	1.30	2.02	18	65	105	140	126	2.4
250	130	2.13	OMB250-07		23.0	273.0	2.13	3.60	0.56	1.32	2.34	18	70	85	140	126	2.1
Metal halide 金属卤化物灯																	
35	85	0.53	OMS35-02 (TH) [1]		9.0	44.0	0.53	0.64	0.36	0.21	0.27	6	60	30	65	51	0.8
50	95	0.61	OMB50-01		9.0	59.0	0.61	0.78	0.42	0.29	0.38	6	65	30	65	51	0.8
70	90	1.00	OMS70A-15		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-11 (TH) [1]		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-23	89001179	15.5	85.5	1.00	1.25	0.37	0.41	0.54	11	65	45	100	86	1.3
100	100	1.10	OMH100		13.5	113.5	1.10	1.43	0.45	0.55	0.75	11	65	65	100	86	1.5
100	100	1.10	OMH100-02 (TH) [1]		13.5	113.5	1.10	1.43	0.45	0.55	0.75	11	65	65	100	86	1.5
150	100	1.80	OMS150-15		19.0	169.0	1.80	2.34	0.41	0.82	1.11	18	50	105	155	141	2.5
150	100	1.80	OMS150-05 (TH) [1]		21.0	171.0	1.80	2.34	0.41	0.83	1.13	18	60	105	155	141	2.5
150	100	1.80	OMS150-28		21.5	171.5	1.80	2.39	0.41	0.83	1.16	18	65	85	155	141	2.1
175	130	1.50	OMB175-02		15.0	190.0	1.50	2.34	0.55	0.92	1.50	12	65	85	120	106	2.0
250	130	2.13	OMB250-15		19.5	269.5	2.13	3.15	0.55	1.30	2.02	18	65	105	140	126	2.4
250	130	2.13	OMB250-07		23.0	273.0	2.13	3.60	0.56	1.32	2.34	18	70	85	140	126	2.1
35	85	0.53	OMS35-02 (TH) [1]		9.0	44.0	0.53	0.64	0.36	0.21	0.27	6	60	30	65	51	0.8
50	95	0.61	OMB50-01		9.0	59.0	0.61	0.78	0.42	0.29	0.38	6	65	30	65	51	0.8
70	90	1.00	OMS70A-15		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-11 (TH) [1]		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-23		15.5	85.5	1.00	1.25	0.37	0.41	0.54	11	65	45	100	86	1.3
100	100	1.10	OMH100		13.5	113.5	1.10	1.43	0.45	0.55	0.75	11	65	65	100	86	1.5
High pressure sodium 高压钠																	
35	85	0.53	OMS35-02 (TH) [1]		9.0	44.0	0.53	0.64	0.36	0.21	0.27	6	60	30	65	51	0.8
50	85	0.76	OMS50-15		10.5	60.5	0.76	0.84	0.35	0.29	0.34	9	65	55	90	76	1.3
70	90	0.95	OMS70-02		12.0	82.0	0.94	1.14	0.38	0.40	0.50	10	70	55	90	76	1.4
70	90	1.00	OMS70A-15		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-11 (TH) [1]		13.5	83.5	1.00	1.11	0.36	0.40	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-23	89001179	15.5	85.5	1.00	1.25	0.37	0.41	0.54	11	65	45	100	86	1.3
100	100	1.20	OMS100-04		14.0	114.0	1.20	1.52	0.41	0.55	0.73	12	65	75	110	96	1.7
150	100	1.80	OMS150-15		19.0	169.0	1.80	2.34	0.41	0.82	1.11	18	50	105	155	141	2.5
150	100	1.80	OMS150-05 (TH) [1]		21.0	171.0	1.80	2.34	0.41	0.83	1.13	18	60	105	155	141	2.5
150	100	1.80	OMS150-28		21.5	171.5	1.80	2.39	0.41	0.83	1.16	18	65	85	155	141	2.1

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps. Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器可按要求提供其他额定功率的镇流器。

240 V 50 Hz – OM ballasts

240 V 50 Hz – OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率 W	voltage 电压 V	current 电流 mA	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	Δt	stack 堆叠厚度 mm	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
High-pressure mercury vapour 高压汞蒸汽灯																	
40	90	0.53	OMB40		10.7	50.7	0.53	0.64	0.38	0.23	0.29	5	65	30	65	51	0.8
50	95	0.61	OMB50-02	89001025	11.7	61.7	0.61	0.75	0.40	0.27	0.35	6	65	30	65	51	0.8
75	130	0.64	OMB75		10.2	85.2	0.64	0.88	0.53	0.38	0.55	5	65	35	70	56	1.0
80	115	0.80	OMB80-03	89001033	12.4	92.4	0.80	1.05	0.46	0.41	0.57	7	65	40	75	61	1.1
100	130	0.85	OMB100		11.9	111.9	0.85	1.17	0.53	0.50	0.72	7	60	55	90	76	1.3
100	115	1.00	OMB100A		14.1	114.1	1.00	1.31	0.46	0.51	0.70	9	65	55	90	76	1.3
125	125	1.15	OMB125-05	89000980	14.2	139.2	1.15	1.58	0.48	0.62	0.89	10	60	65	100	86	1.5
175	130	1.50	OMB175		17.6	192.6	1.50	2.08	0.51	0.86	1.25	12	65	85	120	106	2.0
250	130	2.13	OMB250		23.3	273.3	2.13	2.96	0.51	1.21	1.77	18	65	120	155	141	2.8
Metal halide 金属卤化物灯																	
50	95	0.61	OMB50-02	89001025	11.7	61.7	0.61	0.75	0.40	0.27	0.35	6	65	30	65	51	0.8
70	90	1.00	OMSL70A-01 [3]	89001195	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMSL70A (TH) [1]	89002558	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMS70A-05	89001163	15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
70	90	1.00	OMS70A (TH) [1]		15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
100	100	1.10	OMH100		15.7	115.7	1.10	1.37	0.42	0.51	0.67	10	70	65	100	86	1.5
100	100	1.10	OMH100 (TH) [1]		15.7	115.7	1.10	1.37	0.42	0.51	0.67	10	70	65	100	86	1.5
150	100	1.80	OMS150-11	89001103	21.5	171.5	1.80	2.20	0.38	0.76	0.98	18	60	105	155	141	2.4
150	100	1.80	OMS150 (TH) [1]		23.0	173.0	1.80	2.20	0.38	0.77	0.99	18	65	105	155	141	2.4
175	130	1.50	OMB175		17.6	192.6	1.50	2.08	0.51	0.86	1.25	12	65	85	120	106	2.0
250	130	2.13	OMB250		23.3	273.3	2.13	2.96	0.51	1.21	1.77	18	65	120	155	141	2.8
250	100	3.00	OMS250.5 [2]		38.4	288.4	3.00	3.73	0.38	1.28	1.67	30	65	85	120	106	2.1
High pressure sodium 高压钠																	
50	85	0.76	OMS50-03	89001146	12.5	62.5	0.76	0.90	0.33	0.28	0.35	8	65	55	90	76	1.4
70	90	0.95	OMS70		15.2	85.2	0.94	1.15	0.36	0.38	0.49	10	70	55	90	76	1.4
70	90	1.00	OMSL70A-01 [3]	89001195	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMSL70A (TH) [1]	89002558	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMS70A-05	89001163	15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
70	90	1.00	OMS70A (TH) [1]		15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
100	100	1.20	OMS100-02	89001079	16.6	116.6	1.20	1.49	0.39	0.52	0.68	12	65	75	110	96	1.7
150	100	1.80	OMS150-11	89001103	21.5	171.5	1.80	2.20	0.38	0.76	0.98	18	60	105	155	141	2.4
150	100	1.80	OMS150 (TH) [1]		23.0	173.0	1.80	2.20	0.38	0.77	0.99	18	65	105	155	141	2.4
250	100	3.00	OMS250.5 [2]		38.4	288.4	3.00	3.73	0.38	1.28	1.67	30	65	85	120	106	2.1

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. Split ballast, two required.
3. With multiple voltage tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 需要两个分体式镇流器。
3. 带多个电压分接。
   可按要求提供其他额定功率的镇流器。

240 V 50 Hz – OM ballasts

240 V 50 Hz – OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器		stack 堆叠厚度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm	mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																	
35	85	0.53	OMS35	89001136	9.0	44.0	0.53	0.60	0.35	0.20	0.24	6	55	40	75	61	1.1
35	85	0.53	OMS35-04 (TH) [1]	89001140	9.0	44.0	0.53	0.60	0.35	0.20	0.24	6	55	40	75	61	1.1
35	85	0.53	OMS35-00		10.0	45.0	0.53	0.61	0.35	0.21	0.25	6	60	30	75	61	0.9
35	85	0.53	OMS35 (TH) [1]		10.0	45.0	0.53	0.61	0.35	0.21	0.25	6	60	30	75	61	0.9
50	85	0.76	OMS50	89001144	11.5	61.5	0.76	0.87	0.34	0.28	0.34	8	65	55	90	76	1.4
50	85	0.76	OMS50-00		14.0	64.0	0.76	0.90	0.35	0.30	0.37	8	75	35	90	76	1.1
70	90	0.95	OMS70	89001151	12.5	82.5	0.94	1.14	0.37	0.38	0.49	10	70	55	90	76	1.4
70	90	1.00	OMSL70A-01 [6]	89001195	8.2	78.2	1.00	1.12	0.33	0.36	0.43	11	30	85	120	106	2.0
70	90	1.00	OMS70A	89001157	14.0	84.0	1.00	1.16	0.35	0.39	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-02 (TH) [1]	89001160	14.0	84.0	1.00	1.16	0.35	0.39	0.47	11	65	65	100	86	1.5
70	90	1.00	OMS70A-00	89001158	16.0	86.0	1.00	1.22	0.36	0.40	0.51	11	70	45	100	86	1.3
70	90	1.00	OMS70A-21 (TH) [1]	89001177	16.0	86.0	1.00	1.22	0.36	0.40	0.51	11	70	45	100	86	1.3
100	100	1.20	OMS100	89001077	14.5	114.5	1.20	1.50	0.40	0.53	0.70	12	65	75	110	96	1.7
100	100	1.20	OMS100-00		18.0	118.0	1.20	1.45	0.41	0.55	0.69	12	75	55	110	96	1.5
150	100	1.80	OMS150	89001093	20.0	170.0	1.80	2.30	0.39	0.79	1.06	18	55	105	155	141	2.4
150	100	1.80	OMS150-26 [6]	89001109	20.0	170.0	1.80	2.30	0.39	0.79	1.06	18	55	105	155	141	2.5
150	100	1.80	OMS150-04 (TH) [1]	89001096	22.0	172.0	1.80	2.30	0.40	0.80	1.07	18	60	105	155	141	2.4
150	100	1.80	OMS150-00	89001094	22.5	172.5	1.80	2.35	0.40	0.80	1.09	18	65	85	155	141	2.1
150	100	1.80	OMS150-17 (TH) [1]	89001105	22.5	172.5	1.80	2.35	0.40	0.80	1.09	18	65	85	120	106	2.0
150	100	1.80	OMS150-22 (TH) [1]		22.5	172.5	1.80	2.35	0.40	0.80	1.09	18	65	85	155	141	2.1
150	100	1.80	OMS150/100 (TH) [1 7]	89003580	22.5	172.5	1.80	2.30	0.40	0.80	1.07	18	55	105	155	141	2.5
250	100	3.00	OMS250.5 [5]		36.0	286.0	3.00	3.60	0.40	1.32	1.67	30	65	85	120	106	2.1
Low pressure sodium 低压钠光灯																	
18	57	0.35	OMLS18 [2]		7.5	25.5	0.35	0.36	0.30	0.12	0.13	4	55	30	65	51	0.8
26	84	0.35	OMLS26 [3]		6.5	32.5	0.35	0.40	0.39	0.15	0.18	3.5	50	30	65	51	0.8
35	70	0.60	OMLS35/55 [3]		10.0	45.0	0.60	0.64	0.31	0. 21	0.23	7	55	40	75	61	1.1
55	109	0.59	OMLS35/55 [3]		10.0	65.0	0.59	0.64	0.46	0.30	0.34	6	55	40	75	61	1.1
90	112	0.94	OMLS90 [4]		12.5	102.5	0.94	0.99	0.45	0.47	0.52	9	60	65	100	86	1.5

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. Capacitor – dual function – power factor correction and starting aid.
3. Use with ZRM36-LP/B.
4. Use with suitable ignitor.
5. Split ballast, two required.
6. With multiple voltage tappings
7. With power tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 电容器–双重功能–功率因数补偿和启动辅助。
3. 配合 ZRM36-LP/B 使用。
4. 搭配合适的启辉器使用。
5. 需要两个分体式镇流器。
6. 带多个电压分接。
7. 带功率分接。
   可按要求提供其他额定功率的镇流器。

250 V 50 Hz – OM ballasts

250 V 50 Hz – OM 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性			
wattage 功率 W	voltage 电压 V	current 电流 mA	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	Δt	stack 堆叠厚度 mm	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
High-pressure mercury vapour 高压汞蒸汽灯																	
40	90	0.53	OMB40		10.7	50.7	0.53	0.64	0.38	0.23	0.29	5	65	30	65	51	0.8
50	95	0.61	OMB50-02	89001025	11.7	61.7	0.61	0.75	0.40	0.27	0.35	6	65	30	65	51	0.8
75	130	0.64	OMB75		10.2	85.2	0.64	0.88	0.53	0.38	0.55	5	65	35	70	56	1.0
80	115	0.80	OMB80-03	89001033	12.4	92.4	0.80	1.05	0.46	0.41	0.57	7	65	40	75	61	1.1
100	130	0.85	OMB100		11.9	111.9	0.85	1.17	0.53	0.50	0.72	7	60	55	90	76	1.3
100	115	1.00	OMB100A		14.1	114.1	1.00	1.31	0.46	0.51	0.70	9	65	55	90	76	1.3
125	125	1.15	OMB125-05	89000980	14.2	139.2	1.15	1.58	0.48	0.62	0.89	10	60	65	100	86	1.5
175	130	1.50	OMB175		17.6	192.6	1.50	2.08	0.51	0.86	1.25	12	65	85	120	106	2.0
250	130	2.13	OMB250		23.3	273.3	2.13	2.96	0.51	1.21	1.77	18	65	120	155	141	2.8
Metal halide 金属卤化物灯																	
50	95	0.61	OMB50-02	89001025	11.7	61.7	0.61	0.75	0.40	0.27	0.35	6	65	30	65	51	0.8
70	90	1.00	OMSL70A-01 [3]	89001195	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMSL70A (TH) [1]	89002558	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMS70A-05	89001163	15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
70	90	1.00	OMS70A (TH) [1]		15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
100	100	1.10	OMH100		15.7	115.7	1.10	1.37	0.42	0.51	0.67	10	70	65	100	86	1.5
100	100	1.10	OMH100 (TH) [1]		15.7	115.7	1.10	1.37	0.42	0.51	0.67	10	70	65	100	86	1.5
150	100	1.80	OMS150-11	89001103	21.5	171.5	1.80	2.20	0.38	0.76	0.98	18	60	105	155	141	2.4
150	100	1.80	OMS150 (TH) [1]		23.0	173.0	1.80	2.20	0.38	0.77	0.99	18	65	105	155	141	2.4
175	130	1.50	OMB175		17.6	192.6	1.50	2.08	0.51	0.86	1.25	12	65	85	120	106	2.0
250	130	2.13	OMB250		23.3	273.3	2.13	2.96	0.51	1.21	1.77	18	65	120	155	141	2.8
250	100	3.00	OMS250.5 [2]		38.4	288.4	3.00	3.73	0.38	1.28	1.67	30	65	85	120	106	2.1
High pressure sodium 高压钠																	
50	85	0.76	OMS50-03	89001146	12.5	62.5	0.76	0.90	0.33	0.28	0.35	8	65	55	90	76	1.4
70	90	0.95	OMS70		15.2	85.2	0.94	1.15	0.36	0.38	0.49	10	70	55	90	76	1.4
70	90	1.00	OMSL70A-01 [3]	89001195	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMSL70A (TH) [1]	89002558	8.6	78.6	1.00	1.12	0.31	0.35	0.41	11	30	85	120	106	2.0
70	90	1.00	OMS70A-05	89001163	15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
70	90	1.00	OMS70A (TH) [1]		15.3	85.3	1.00	1.20	0.34	0.38	0.48	10	65	65	100	86	1.5
100	100	1.20	OMS100-02	89001079	16.6	116.6	1.20	1.49	0.39	0.52	0.68	12	65	75	110	96	1.7
150	100	1.80	OMS150-11	89001103	21.5	171.5	1.80	2.20	0.38	0.76	0.98	18	60	105	155	141	2.4
150	100	1.80	OMS150 (TH) [1]		23.0	173.0	1.80	2.20	0.38	0.77	0.99	18	65	105	155	141	2.4
250	100	3.00	OMS250.5 [2]		38.4	288.4	3.00	3.73	0.38	1.28	1.67	30	65	85	120	106	2.1

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. Split ballast, two required.
3. With multiple voltage tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 需要两个分体式镇流器。
3. 带多个电压分接。
   可按要求提供其他额定功率的镇流器。

OG type ballasts
OG 型镇流器

- vacuum impregnation
- very low noise level
- long service life
- glass fibre filled nylon coil covers
- 24A double-screw terminals
- winding insulation Class H materials
- fixed air gap ensuring permanent calibration
- tw150 winding temperature rating
- resistant to moisture and corrosion

- 真空浸渍
- 极低噪声级
- 使用寿命长
- 玻璃纤维填充的尼龙线圈端盖
- 24A 双螺丝端子
- 绕组由 H 级绝缘材料制成
- 固定气隙，确保永久性标定
- tw150 绕组温度额定
- 耐潮湿、耐腐蚀

100% final testing

- continuity
- winding short circuit
- insulation
- impedance

100% 最终测试

- 持续性
- 绕组短路
- 绝缘
- 阻抗

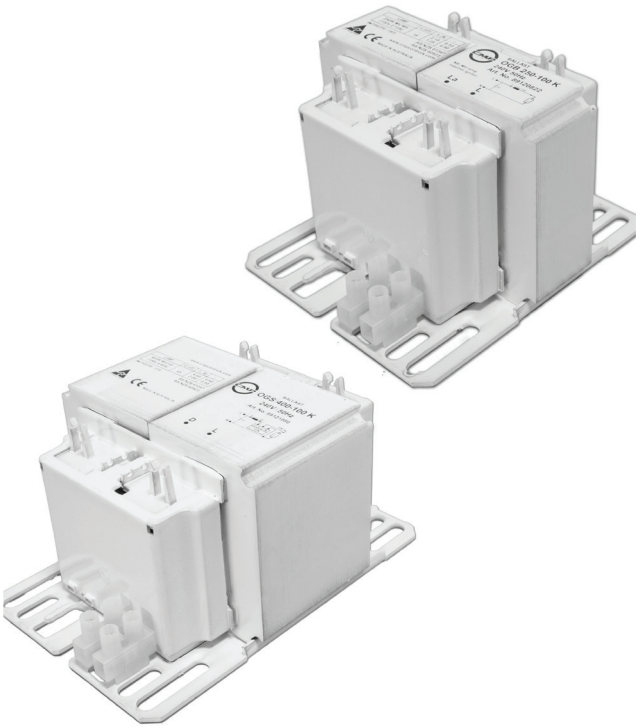


Figure 1
图 1

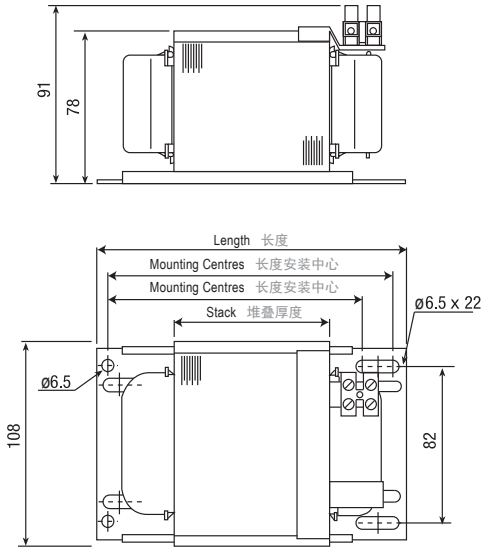
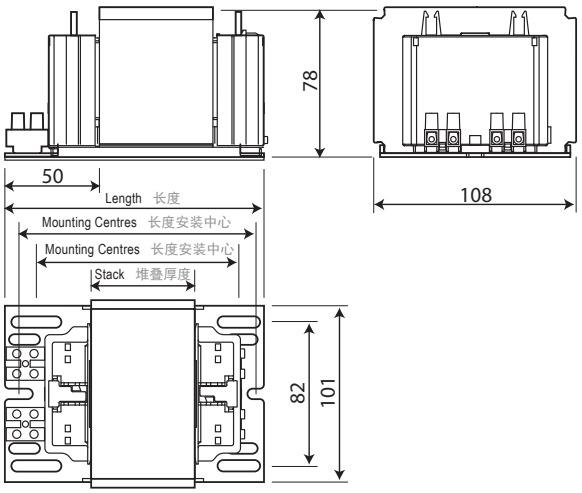


Figure 2
图 2



220 V 50 Hz – OG ballasts

220 V 50 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	winding 绕组	stack 堆叠厚度	figure 图	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																		
250	130	2.13	OGB250-102	89120824	19	269	2.13	3.40	0.57	1.36	2.28	18	60	30	2	120	91-107	2.4
250	130	2.13	OGB250-08		19	269	2.13	3.40	0.57	1.36	2.28	18	60	30	1	110	81-97	2.4
250	130	2.13	OGB250/125 [3]		18	268	2.13	3.30	0.57	1.35	2.20	18	60	30	1	110	81-97	2.4
400	135	3.25	OGB400-125	89122648	26	426	3.25	5.30	0.60	2.15	3.68	25	70	40	2	130	101-117	3.1
400	135	3.25	OGB400-108		22	422	3.25	5.40	0.59	2.13	3.72	25	55	50	2	140	111-127	3.7
400	135	3.25	OGB400/250 [3]		24	424	3.25	5.10	0.59	2.14	3.53	25	70	50	1	120	91-107	3.7
700	140	5.40	OGB700-05		30	730	5.40	9.10	0.61	3.69	6.52	40	55	80	1	160	131-147	5.5
1,000	145	7.50	OGB1000-05	27020811	44	1,044	7.50	12.30	0.63	5.27	9.08	55	55	110	1	190	161-177	7.0
Metal halide 金属卤化物灯																		
150	100	1.80	OGS150-103		17	167	1.80	2.30	0.42	0.84	1.13	20	55	30	2	120	91-107	2.4
150	100	1.80	OGS150-110 (TH) [1]		17	167	1.80	2.30	0.42	0.84	1.13	20	55	30	2	120	91-107	2.4
250	130	2.13	OGB250-102	89120824	19	269	2.13	3.40	0.57	1.36	2.28	18	60	30	2	120	91-107	2.4
250	130	2.13	OGB250-08		19	269	2.13	3.40	0.57	1.36	2.28	18	60	30	1	110	81-97	2.4
250	100	3.00	OGS250-103	89121030	24	274	3.00	4.00	0.42	1.38	1.94	35	65	40	2	130	101-117	3.1
250	100	3.00	OGS250-108 (TH) [1]		24	274	3.00	4.00	0.42	1.38	1.94	35	65	40	2	130	101-117	3.1
400	135	3.25	OGB400-125	89122648	26	426	3.25	5.30	0.60	2.15	3.68	25	70	40	2	130	101-117	3.1
400	135	3.25	OGB400-108		22	422	3.25	5.40	0.59	2.13	3.72	25	55	50	2	140	111-127	3.7
400	120	3.50	OGH400-102	89120944	25	425	3.50	5.80	0.55	2.15	3.73	30	60	45	2	140	111-127	3.4
400	100	4.60	OGS400-102	89121082	34	434	4.60	6.70	0.43	2.19	3.35	50	65	60	2	150	121-137	4.3
400	100	4.60	OGS400-65		34	434	4.60	6.70	0.43	2.19	3.35	50	65	60	1	140	111-127	4.3
1,000	130	8.25	OGH1000-05	27020906	48	1,048	8.25	12.80	0.58	5.29	8.62	65	55	120	1	200	171-187	7.5
1,000	120	9.50	OGH1000A-06	27020917	62	1,062	9.50	14.00	0.51	5.36	8.30	85	70	120	1	200	171-187	7.5
High-pressure sodium vapour 高压钠蒸汽灯																		
150	100	1.80	OGS150-103		17	167	1.80	2.30	0.42	0.84	1.13	20	55	30	2	120	91-107	2.4
150	100	1.80	OGS150-110 (TH) [1]		17	167	1.80	2.30	0.42	0.84	1.13	20	55	30	2	120	91-107	2.4
250	100	3.00	OGS250-103	89121030	24	274	3.00	4.00	0.42	1.38	1.94	35	65	40	2	130	101-117	3.1
250	100	3.00	OGS250-108 (TH) [1]		24	274	3.00	4.00	0.42	1.38	1.94	35	65	40	2	130	101-117	3.1
250	100	3.00	OGS250/150-101 [3]	89121017	24	274	3.00	3.90	0.42	1.38	1.89	35	70	50	2	140	111-127	3.7
400	100	4.60	OGS400-102	89121082	34	434	4.60	6.70	0.43	2.19	3.35	50	65	60	2	150	121-137	4.3
400	100	4.60	OGS400-65		34	434	4.60	6.70	0.43	2.19	3.35	50	65	60	1	140	111-127	4.3
400	100	4.60	OGS400/250-101 [3]	89121071	34	434	4.60	6.20	0.43	2.19	3.10	50	60	70	2	160	131-147	4.9
600	110	6.20	OGS600-04		40	640	6.20	8.15	0.47	3.23	4.46	60	60	90	1	170	141-157	6.0
1,000	110	10.30	OGS1000-06	27020961	58	1,058	10.30	13.90	0.47	5.34	7.57	100	65	140	1	220	191-207	8.9
1,000	110	10.30	OGS1000-10 [2]	27020964	58	1,058	10.30	13.90	0.47	5.34	7.57	100	65	140	1	220	191-207	8.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With multiple voltage tappings
3. With power tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带多个电压分接。
3. 带功率分接。
   可按要求提供其他额定功率的镇流器。

220 V 60 Hz – OG ballasts

220 V 60 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	winding 绕组	stack 堆叠厚度	figure 图	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																		
250	130	2.13	OGB250-103		18	268	2.13	3.20	0.57	1.35	2.14	15	60	30	2	120	91-107	2.4
400	135	3.25	OGB400-104	89120858	25	425	3.25	5.90	0.59	2.15	4.09	25	70	30	2	120	91-107	2.4
400	135	3.25	OGB400-109	89120862	22	422	3.25	5.30	0.59	2.13	3.65	25	60	40	2	130	101-117	3.1
700	140	5.40	OGB700-06	27020898	33	733	5.40	8.40	0.62	3.70	6.05	35	60	70	1	150	121-137	5.0
1,000	145	7.50	OGB1000-04	27020810	43	1,043	7.50	12.10	0.63	5.27	8.89	45	55	100	1	190	151-167	6.5
Metal halide 金属卤化物灯																		
150	100	1.80	OGS150-104	89120994	17	167	1.80	2.20	0.42	0.84	1.08	16	55	30	2	120	91-107	2.4
250	130	2.13	OGB250-103		18	268	2.13	3.20	0.57	1.35	2.14	15	60	30	2	120	91-107	2.4
250	100	3.00	OGS250-104	89121031	25	275	3.00	4.20	0.42	1.39	2.04	30	65	30	2	120	91-107	2.4
250	100	3.00	OGS250-02		25	275	3.00	4.20	0.42	1.39	2.04	30	65	30	1	110	81-97	2.4
400	135	3.25	OGB400-104	89120858	25	425	3.25	5.90	0.59	2.15	4.09	25	70	30	2	120	91-107	2.4
400	135	3.25	OGB400-109	89120862	22	422	3.25	5.30	0.59	2.13	3.65	25	60	40	2	130	101-117	3.1
400	120	3.50	OGH400-103		26	426	3.50	5.55	0.55	2.15	3.58	25	70	40	2	130	101-117	3.1
400	120	3.50	OGH400-04		26	426	3.50	5.55	0.55	2.15	3.58	25	70	40	1	130	101-117	3.1
400	100	4.60	OGS400-103	89121083	34	434	4.60	6.20	0.43	2.19	3.10	40	65	50	2	140	111-127	3.7
1,000	130	8.25	OGH1000-03	27020905	48	1,048	8.25	12.90	0.58	5.29	8.69	55	60	100	1	180	151-167	6.5
1,000	120	9.50	OGH1000A-02	27020915	60	1,060	9.50	13.20	0.51	5.35	7.81	75	65	120	1	200	171-187	7.5
1,000	120	9.50	OGH1000A-16 [2]	27020919	54	1,054	9.50	13.20	0.50	5.32	7.77	75	55	140	1	243	232	8.9
High-pressure sodium vapour 高压钠蒸汽灯																		
150	100	1.80	OGS150-104	89120994	17	167	1.80	2.20	0.42	0.84	1.08	16	55	30	2	120	91-107	2.4
250	100	3.00	OGS250-104	89121031	25	275	3.00	4.20	0.42	1.39	2.04	30	65	30	2	120	91-107	2.4
250	100	3.00	OGS250-02		25	275	3.00	4.20	0.42	1.39	2.04	30	65	30	1	110	81-97	2.4
400	100	4.60	OGS400-103	89121083	34	434	4.60	6.20	0.43	2.19	3.10	40	65	50	2	140	111-127	3.7
600	110	6.20	OGS600-05	27021131	39	639	6.20	8.15	0.47	3.23	4.45	50	55	80	1	160	131-147	5.5
1,000	110	10.30	OGS1000-01	27020956	56	1,056	10.30	14.00	0.47	5.33	7.61	85	55	120	1	200	171-187	7.5

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With baseplate to suit D96 box
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带与 D96 盒匹配的底板。
   可按要求提供其他额定功率的镇流器。

230 V 50 Hz – OG ballasts

230 V 50 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	winding 绕组	stack 堆叠厚度	figure 图	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																		
250	130	2.13	OGB250-104		20	270	2.13	3.20	0.55	1.30	2.06	18	65	30	2	120	91-107	2.4
400	135	3.25	OGB400-105		27	427	3.25	5.20	0.57	2.06	3.47	25	70	40	2	130	101-117	3.1
400	135	3.25	OGB400-107		23	423	3.25	5.10	0.57	2.04	3.37	25	60	50	2	140	111-127	3.7
700	140	5.40	OGB700-04		32	732	5.40	8.80	0.59	3.54	6.05	40	60	80	1	160	131-147	5.5
1,000	145	7.50	OGB1000-02		48	1,048	7.50	11.90	0.61	5.06	8.43	55	60	110	1	190	161-177	7.0
Metal halide 金属卤化物灯																		
150	100	1.80	OGS150-105	89120995	18	168	1.80	2.30	0.41	0.81	1.09	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150 TH[1]	89003641	18	168	1.80	2.30	0.41	0.81	1.09	18	60	30	2	120	91-107	2.4
250	130	2.13	OGB250-104		20	270	2.13	3.20	0.55	1.30	2.06	18	65	30	2	120	91-107	2.4
250	133	2.10	OGH250-101PS[1 2]	89003532	19	269	2.10	3.22	0.56	1.30	2.09	18	60	30	2	130	101-117	2.4
250	100	3.00	OGS250-105	89121032	25	275	3.00	3.90	0.40	1.33	1.81	35	65	40	2	130	101-117	3.1
250	100	3.00	OGS250 TH[1]	89003595	25	275	3.00	3.90	0.40	1.33	1.81	35	65	40	2	130	101-117	3.1
300	133	2.45	OGH300-103PS[1 2]	89003638	20	320	2.45	3.75	0.57	1.55	2.48	20	65	40	2	130	101-117	3.1
320	135	2.63	OGH320-103PS[1 2]	89003637	23	343	2.63	3.96	0.57	1.66	2.62	20	55	40	2	130	101-117	3.1
350	135	2.80	OGH350-103PS[1 2]	89003530	28	378	2.80	4.40	0.59	1.83	3.01	25	60	40	2	130	101-117	3.1
400	135	3.25	OGB400-105		27	427	3.25	5.20	0.57	2.06	3.47	25	70	40	2	130	101-117	3.1
400	135	3.25	OGB400-107		23	423	3.25	5.10	0.57	2.04	3.37	25	60	50	2	140	111-127	3.7
400	120	3.50	OGH400-101	89120943	25	425	3.50	5.55	0.53	2.05	3.42	30	60	45	2	140	111-127	3.4
400	135	3.20	OGH400-101W[1 2]	89003521	28	428	3.20	4.95	0.58	2.07	3.36	25	60	40	2	130	101-117	3.1
400	135	3.20	OGH400/250-101W[1 2 3]	89003634	26	426	3.20	4.96	0.58	2.06	3.35	25	50	60	2	140	111-127	4.3
400	100	4.60	OGS400-104	89121084	35	435	4.60	6.10	0.41	2.10	2.93	50	65	60	2	150	121-137	4.3
400	100	4.60	OGS400 TH[1]	89003596	35	435	4.60	6.10	0.41	2.10	2.93	50	65	60	2	150	121-137	4.3
1,000	130	8.25	OGH1000-07		50	1,050	8.25	12.60	0.55	5.07	8.13	65	55	120	1	200	171-187	7.5
1,000	130	8.25	OGH1000-27	27022646	50	1,050	8.25	12.60	0.55	5.07	8.13	65	55	120	1	220	191-207	7.5
1,000	120	9.50	OGH1000A-03		63	1,063	9.50	14.10	0.49	5.14	8.00	85	70	120	1	200	171-187	7.5
High-pressure sodium vapour 高压钠蒸汽灯																		
150	100	1.80	OGS150-105	89120995	18	168	1.80	2.30	0.41	0.81	1.09	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150 TH[1]	89003641	18	168	1.80	2.30	0.41	0.81	1.09	18	60	30	2	120	91-107	2.4
250	100	3.00	OGS250-105	89121032	25	275	3.00	3.90	0.40	1.33	1.81	35	65	40	2	130	101-117	3.1
250	100	3.00	OGS250 TH[1]	89003595	25	275	3.00	3.90	0.40	1.33	1.81	35	65	40	2	130	101-117	3.1
400	100	4.60	OGS400-104	89121084	35	435	4.60	6.10	0.41	2.10	2.93	50	65	60	2	150	121-137	4.3
400	100	4.60	OGS400 TH[1]	89003596	35	435	4.60	6.10	0.41	2.10	2.93	50	65	60	2	150	121-137	4.3
600	110	6.20	OGS600-03		42	642	6.20	8.25	0.45	3.10	4.33	60	65	90	1	170	141-157	6.0
1,000	110	10.30	OGS1000-10[2]	27020964	60	1,060	10.30	14.10	0.45	5.12	7.36	100	65	140	1	220	191-207	8.9
1,000	110	10.30	OGS1000-15		60	1,060	10.30	14.10	0.45	5.12	7.36	100	65	140	1	220	191-207	8.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With multiple voltage tappings
3. With power tappings
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带多个电压分接。
3. 带功率分接。
   可按要求提供其他额定功率的镇流器。

240 V 50 Hz – OG ballasts

240 V 50 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	winding 绕组	stack 堆叠厚度	figure 图	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
High-pressure mercury vapour 高压汞蒸汽灯																		
250	130	2.13	OGB250-100	89120822	21	271	2.13	3.10	0.53	1.25	1.92	18	65	30	2	120	91-107	2.4
250	130	2.13	OGB250	27002334	21	271	2.13	3.10	0.53	1.25	1.92	18	65	30	1	110	81-97	2.4
250	130	2.13	OGB250/125 [5]		20	270	2.13	3.10	0.53	1.25	1.91	18	60	30	1	110	81-97	2.4
400	135	3.25	OGB400-100	89120854	29	429	3.25	5.00	0.55	1.99	3.21	25	75	40	2	130	101-117	3.1
400	135	3.25	OGB400	27020845	29	429	3.25	5.00	0.55	1.99	3.21	25	75	40	1	120	91-107	3.1
400	135	3.25	OGB400-106		24	424	3.25	4.90	0.54	1.96	3.11	25	65	50	2	140	111-127	3.7
400	135	3.25	OGB400-114	89120867	22	422	3.25	4.90	0.54	1.95	3.09	25	55	60	2	150	121-137	4.3
400	135	3.25	OGB400/250 [5]	27020846	27	427	3.25	4.90	0.55	1.98	3.13	25	70	50	1	120	91-107	3.7
700	140	5.40	OGB700	27020895	34	734	5.40	9.00	0.57	3.40	5.95	40	60	80	1	160	131-147	5.3
700	140	5.40	OGB700 [3]		34	734	5.40	9.00	0.57	3.40	5.95	40	60	80	1	160	131-147	5.3
1,000	145	7.50	OGB1000	27020808	41	1,041	7.50	12.00	0.58	4.82	8.10	55	65	120	1	200	171-187	7.5
Metal halide 金属卤化物灯																		
150	100	1.80	OGS150-100	89120990	18	168	1.80	2.20	0.39	0.78	1.00	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-102 (TH) [1]	89120992	18	168	1.80	2.20	0.39	0.78	1.00	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-108	89120996	14	164	1.80	2.10	0.38	0.76	0.93	18	45	50	2	140	111-127	3.7
250	130	2.13	OGB250-100	89120822	21	271	2.13	3.10	0.53	1.25	1.92	18	65	30	2	120	91-107	2.4
250	130	2.13	OGB250	27002334	21	271	2.13	3.10	0.53	1.25	1.92	18	65	30	1	110	81-97	2.4
250	133	2.10	OGH250-101PS [1 4]	89003532	21	271	2.10	3.15	0.54	1.25	1.98	18	60	30	2	130	101-117	2.4
250	100	3.00	OGS250-100	89121027	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250	27021015	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	1	120	91-107	3.1
250	100	3.00	OGS250-102 (TH) [1]		26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250-45 [6]	27021715	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	1	120	91-107	3.1
250	100	3.00	OGS250-107		22	272	3.00	3.70	0.38	1.26	1.63	30	60	50	2	140	111-127	3.7
300	133	2.45	OGH300-103PS [1 4]	89003638	22	322	2.45	3.68	0.55	1.49	2.35	20	65	40	2	130	101-117	3.1
320	135	2.63	OGH320-103PS [1 4]	89003637	25	345	2.63	3.90	0.55	1.60	2.49	20	55	40	2	130	101-117	3.1
350	135	2.80	OGH350-103PS [1 4]	89003530	30	380	2.80	4.30	0.57	1.76	2.84	25	60	40	2	130	101-117	3.1
350	135	2.80	OGH350-05	27022851	30	380	2.80	4.30	0.57	1.76	2.84	25	60	40	1	120	91-107	3.1
400	135	3.25	OGB400-100	89120854	29	429	3.25	5.00	0.55	1.99	3.21	25	75	40	2	130	101-117	3.1
400	135	3.25	OGB400	27020845	29	429	3.25	5.00	0.55	1.99	3.21	25	75	40	1	120	91-107	3.1
400	135	3.25	OGB400-106		24	424	3.25	4.90	0.54	1.96	3.11	25	65	50	2	140	111-127	3.7
400	135	3.25	OGB400-114	89120867	22	422	3.25	4.90	0.54	1.95	3.09	25	55	60	2	150	121-137	4.3
400	120	3.50	OGH400-100	89120942	27	427	3.50	5.60	0.51	1.98	3.32	30	65	45	2	140	111-127	3.4
400	135	3.20	OGH400-101W [1 4]	89003521	30	430	3.20	4.88	0.56	1.99	3.19	25	60	40	2	130	101-117	3.1
400	135	3.20	OGH400/250-101W [1 4 5]	89003634	28	428	3.20	4.88	0.56	1.98	3.17	25	50	60	2	140	111-127	4.3
400	100	4.60	OGS400-100	89121080	37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-109 (TH) [1]		37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-52 [6]	27021697	37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	1	120	91-107	4.3
400	100	4.60	OGS400-106	89121086	34	434	4.60	5.80	0.39	2.01	2.66	45	60	70	2	160	131-147	4.9
400	100	4.60	OGS400-29	27021110	31	431	4.60	5.80	0.39	2.00	2.64	45	60	80	1	120	91-107	5.3
400	100	4.60	OGLIS 400 C042W [1]	27002445	31	431	4.60	5.80	0.39	2.00	2.64	45	60	80	1	120	91-107	5.3
1,000	130	8.25	OGH1000	27020903	53	1,053	8.25	12.10	0.53	4.88	7.51	65	60	120	1	200	171-187	7.5
1,000	130	8.25	OGH1000 [3]	27022684	53	1,053	8.25	12.10	0.53	4.88	7.51	65	60	120	1	200	171-187	7.5
1,000	130	8.25	OGH1000-16 [2 3]	27022681	53	1,053	8.25	12.10	0.53	4.88	7.51	65	60	120	1	243	232	7.5
1,000	120	9.50	OGH1000A	27020913	64	1,064	9.50	13.00	0.47	4.93	7.05	85	70	140	1	220	191-207	8.9
1,000	120	9.50	OGH1000A-07 [6]	27020918	64	1,064	9.50	13.00	0.47	4.93	7.05	85	70	140	1	220	191-207	8.9
1,000	120	9.50	OGH1000A-11 [2 6]	27022683	64	1,064	9.50	13.00	0.47	4.93	7.05	85	70	140	1	243	232	8.9
1,000	120	9.50	OGHS1000	27022884	57	1,057	9.50	13.10	0.46	4.89	7.09	85	70	140	1	220	191-207	8.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With baseplate to suit D96 box
3. With flying leads
4. With multiple voltage tappings
5. With power tappings
6. With ignitor tap suitable for use with ATIG-16
7. With ignitor tap suitable for use with ATIG-11

Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带与 D96 盒匹配的底板。
3. 带飞线。
4. 带多个电压分接。
5. 带功率分接。
6. 带启辉器抽头，适合配合 ATIG-16
7. 带启辉器抽头，适合配合 ATIG-11

可按要求提供其他额定功率。

240 V 50 Hz – OG ballasts

240 V 50 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电流	lamp start current 灯具启动电流	circuit 电路	line current 线路电流	line start current 线路启动电流	capacitor 电容器	winding 绕组	stack 堆叠厚度	figure 图	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量
W	V	mA			W	W	mA	mA	PF cos ø	mA@0.9PF	mA@0.9PF	µF0.9PF	Δt	mm		mm	mm	kg
High-pressure sodium vapour 高压钠蒸汽灯																		
150	100	1.80	OGS150-100	89120990	18	168	1.80	2.20	0.39	0.78	1.00	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-102 (TH) [1]	89120992	18	168	1.80	2.20	0.39	0.78	1.00	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-108	89120996	14	164	1.80	2.10	0.38	0.76	0.93	18	45	50	2	140	111-127	3.7
250	100	3.00	OGS250-100	89121027	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250	27021015	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	1	120	91-107	3.1
250	100	3.00	OGS250-102 (TH) [1]		26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250-45 [7]	27021715	26	276	3.00	3.90	0.38	1.28	1.74	30	70	40	1	120	91-107	3.1
250	100	3.00	OGS250-107		22	272	3.00	3.70	0.38	1.26	1.63	30	60	50	2	140	111-127	3.7
250	100	3.00	OGS250/150-100 [5]		28	278	3.00	3.70	0.39	1.29	1.67	30	70	50	2	140	111-127	3.7
400	100	4.60	OGS400-100	89121080	37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-109 (TH) [1]		37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-52 [7]	27021697	37	437	4.60	6.10	0.40	2.02	2.82	45	70	60	1	120	91-107	4.3
400	100	4.60	OGS400-106	89121086	34	434	4.60	5.80	0.39	2.01	2.66	45	60	70	2	160	131-147	4.9
400	100	4.60	OGS400-29		31	431	4.60	5.80	0.39	2.00	2.64	45	60	80	1	120	91-107	5.3
400	100	4.60	OGLIS 400 C042W [1]	27002445	31	431	4.60	5.80	0.39	2.00	2.64	45	60	80	1	120	91-107	5.3
400	100	4.60	OGS400/250-100 [5]	89121070	37	437	4.60	5.80	0.40	2.02	2.68	45	60	70	2	160	131-147	4.9
600	110	6.20	OGS600-100	89122873	45	645	6.20	8.00	0.43	2.99	4.05	60	70	80	2	160	131-147	5.3
600	110	6.20	OGS600	27021127	41	641	6.20	8.00	0.43	2.97	4.02	60	70	90	1	170	141-157	6.0
600	110	6.20	OGS600-106	89122883	41	641	6.20	8.00	0.43	2.97	4.02	60	65	90	1	180	151-167	6.0
600	110	6.20	OGS600-10 [7]	27022673	41	641	6.20	8.00	0.43	2.97	4.02	60	65	90	1	140	111-127	6.0
660	140	5.40	OGS660	27021138	32	692	5.40	8.00	0.53	3.20	4.98	45	65	80	1	160	131-147	5.3
940	145	7.50	OGS940 [3]	27021141	41	981	7.50	12.00	0.55	4.54	7.63	60	65	120	1	220	191-207	7.5
940	145	7.50	OGS940-02 [3]	27021143	41	981	7.50	12.00	0.55	4.54	7.63	60	65	120	1	200	171-187	7.5
940	145	7.50	OGS940-06 2 [3]	27022676	41	981	7.50	12.00	0.55	4.54	7.63	60	65	120	1	243	232	7.5
1,000	110	10.30	OGS1000	27020955	60	1,060	10.30	13.10	0.43	4.91	6.55	95	75	140	1	220	191-207	8.9
1,000	110	10.30	OGS1000-23 [2 3]		60	1,060	10.30	13.10	0.43	4.91	6.55	95	75	140	1	243	232	8.9
1,000	110	10.30	OGS1000-11 [7]	27020965	60	1,060	10.30	13.10	0.43	4.91	6.55	95	75	140	1	220	191-207	8.9
1,000	110	10.30	OGS1000-18 [2 7]	27022667	60	1,060	10.30	13.10	0.43	4.91	6.55	95	75	140	1	243	232	8.9
1,000	110	10.30	OGHS1000	27022884	60	1,060	10.30	13.10	0.43	4.91	6.55	95	75	140	1	220	191-207	8.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With baseplate to suit D96 box
3. With flying leads
4. With multiple voltage tappings
5. With power tappings
6. With ignitor tap suitable for use with ATIG-16
7. With ignitor tap suitable for use with ATIG-11
   Ballasts for other wattage ratings available on request.

备注：

1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带与 D96 盒匹配的底板。
3. 带飞线。
4. 带多个电压分接。
5. 带功率分接。
6. 带启辉器抽头，适合配合 ATIG-16
7. 带启辉器抽头，适合配合 ATIG-11
   可按要求提供其他额定功率。

250 V 50 Hz – OG ballasts

250 V 50 Hz – OG 镇流器

Lamp 灯具			**Ballast** 镇流器		**Electrical** 电气特性								**Thermal** 热特性	**Physical** 物理特性				
wattage 功率 W	voltage 电压 V	current 电流 mA	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电流 mA	lamp start current 灯具启动电流 mA	circuit 电路 PF cos ø	line current 线路电流 mA@0.9PF	line start current 线路启动电流 mA@0.9PF	capacitor 电容器 µF0.9PF	winding 绕组 Δt	stack 堆叠厚度 mm	figure 图	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg
High-pressure mercury vapour 高压汞蒸汽灯																		
250	130	2.13	OGB250-112	89120829	23.5	273.5	2.13	3.02	0.51	1.22	1.81	18	65	30	2	120	91-107	2.4
250	130	2.13	OGB250-05	27020817	23.5	273.5	2.13	3.02	0.51	1.22	1.81	18	65	30	1	110	81-97	2.4
250	130	2.13	OGB250-23		15.0	265.0	2.13	3.01	0.50	1.18	1.75	18	55	50	1	120	91-107	3.7
400	135	3.25	OGB400-112	89120866	31.0	431.0	3.25	4.69	0.53	1.92	2.90	25	75	40	2	130	101-117	3.1
400	135	3.25	OGB400-09	27020852	31.0	431.0	3.25	4.69	0.53	1.92	2.90	25	75	40	1	120	91-107	3.1
400	135	3.25	OGB400-30	27020882	20.5	420.5	3.25	4.69	0.52	1.87	2.83	25	60	60	1	140	111-127	4.3
700	140	5.40	OGB700-01		33.5	733.5	5.40	7.75	0.54	3.26	4.91	40	60	80	1	160	131-147	5.3
Metal halide 金属卤化物灯																		
150	100	1.80	OGS150-109	89120997	18.5	168.5	1.80	2.21	0.37	0.75	0.97	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-09	27020988	18.5	168.5	1.80	2.21	0.37	0.75	0.97	18	60	30	1	110	81-97	2.4
250	130	2.13	OGB250-112	89120829	23.5	273.5	2.13	3.02	0.51	1.22	1.81	18	65	30	2	120	91-107	2.4
250	130	2.13	OGB250-05	27020817	23.5	273.5	2.13	3.02	0.51	1.22	1.81	18	65	30	1	110	81-97	2.4
250	130	2.13	OGB250-23		15.0	265.0	2.13	3.01	0.50	1.18	1.75	18	55	50	1	120	91-107	3.7
250	100	3.00	OGS250-109	89121036	27.0	277.0	3.00	3.65	0.37	1.23	1.57	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250-04		21.0	271.0	3.00	3.67	0.36	1.20	1.55	30	60	60	1	140	111-127	4.3
400	135	3.25	OGB400-112	89120866	31.0	431.0	3.25	4.69	0.53	1.92	2.90	25	75	40	2	130	101-117	3.1
400	135	3.25	OGB400-09	27020852	31.0	431.0	3.25	4.69	0.53	1.92	2.90	25	75	40	1	120	91-107	3.1
400	135	3.25	OGB400-30	27020882	20.5	420.5	3.25	4.69	0.52	1.87	2.83	25	65	60	1	140	111-127	4.3
400	100	4.60	OGS400-112		36.0	436.0	4.60	5.53	0.38	1.94	2.45	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-09	27021078	36.5	436.5	4.60	5.59	0.38	1.94	2.48	45	75	60	1	140	111-127	4.3
400	100	4.60	OGS400-22	27022692	33.5	433.5	4.60	5.54	0.38	1.93	2.44	45	65	80	1	120	91-107	5.3
1,000	130	8.25	OGH1000-10		51.5	1,051.5	8.25	11.30	0.51	4.67	6.72	65	60	140	1	220	191-207	8.9
1,000	130	8.25	OGH1000-22[2 3]		51.5	1,052.0	8.25	11.30	0.51	4.67	6.72	65	60	140	1	243	232	8.9
High-pressure sodium vapour 高压钠蒸汽灯																		
150	100	1.80	OGS150-109	89120997	18.5	168.5	1.80	2.21	0.37	0.75	0.97	18	60	30	2	120	91-107	2.4
150	100	1.80	OGS150-09	27020988	18.5	168.5	1.80	2.21	0.37	0.75	0.97	18	60	30	1	110	81-97	2.4
250	100	3.00	OGS250-109	89121036	27.0	277.0	3.00	3.65	0.37	1.23	1.57	30	70	40	2	130	101-117	3.1
250	100	3.00	OGS250-04		21.0	271.0	3.00	3.67	0.36	1.20	1.55	30	60	60	1	140	111-127	4.3
400	100	4.60	OGS400-112		36.0	436.0	4.60	5.53	0.38	1.94	2.45	45	70	60	2	150	121-137	4.3
400	100	4.60	OGS400-09	27021078	36.5	436.5	4.60	5.59	0.38	1.94	2.48	45	75	60	1	140	111-127	4.3
400	100	4.60	OGS400-22	27022692	33.5	433.5	4.60	5.54	0.38	1.93	2.44	45	65	80	1	120	91-107	5.3
1,000	110	10.30	OGS1000-02		55.0	1,055.0	10.20	12.60	0.41	4.69	6.08	95	75	140	1	220	191-207	8.9
1,000	110	10.30	OGS1000-42[2 4]		55.0	1,055.0	10.20	12.60	0.41	4.69	6.08	95	75	140	1	220	191-207	8.9

Notes

1. Ballasts have built-in thermal cutout devices specifically for short-arc metal-halide lamps.
2. With baseplate to suit D96 box
3. With flying leads
4. With ignitor tap suitable for use with ATIG-11
   Ballasts for other wattage ratings available on request.

备注：

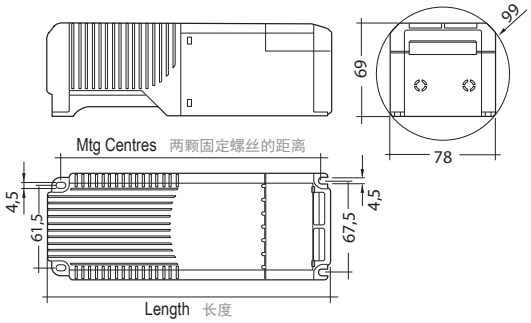
1. 镇流器内置专为金属卤化物灯而设的热断路器。
2. 带与 D96 盒匹配的底板。
3. 带飞线。
4. 带启辉器抽头，适合配合 ATIG-11
   可按要求提供其他额定功率。

OM PAK assemblies
OM PAK 组件

The CMP remote gear assembly incorporates the ballast, ignitor and capacitor in a compact housing; able to fit through 100 mm diameter ceiling openings, common for metal halide downlights. It is suitable for a range of lamps up to and including 250 W.

CMP 遥控装置组件包括镇流器、启辉器和电容器，结构紧凑；适合从直径为 100 mm 的天花板开口穿过，常用于金属卤化灯物筒灯。它适合用于功率最高达 250 W（包括 250 W）的灯具。

OM PAK A614



Features

- easy installation
- high quality moulded housing
- non-audible noise level
- ambient temperature rating up to 40°C
- power factor corrected to 0.9
- automatic resetting thermal cut-out metal halide control gear
- integral mounting facilities / cable clamps
- superimposed pulse ignitor
- screw terminals for hard-wiring applications

性能

- 安装方便
- 高品质的模块化结构
- 不可闻噪声级
- 额定环境温度最高达 40° C
- 补偿后的功率因数为 0.9
- 自动重置热断路器金属卤化物控制装置
- 整体安装设施/电缆夹
- 添加了脉冲启辉器
- 适用于硬接线应用的螺丝端子

Applications

- indoor applications – remote mounted
- Typical configurations are
- 50 W to 125 W high-pressure mercury vapour lamps
- 35 W to 150 W metal halide lamps
- 35 W to 150 W high pressure sodium vapour lamps

应用

- 室内应用– 远程安装的典型配置
- 50 W—125 W 高压汞蒸汽灯
- 35 W—150 W 金属卤化物灯
- 35 W—150 W 高压钠蒸汽灯

Optional extras include

- multi-voltage tapped ballasts
- other supply voltages available on request

- 任选附件包括
- 多电压抽头镇流器
- 可按要求提供其他电源电压

100% final testing

100% 最终测试

Standard specification key 标准规格键

OM PAK

XXX = Lamp wattage 灯具功率

- Q = For high-pressure mercury vapour lamps 用于高压汞蒸汽灯
- M = For metal halide lamps 用于金属卤化物灯
- S = For high-pressure sodium vapour lamps 用于高压钠蒸汽灯

A

- 0 = For hard-wiring 用于硬接线
- 6 = Input flex and 3-pin AUS plug, output flex and 3-pin AUS RE socket 输入 flex 和 3 引脚 AUS 插头，输出 flex 和 3 引脚 AUS RE 插座
- 7 = Input and output flex 输入和输出 flex
- 8 = Input flex and 3-pin AUS plug, output flex 输入 flex 和 3 引脚 AUS 插头，输出 flex
- 9 = Input flex and 3-pin AUS plug, output flex and D500 junction box 输入 flex 和 3 引脚 AUS 插头，输出 flex 和 D500 接线盒
- A = Input flex and 3-pin AUS plug, output flex and ST-18 socket 0.5 m 输入 flex 和 3 引脚 AUS 插头，输出 flex 和 ST-18 插座 0.5 m

- 0 = No ignitor 无启辉器
- 1 = ZRM 2.5-ES/C
- 3 = ZRM 2.5-ES/TC

- 2 = 220 V input 220 V 输入
- 3 = 230 V input 230 V 输入
- 4 = 240 V input 240 V 输入

XXXXXXXX XXXX = Input voltage and frequency 输入电压和频率

- W = With thermal cutout 带热断路器
- K = Without thermal cutout 无热断路器

OM PAK assemblies

OM PAK 组件

Lamp 灯具			**Ballast** 镇流器	**Electrical** 电气特性							**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电	lamp start current 灯具启动电	line current 线路电流	line start current 线路启动电流	max. amb. temperature 最高环境温度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量	carton 纸箱
W	V	A			W	W	A	A	A@0.9PF	A@0.9PF	℃	mm	mm	kg	qty
220 V 50 Hz															
Metal halide and High-pressure sodium vapour lamps 金属卤化物灯和高压钠蒸汽灯															
35	85	0.53	OM PAK 35 M A712 220V 50HZ W		8.0	43.0	0.53	0.65	0.22	0.28	40	210	193.0	1.4	4
220 V 60 Hz															
Metal halide and High-pressure sodium vapour lamps 金属卤化物灯和高压钠蒸汽灯															
35	85	0.53	OM PAK 35 M A712 220V 60HZ W		8.0	43.0	0.53	0.65	0.22	0.28	40	210	193.0	1.4	4
70	90	1.00	OM PAK 70 M A712 220V 60HZ K		13.0	83.0	1.00	1.45	0.42	0.64	40	210	193.0	1.8	4
150	100	1.80	OM PAK 150 M A712 220V 60HZ W		20.5	170.5	1.80	2.26	0.86	1.14	40	260	243.5	2.6	3
230 V 50 Hz															
Metal halide and High-pressure sodium vapour lamps 金属卤化物灯和高压钠蒸汽灯															
150	100	1.80	OM PAK 150 M A713 230V 50HZ W		21.5	171.5	1.80	2.39	0.83	1.16	40	260	243.5	2.6	3
240 V 50 Hz															
High-pressure sodium vapour lamps 高压钠蒸汽灯															
50	95	0.61	OM PAK 50 Q A604 240V 50HZ K		9.0	59.0	0.61	0.76	0.27	0.36	40	210	193.0	1.4	4
80	115	0.80	OM PAK 80 Q A604 240V 50HZ K		13.5	93.5	0.80	1.33	0.43	0.76	40	210	193.0	1.4	4
125	125	1.15	OM PAK 125 Q A604 240V 50HZ K		15.5	140.5	1.15	1.90	0.65	1.13	40	210	193.0	1.8	4
250	130	2.13	OM PAK 250 Q A604 240V 50HZ K		24.5	274.5	2.13	3.60	1.27	2.26	40	260	243.5	2.6	3
Metal-halide lamps 金属卤化物灯															
100	100	1.10	OM PAK 100 M A614 240V 50HZ W	89002914	14.0	114.0	1.10	1.40	0.53	0.71	40	210	193.0	1.8	4
100	100	1.10	OM PAK 100 M A634 240V 50HZ W	89003613	14.0	114.0	1.10	1.40	0.53	0.71	40	210	193.0	1.8	4
Metal-halide lamps 金属卤化物灯															
35	85	0.53	OM PAK 35 M A014 240V 50HZ K	89003610	9.0	44.0	0.53	0.60	0.20	0.24	40	210	193.0	1.4	4
35	85	0.53	OM PAK 35 M A614 240V 50HZ W	89002912	9.0	44.0	0.53	0.60	0.20	0.24	40	210	193.0	1.4	4
35	85	0.53	OM PAK 35 M A634 240V 50HZ W	89003309	9.0	44.0	0.53	0.60	0.20	0.24	40	210	193.0	1.4	4
35	85	0.53	OM PAK 35 M AA34 240V 50HZ W	89003651	9.0	44.0	0.53	0.60	0.20	0.24	40	210	193.0	1.4	4
70	90	1.00	OM PAK 70 M A014 240V 50HZ K [1]	89003484	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.5	4
70	90	1.00	OM PAK 70 M A014 240V 50HZ W [1]	89002860	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.5	4
70	90	1.00	OM PAK 70 M A034 240V 50HZ W [1]	89002910	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.5	4
70	90	1.00	OM PAK 70 M A614 240V 50HZ W [1]	89002862	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.8	4
70	90	1.00	OM PAK 70 M A634 240V 50HZ W [1]	89002913	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.8	4
70	90	1.00	OM PAK 70 M AA34 240V 50HZ W [1]	89003652	16.0	86.0	1.00	1.22	0.40	0.51	40	210	193.0	1.8	4
150	100	1.80	OM PAK 150 M A014 240V 50HZ K	89003485	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.3	4
150	100	1.80	OM PAK 150 M A014 240V 50HZ W	89002861	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.3	4
150	100	1.80	OM PAK 150 M A034 240V 50HZ W	89002911	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.3	4
150	100	1.80	OM PAK 150 M A604 240V 50HZ W		22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.6	3
150	100	1.80	OM PAK 150 M A614 240V 50HZ W	89002863	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.6	3
150	100	1.80	OM PAK 150 M A634 240V 50HZ W	89002915	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.6	3
150	100	1.80	OM PAK 150 M AA34 240V 50HZ W	89003653	22.5	172.5	1.80	2.35	0.80	1.09	40	260	243.5	2.6	3

Notes

Control gear for other voltage, frequency and wattage ratings available on request.

1. Double-ended high-pressure sodium vapour lamps with ignition voltage 4.0–5.0 kV

备注：

控制装置可按要求提供其他额定电压、频率和功率。

1. 启辉电压在 4.0—5.0 kV 之间的双端高压钠蒸汽灯。

Gear tray assemblies
安装架组件

Standard gear tray assemblies are available to suit a large range of lamps.The smaller gear tray is also designed to fit the standard D430 enclosure.

Features
- zinc sealed steel
- folded sides for mechanical strength and to provide
- clearances for component fasteners, such as nuts,
- screws and rivets (stand-off height—12 mm) provision for two position mounting

Applications
- switchboard type cubicles base of light poles for street or sports lighting

Typical configurations are
- 80 W to 1,000 W high-pressure mercury vapour lamps
- 70 W to 2,000 W metal halide lamps
- 70 W to 1,000 W high-pressure sodium vapour lamps

Optional extras include
- HRC fuses
- blocking inductors
- ignitors—subject to mounting distance from lamp
- multi-voltage tapped ballasts

100% final testing

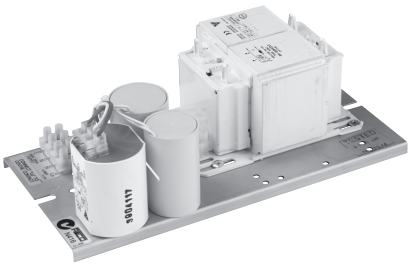
提供标准安装架组件以适合各种灯具的需要。还设计了较小的安装架以安装标准 D430 外壳。

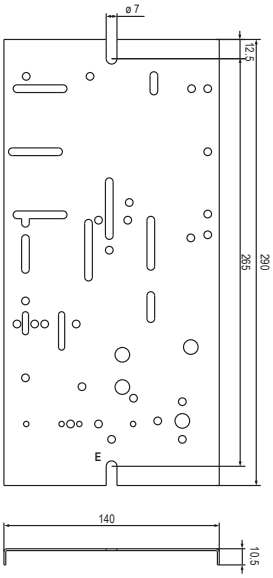
性能
- 锌密封钢
- 折叠面，可提高机械强度并
- 与螺母、螺钉、铆钉等组件紧固件
- 保持一定的间隙
- （相距高度—12 mm）
- 提供两个安装位置

应用
- 箱柜式配电盘
- 适于街道或体育场照明的灯杆底座

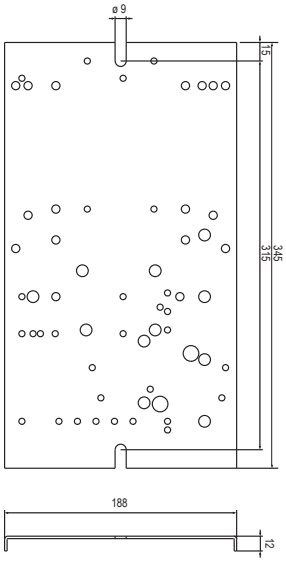
典型配置
- 80 W—1,000 W 高压汞蒸汽灯
- 70 W—2,000 W 金属卤化物灯
- 70 W—1,000 W 高压钠蒸汽灯
- 任选附件包括
- HRC 保险丝
- 屏蔽电感器
- 启辉器—受到与灯具的装配距离的制约
- 多电压抽头镇流器

100% 最终测试





Gear tray to fit D430 box
适于安装 D430 盒的安装架



Gear tray for other applications
适于其他应用的安装架

Gear tray assemblies
安装架组件

Lamp 灯具		**Ballast** 镇流器			**Electrical** 电气特性						**Thermal** 热特性	**Physical** 物理特性			
wattage 功率	voltage 电压	current 电流	type 类型	article number 商品号	loss hot 热损失	input power 输入功率	lamp current 灯具电	lamp start current 灯具启动电	line current 线路电流	line start current 线路启动电流	max. amb. temperature 最高环境温度	length 长度	mtg centres 两颗固定螺丝的距离	weight 重量	carton 纸箱
W	V	A			W	W	A	A	A@0.9PF	A@0.9PF	°C	mm	mm	kg	qty
240 V 50 Hz															
High-pressure mercury vapour lamps 高压汞蒸汽灯															
80	115	0.80	MV80GT		9.5	89.5	0.80	1.11	0.414	0.604	40	290	265	2.0	1
125	125	0.53	MV125GT		12.0	137.0	1.15	1.66	0.634	0.961	40	290	265	2.0	1
250	130	2.13	MV250GT		21.0	271.0	2.13	3.10	1.250	1.920	40	290	265	3.0	1
400	135	3.25	MV400GT-2	89120752	29.0	429.0	3.25	5.00	1.990	3.210	40	290	265	4.0	1
Metal-halide lamps 金属卤化物灯															
175	130	1.50	MH175GT		16.0	191.0	1.50	2.29	0.884	1.420	40	290	265	3.0	1
250	130	2.13	MH250GT		21.0	271.0	2.13	3.10	1.250	1.920	40	290	265	3.5	1
400	135	3.25	MH400GT	89120726	29.0	429.0	3.25	5.00	1.990	3.210	40	290	265	4.0	1
1,000	130	8.25	MH1000GT-01	89120704	53.0	1,053.0	8.25	12.10	4.880	7.510	40	345	315	9.0	1
1,000	120	9.50	MH1000AGT-02	89121928	64.0	1,064.0	9.50	13.00	4.930	7.080	40	345	315	10.0	1
1,000	265	4.20	CWMH1000GT	89120217	79.0	1,079.0	4.20	5.82	4.700	2.100	40	345	315	13.5	1
1,500	500	3.30	CWBL1500GT	89120139	120.0	1,620.0	3.30	5.00	6.800	3.000	40	345	315	20.5	1
2,000	135	16.50	MH2000LGT	89120431	77.0	2,077.0	16.50	25.10	9.620	15.400	40	345	315	17.5	1
High-pressure sodium vapour lamps 高压钠蒸汽灯															
70	90	1.00	HS70AGT		14.0	84.0	1.00	1.16	0.389	0.474	40	290	265	2.5	1
150	100	1.80	HS150GT		18.0	168.0	1.80	2.20	0.778	1.000	40	290	265	3.5	1
250	100	3.00	HS250GT		26.0	276.0	3.00	3.90	1.280	1.740	40	290	265	4.0	1
400	100	4.60	HS400GT		37.0	437.0	4.60	6.10	2.020	2.820	40	290	265	5.5	1
1,000	110	10.30	HS1000GT-01	89120557	60.0	1,060.0	10.30	13.10	4.910	6.550	40	345	315	10.0	1
1,000	250	4.70	CWHS1000GT-2	89120168	92.0	1,092.0	4.70	6.80	4.640	3.000	40	345	315	20.5	1
415 V 50 Hz															
Metal-halide lamps 金属卤化物灯															
1,000	265	4.20	CWMH1000GT-4	89120222	79.0	1,079.0	4.20	5.82	4.700	2.100	40	345	315	14.0	1
1,500	500	3.30	CWBL1500GT-4-01	89120143	120.0	1,620.0	3.30	5.00	6.800	3.000	40	345	315	20.5	1
2,000	205	11.30	MH2000DGT-01 400/415/430V 50Hz	89120406	98.0	2,048.0	11.30	14.60	5.480	7.440	40	345	315	17.5	1
2,000	230	10.30	MH2000DGT-01 400/415/430V 50Hz	89120406	85.0	2,085.0	10.30	14.60	5.580	8.310	40	345	315	17.5	1
2,000	245	8.80	MH2000GT	89120424	80.0	2,080.0	8.80	13.50	5.570	9.000	40	345	315	16.5	1
High-pressure sodium vapour lamps 高压钠蒸汽灯															
1,000	250	4.70	CWHS1000GT-4-SP1	89120173	95.0	2,045.0	4.70	6.80	2.700	1.600	40	345	315	21.0	1

Notes

Control gear for other voltage, frequency and wattage ratings available on request.

备注：

控制装置可按要求提供其他额定电压、频率和功率。

Components 组件

Type 类型	**Article Number** 文章编号
GT (D430n)	9000210
GT (D/50)	9000250
GT	9010482

D430 weatherproof assemblies
D430 防水组件

The D430 cast aluminium box is a heavy duty IP65 rated enclosure intended for either wall or pole mounting. The box has provision for 2 x 20 mm conduit entries.

Features
- cast aluminium alloy 401
- mounting strap - aluminium alloy 6063 or similar.
- weatherproof seal - neoprene rubber gasket
- tamperproof stainless steel allen key screw lid fastener
- deep lid providing easy access to the control gear for quick connection and troubleshooting

Applications
- primarily used to house lighting control gear but is also suitable for transformers, swimming pool controls, alarms, contactors, thermostats and the like

Typical configurations are
- 80 W to 400 W high-pressure mercury vapour lamps
- 70 W to 400 W metal halide lamps
- 70 W to 400 W high-pressure sodium vapour lamps

In some instances an economical solution can be offered by using the D430 enclosure to accommodate two complete sets of control gear, bearing in mind there are thermal limitations depending on lamp wattage.

Optional extras include
- HRC fuses
- blocking inductors
- ignitors - subject to mounting distance from lamp
- multi-voltage tapped ballasts

100% final testing

D430 铸铝盒是一个符合 IP65 等级的重型外壳，适用于壁式或杆式安装。该盒提供 2 x 20 mm 导管引入装置。

性能
- 铸铝合金 401
- 安装带—铝合金 6063 或类似产品。
- 防水密封—氯丁橡胶垫
- 防盗不锈钢六角匙螺旋盖紧固件
- 深盖，便于访问控制装置快速连接和故障排除

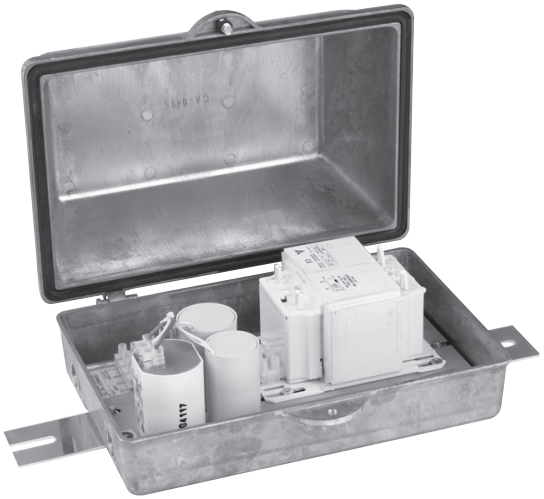
应用
- 主要用于房屋照明控制装置，但也适用于变压器、游泳池控制装置、警报器、接触器、恒温器等

典型配置
- 80 W—400 W 高压汞蒸汽灯
- 70 W—400 W 金属卤化物灯
- 70 W—400 W 高压钠蒸汽灯

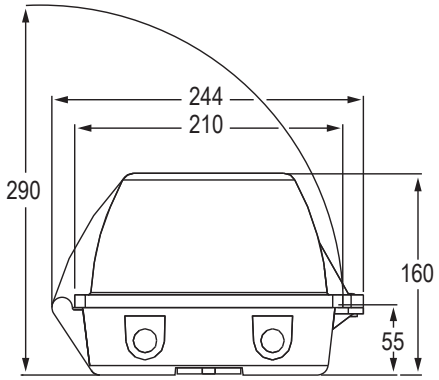
在某些情况下，可通过使用 D430 外壳来适应两套完整的控制装置的需要，提供经济的解决方案，但要牢记取决于灯具功率的热限制。

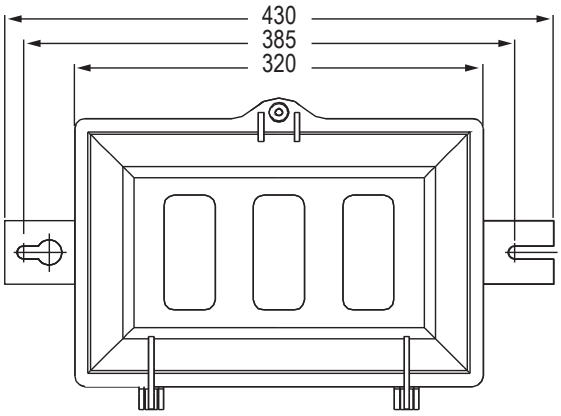
任选附件包括
- HRC 保险丝
- 屏蔽电感器
- 启辉器—受到与灯具的装配距离的制约
- 多电压抽头镇流器

100% 最终测试



D430 weatherproof (IP65) enclosure
D430 防水（IP65）外壳





D430 weatherproof assemblies

D430 防水组件

Lamp 灯具			**Ballast** 镇流器	**Electrical** 电气特性							**Thermal** 热特性	**Physical** 物理特性			
wattage 功率 W	voltage 电压 V	current 电流 A	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电 A	lamp start current 灯具启动电 A	line current 线路电流 A@0.9PF	line start current 线路启动电流 A@0.9PF	max. amb. Temperature 最高环境温度 °C	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg	carton 纸箱 qty
240 V 50 Hz															
High-pressure mercury vapour lamps 高压汞蒸汽灯															
80	115	0.80	MV80D430		9.5	89.5	0.80	1.11	0.414	0.604	40	430	385	3.5	1
125	125	0.53	MV125D430		12.0	137.0	1.15	1.66	0.634	0.961	40	430	385	3.5	1
250	130	2.13	MV250D430		21.0	271.0	2.13	3.10	1.250	1.920	40	430	385	4.5	1
400	135	3.25	MV400D430		29.0	429.0	3.25	5.00	1.990	3.210	40	430	385	5.5	1
Metal-halide lamps 金属卤化物灯															
175	130	1.50	MH175D430		16.0	191.0	1.50	2.29	0.884	1.420	40	430	385	4.5	1
250	130	2.13	MH250D430		21.0	271.0	2.13	3.10	1.250	1.920	40	430	385	5.0	1
400	135	3.25	MH400D430		29.0	429.0	3.25	5.00	1.990	3.210	40	430	385	5.5	1
High-pressure sodium vapour lamps 高压钠蒸汽灯															
70	90	1.00	HS70AD430		14.0	84.0	1.00	1.16	0.389	0.474	40	430	385	4.0	1
150	100	1.80	HS150D430		18.0	168.0	1.80	2.20	0.778	1.000	40	430	385	5.0	1
250	100	3.00	HS250D430		26.0	276.0	3.00	3.90	1.280	1.740	40	430	385	5.5	1
400	100	4.60	HS400D430	89120577	37.0	437.0	4.60	6.10	2.020	2.820	40	430	385	7.0	1

Notes

Control gear for other voltage, frequency and wattage ratings available on request.

备注：

控制装置可按要求提供其他额定电压、频率和功率。

Components 组件

Type 类型	**Article Number** 文章编号
D430GTn	8900 3605
D430n	900 9939
GT (D430n)	9000210

D96 weatherproof assemblies
D96 防水组件

The D96 cast aluminium box is a heavy duty IP65 rated enclosure designed and developed in Australia for harsh environmental conditions. It is intended for either wall or pole mounting and has provision for 3 x 20 mm conduit entries. The clever compartmental design allows the operation of two 1,000 W control gear in a single enclosure at high ambient temperatures.

Features
- die-cast aluminium alloy
- mounting strap - aluminium alloy 6063 or similar
- weatherproof seal - neoprene rubber gasket
- tamperproof stainless steel allen key screw lid fastener
- deep lid providing easy access to the control gear for quick connection and troubleshooting

Typical configurations are
- 400 W to 1,000 W high-pressure mercury vapour lamps
- 400 W to 2,000 W metal halide lamps
- 400 W to 1,000 W high-pressure sodium vapour lamps

Twin control gear configurations are also available in the one D96 enclosure offering an economical solution for floodlighting applications.

Optional extras include
- HRC fuses
- blocking inductors
- ignitors - subject to mounting distance from lamp
- multi-voltage tapped ballasts
- step dimming (bi-level switching)

100% final testing

D96 铸铝盒是一个符合 IP65 等级的重型外壳，乃针对澳大利亚的恶劣环境条件而专门设计开发。它适用于壁式或杆式安装，并提供 3 x 20 mm 导管引入装置。它采用巧妙的隔间设计，在较高的环境温度下，可在单个外壳中操作两个 1,000 W 的 控制装置。

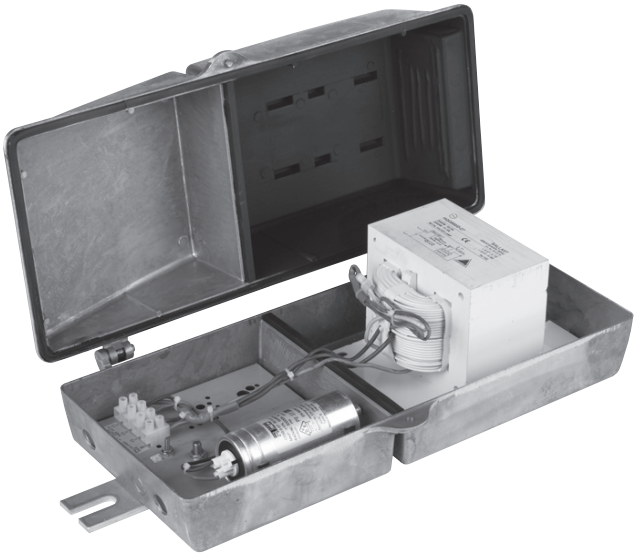
性能
- 压铸铝合金
- 安装带—铝合金 6063 或类似产品
- 防水密封—氯丁橡胶垫
- 防盗不锈钢六角匙螺旋盖紧固件
- 深盖，便于访问控制装置快速进行连接和故障排除

典型配置
- 400 W—1,000 W 高压汞蒸汽灯
- 400 W—2,000 W 金属卤化物灯
- 400 W—1,000 W 高压钠蒸汽灯

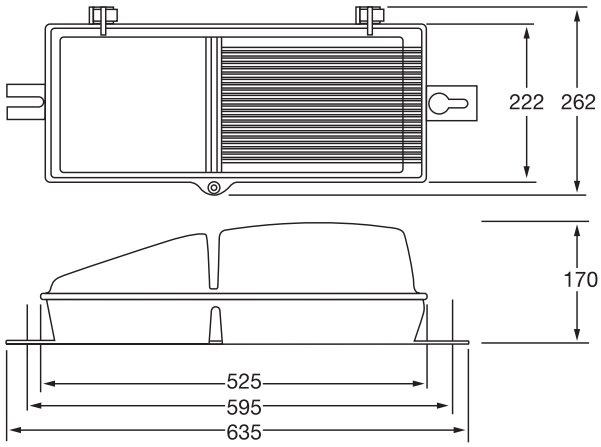
D96 外壳还提供了双控制装置配置，可为泛光照明应用提供经济的解决方案。

任选附件包括
- HRC 保险丝
- 屏蔽电感器
- 启辉器—受到与灯具的装配距离的制约
- 多电压抽头镇流器
- 分级调光（双级切换）

100% 最终测试



D96 weatherproof (IP65) enclosure
D96 防水 (IP65) 外壳



D96 weatherproof assemblies

Lamp 灯具			Ballast 镇流器	Electrical 电气特性							Thermal 热特性	Physical 物理特性			
wattage 功率 W	voltage 电压 V	current 电流 A	type 类型	article number 商品号	loss hot 热损失 W	input power 输入功率 W	lamp current 灯具电 A	lamp start current 灯具启动电 A	line current 线路电流 A@0.9PF	line start current 线路启动电流 A@0.9PF	max. amb. temperature 最高环境温度 ℃	length 长度 mm	mtg centres 两颗固定螺丝的距离 mm	weight 重量 kg	carton 纸箱 qty
220 V 60 Hz															
Metal halide lamps 金属卤化物灯															
1,000	120	9.50	MH1000AD96-11	89120668	60	1,060	9.50	13.20	4.91	7.16	45	635	595	14.5	1
240 V 50 Hz															
Metal halide lamps 金属卤化物灯															
400	135	3.25	MH400D96	89122879	29	429	3.25	5.00	1.99	3.21	45	635	595	9.5	1
400	135	3.25	MH2X400D96		58	858	6.50	10.00	3.97	6.42	45	635	595	12.5	1
400	135	3.25	CWMH400D96		58	458	3.25	3.73	2.00	0.80	45	635	595	13.5	1
1,000	130	8.25	MH1000D96	89120694	53	1,053	8.25	12.10	4.88	7.51	45	635	595	14.5	1
1,000	120	9.50	MH1000AD96-12	89120689	64	1,064	9.50	13.00	4.93	7.08	45	635	595	15.5	1
1,000	75	15.00	CSI1000D96	89120378	90	1,090	15.00	16.80	4.90	5.90	40	635	595	22.5	1
1,000	265	4.20	CWMH1000D96	89120212	79	1,079	4.20	5.82	4.70	2.10	40	635	595	19.0	1
1,500	265	6.30	CWMH1500D96	89120232	136	1,636	6.30	8.80	7.10	4.50	35	635	595	27.0	1
2,000	135	16.50	MH2000LD96-05	89120430	77	2,077	16.50	25.10	9.62	15.40	40	635	595	23.0	1
High-pressure sodium vapour lamps 高压钠蒸汽灯															
400	100	4.60	HS2X400D96		74	874	9.20	12.20	4.05	5.63	45	635	595	15.5	1
400	100	4.60	CWHS400D96		70	470	4.60	5.60	2.04	1.15	40	635	595	16.5	1
600	110	6.20	HS2X600D96		90	1,290	12.40	16.00	5.97	8.09	40	635	595	18.0	1
1,000	110	10.30	HS1000D96	89120547	60	1,060	10.30	13.10	4.91	6.55	45	635	595	15.5	1
1,000	110	10.30	HS2X1000D96		120	2,120	20.60	26.20	9.81	13.11	40	635	595	25.5	1
1,000	250	4.70	CWHS1000D96	89120161	92	1,092	4.70	6.80	4.64	3.00	40	635	595	26.0	1
380 V 60 Hz															
Metal halide lamps 金属卤化物灯															
2,000	205	11.30	MH2000DD96-15	89121675	90	2,040	11.30	15.80	5.46	8.02	40	635	595	23.0	1
2,000	230	10.30	MH2000DD96-15	89121675	78	2,078	10.30	15.80	5.56	8.96	40	635	595	23.0	1
415 V 50 Hz															
Metal halide lamps 金属卤化物灯															
400	135	3.25	CWMH400D96-4		63	463	3.25	3.73	1.16	0.50	45	635	595	14.5	1
1,000	265	4.20	CWMH1000D96-4	89120216	79	1,079	4.20	5.82	4.70	2.10	40	635	595	19.5	1
1,500	265	6.30	CWMH1500D96-01	89120233	136	1,636	6.30	8.80	7.10	4.50	35	635	595	27.0	1
1,500	500	3.30	CWBL1500D96-04	89120135	120	1,620	3.30	5.00	6.80	3.00	35	635	595	26.0	1
2,000	205	11.30	MH2000DD96-06	89120398	98	2,048	11.30	14.60	5.48	7.44	40	635	595	23.0	1
2,000	230	10.30	MH2000DD96-06	89120398	85	2,085	10.30	14.60	5.58	8.31	40	635	595	23.0	1
2,000	235	9.60	MH2000D96-12	89121809	78	2,078	9.60	14.30	5.56	8.70	40	635	595	23.5	1
2,000	245	8.80	MH2000D96	89120385	80	2,080	8.80	13.50	5.57	9.00	40	635	595	22.0	1
High-pressure sodium vapour lamps 高压钠蒸汽灯															
1,000	250	4.70	CWHS1000D96-4		95	2,045	4.70	6.80	2.70	1.60	40	635	595	26.5	1

Notes

Control gear for other voltage, frequency and wattage ratings available on request.

备注：

控制装置可按要求提供其他额定电压、频率和功率。

Components 组件

Type 类型	**Article Number** 文章编号
D96GT	89110019
D96	89120091
GT (D96t)	9000073
GT (D96b)	69

Ignitors and Accessories 点火器和配件

page 页码

Ignitors
点火器

Reliable ignition under any condition

Whether in industry or in sports- or shop lighting, high intensity discharge lamps are ignited safely and reliably since 1967 with the ignitors from BAG electronics. With more than 40 years experience in the development and production of ignitors the range of BAG igniter ensures always reliable lamp ignition gentle, guaranteeing always good lighting.

在任何情况下的可靠点火

无论是在工业还是在体育或商店照明，高强度气体放电灯是自 1967 年与从 BAG 电子点火器点燃了安全、 可靠。具有 40 年以上开发经验，生产的点火器 BAG 系列点火器确保总是可靠灯点燃温柔，保证总是良好的照明。

Applications

Industry. Ideal for outdoor storage and security-related areas in industrial complexes – highbay and flood lighting applications.

Outdoor. Optimum safety for streets (street lighting), public places (sports lighting) and safety-related areas.

Shop. High reliability and high temperature applications possible.

应用程序

行业。露天存放和与安全有关的领域，在工业园区 — 工矿灯和洪水照明应用的理想选择。

室外。最佳安全街道（街道照明）、 公共场所 （体育照明）和与安全有关的领域。

商店。高可靠性和高温应用的可能。

Features

- Insensitive to overvoltages
- High ambient temperature applications possible
- Very high reliability in conjunction with magnetic ballasts
- Low maintenance costs

功能

- 对过电压不敏感
- 盛暑高温应用的可能
- 非常高的可靠性，结合电感镇流器
- 维护成本低

Ignition pulses

To ignite a high-pressure discharge lamp, it is necessary to provide the lamp with a defined ignition voltage to ionise the discharge path. The level of the ignition voltage required depends on the type of lamp used.

High-pressure mercury vapour lamps (HM) need no more than mains voltage, but high-pressure sodium vapour (HS) and metal halide lamps (HI) usually need much higher voltage impulses to be superimposed to the lamps' open circuit voltage, and this voltage impulse is generated by the use of ignitors.

The crucial points in the successful ignition of a lamp are the peak value and the width, number and phase position of the ignition impulses. The ignition voltages of normal high-pressure discharge lamps lie in the range between 1 kV and 5 kV.

点火脉冲

要点燃高压放电灯，就要提供定义的点火电压必须离子化放电路径的那盏灯。所需的点火电压的水平取决于灯具中使用的类型。

高压汞蒸气灯（HM） 需要不超过电源电压，但高压钠蒸汽 （HS） 和金属卤化物灯 （HI） 通常需要多高的电压冲动要叠加到灯的开路电压，并且将此电压脉冲点火器利用生成。

中的一盏灯点火成功的关键点是点火冲动的高峰值和宽度、 数量及其相位阵地。正常的高压气体放电灯的点火电压躺在范围之间 1 千伏和 5 千伏。

MZN 1000/2000

Description

- Superimposed igniter for metal halide (HI) and high-pressure sodium vapour (HS) lamps
- Designed for long distances (up to 24 m) for a supply line capacity of 85 pF
- Not suitable for HQI-NDL/WDL or HS-S-lamps (Super, Deluxe, Plus, Comfort)

Lamps

HS:
- HS 400 W
- HS 1000 W

HI:
- HI 400 W
- HI 1000 W

描述

- 高压钠蒸气（HS）灯，金属卤化物（HI）叠加的点火器
- 用于长 85 pF 供应线路容量的距离（达 24 米）
- 不适合 HQI-NDL/WDL 或房协 S 灯 (超级，豪华房，再加上，舒适）

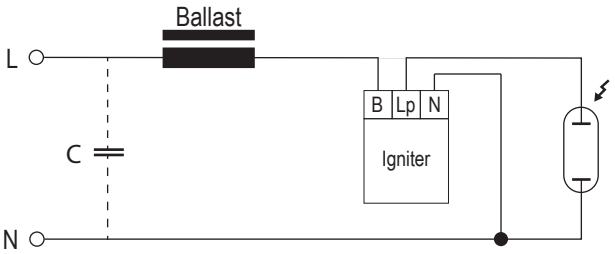
灯

HS:
- HS 400 W
- HS 1000 W

HI:
- HI 400 W
- HI 1000 W

Technical Data
技术数据

Approved mains voltage 核准的电源电压	V	198 (207) ... 264
Approved mains frequency 核准的电源频率	Hz	50 (60)
Max. continuous lamp current 当前的最大连续灯	A	10.3
Connecting terminals 接线端子	mm^2	4
Response / cut-out voltage 响应 / 切出电压	V	≤198 (207) / ≥170
Ignition voltage 点火电压	kV	3.0 ... 5.0
Timer ignition time 计时器点火时间	s	–
Phase position 阶段位置	°el	50 ... 90
Pulses per cycle 每个周期的脉冲	–	≥1
Approved load capacity 核准的承载能力	pF	750 ... 2000
Internal losses at 25°C ambient temperature 内部损失在 25 ° C 环境温度	W	<6 (10.3 A) <2 (4.6 A)
Rise in temperature at 25°C ambient temperature 温度在 25 ° C 环境温度上升	K	<30 (10.3 A) <6 (4.6 A)
Max. housing temperature t_c 最大值。房屋温度	°C	95
Approved ambient temperature t_a 经核准的环境温度	°C	-30 ... + 60 (10.3 A) -30 ... + 85 (4.6 A)
Weight 重量	kg	0.35



NP 603

Description

- Pulse igniter for metal halide lamps (HI) with low ignition voltages
- For application in combination with ballasts for high-pressure mercury lamps (HM)

Lamps

HI
- HPI Plus 250 (Philips)
- HPI Plus 400 (Philips)
- HPI Plus 1000 (Philips)
- HQI 250 W/N/SI (Osram)
- HQI 400 W/N/SI (Osram)

描述

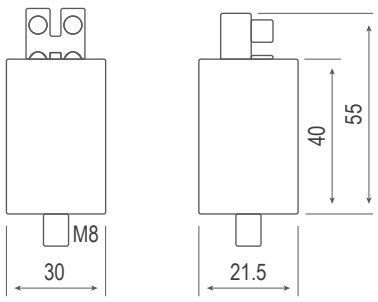
- 脉冲点火器金属卤化物灯 （HI） 与低点火电压
- 为在结合高压汞灯 （HM） 镇流器中的应用

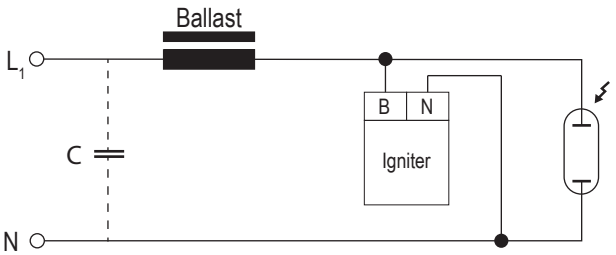
灯

HI
- HPI Plus 250 (Philips)
- HPI Plus 400 (Philips)
- HPI Plus 1000 (Philips)
- HQI 250 W/N/SI (Osram)
- HQI 400 W/N/SI (Osram)

Technical Data
技术数据

Approved mains voltage 核准的电源电压	V	198 ... 264
Approved mains frequency 核准的电源频率	Hz	50/60
Max. continuous lamp current 当前的最大连续灯	A	–
Connecting terminals 接线端子	mm^2	2.5
Response / cut-out voltage 响应 / 切出电压	V	≤198 / ≥160
Ignition voltage 点火电压	kV	0.7 ... 1.0
Timer ignition time 计时器点火时间	s	–
Phase position 阶段位置	°el	60 ... 90
Pulses per cycle 每个周期的脉冲	–	≥1
Approved load capacity 核准的承载能力	pF	20 ... 1000
Internal losses at 25°C ambient temperature 内部损失在 25 ° C 环境温度	W	<1
Rise in temperature at 25°C ambient temperature 温度在 25 ° C 环境温度上升	K	<20
Max. housing temperature t_c 最大值。房屋温度	°C	105
Approved ambient temperature t_a 经核准的环境温度	°C	-30 ... + 85
Weight 重量	kg	0.045





Accessories
配件

Lamp reignition monitor

All HID lamps, in particular, high-pressure mercury vapour and metal halide lamps, require long ignition times following power interruption. Furthermore, it takes some time until they produce their full light output.

There are applications where it is extremely important to have some degree of illumination immediately after the power is applied, and this is where an incandescent lamp installed in the same HID luminaire can be switched on by a change-over light switch, while the HID lamp is running up to full light output.

When power is applied (or reapplied in the case of a power interruption), the incandescent lamp switches on immediately. The change-over light switch senses the voltage drop across the ballast; the incandescent lamp will remain on until the HID lamp runs up to 70–80% of the nominal light output.

If the HID lamp fails to ignite for whatever reason, the changeover switch will keep the incandescent lamp on indefinitely.

灯重燃监视器

所有的 HID 灯，特别是高压汞蒸气和金属卤化物灯，需要长时间点火时间后供电中断。此外，它需要一些时间，直到他们产生完整的光输出。

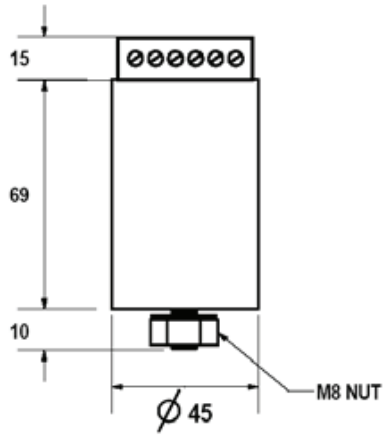
有应用程序在哪里它是极为重要的是要有一定程度的照明之后，立即通电，这是在哪里安装在相同的 HID 灯具白炽灯可接通由转换开关的电灯开关，HID 灯达运行时的完整光输出。

当电源应用 （或重新应用在电源中断的情况下） 时，白炽灯立即接通。转换开关光镇流器 ； 跨感官的电压降白炽灯将继续直到 HID 灯运行达 70-80%的名义上的光输出。

如果 HID 灯未能点燃不管出于什么原因，转换开关将无限期地保持白炽灯。

Lamp reignition monitor LRM 1000 S

灯重燃监视器 LRM 1000 S



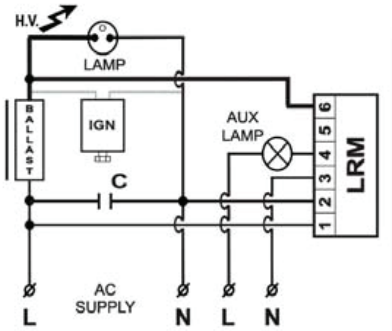
The LRM 1000 S is an electronic changeover light switch for constant wattage or impulser- type ignitor circuits. It is also recommended for circuits using HID lamps with an in-built ignitor.

LRM 1000 S 是恒定功率或脉冲发生器型点火器电路电子转换光开关。它还建议用在建的点火器的 HID 灯的电路。

Type 类型		LRM 1000 S
Article number 文章编号		89003657
Line voltage 线路电压	V	220–240 (380–415 V if neutral connection is available) 220-240 (380-415 V 中性点连接是否可用)
Mains frequency 电源频率	Hz	50
Maximum HID lamp voltage 最大的 HID 灯电压	V	160
Maximum ignitor peak voltage 最大的点火器峰值电压	kV	5
Auxiliary lamp wattage 辅助灯功率	W	5-1000 (4 A 250 V)
Max. ambient temperature 最高环境温度	C	90

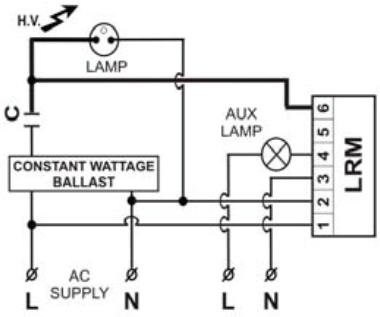
A) Impulser-type ignitor circuit or lamps with an in-built ignitor (single- phase)

A） 脉冲发生器类型点火电路或灯与在建的点火器 （单相）



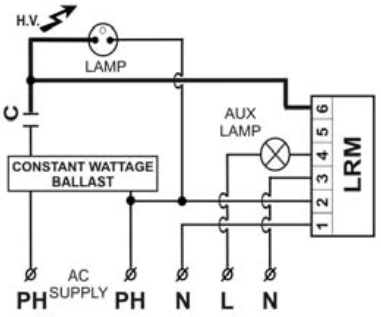
B) Constant wattage type circuit (single person)

B） 恒功率型电路 (单身人士)



C) Constant wattage type circuit (3 phase)

C） 恒功率型电路 (3 阶段)



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Capacitors
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Power factor

For a pure resistive load in an electrical circuit, the voltage (V) and current (I) are in phase with each other and the overall power factor (cos ø) has a value of unity. It can also be said that the average power (P) of the resistive circuit is equal to the apparent power (S), ie. P = V x I.

However, in a pure reactive electrical circuit, there is no resistive component, the voltage and current are 90° out of phase, ie. cos ø = 0.

Electrical circuits containing a combination of both resistive and reactive elements display both average power and apparent power components.

Power factor is therefore the ratio by which the apparent power is multiplied in order to obtain the average power actually being consumed in the circuit, ie. P = V x I x cos.

For example, a power factor of 0.5 indicates that the circuit has a reactive component having a phase angle of +60° or -60°.

In common practice most loads are inductive and therefore the current lags the voltage (lagging power factor), whereas a typical capacitive load has a leading power factor.

The major causes of low power factor in a circuit are lightly loaded electric motor and discharge lamp circuits in which the inductance of the control equipment, such as ballasts, results in a power factor usually in the range of 0.3 to 0.5.

When a capacitor is connected across an inductive load, it cancels the lagging effect of the inductance, increasing the power factor closer to unity.

功率因数

对于电路中的纯电阻负载，电压(V) 与电流 (I) 同相，且总功率因数 (cosΦ) 有一个统一的值。也可以说，电阻电路的平均功率 (P) 等于视在功率 (S)，即P = V x I。

但是，在纯反馈电路中，没有阻性分量，电压与电路之间相位差为 90°，即 cos Φ = 0。

包含阻性元件和反馈元件的组合的电路显示平均功率和视在功率两个分量。

因此，功率因数是与视在功率相乘的比例，以获得电路中实际消耗的平均功率，即 P = V x I x cos.

例如，功率因数 0.5 表示电路中阻性分量的相位角为 +60° 或-60°。

在常见的实践中，大多数负载都是感应负载，因此电流滞后于电压（滞后功率因数），而典型的电容性负载则有一个超前功率因数。

在电路中，导致功率因数较低的主要原因是电机和放电灯电路负载较轻，在这种情况下，控制设备（例如镇流器）的电感导致功率因数通常在 0.3 到 0.5 之间。

当电容器通过电感负载时，电容器会抵消电感的滞后效应，增大功率因数使其更接近于统一值。

Fluorescent and HID lamp circuits

Fluorescent and HID lamp circuits have an inherent low power factor (around 0.4 to 0.5), due to the control gear inductance. The inductance is in the circuit limit the current through the lamp, however, in lighting installations where many lamps are used, high input current increases the cost of mains reticulation.

Raising the power factor by means of the inclusion of a capacitor (opposite effect to an inductor) substantially reduces the current drawn from the mains, giving improvement in the reticulation efficiency, which in turn enables a reduction in copper wire size and transformer sizes (the generating equipment).

Most power distribution authorities have a requirement of high power factor (HPF) for lighting installations of generally 0.85 to 0.95 minimum.

A typical discharge lighting circuit without power factor correction, eg. 400 W high-pressure sodium, has a power factor of approximately 0.4. Figure 1 shows the relationship of current and voltage in this application.

This power factor characteristic can be corrected to approximately 0.9 by adding a capacitor (leading) to the lagging line current to cancel the phase shift. Figure 2 illustrates this.

In common application therefore, by connecting a capacitor into the lighting circuit, the power factor can be improved to the values normally prescribed by the Regulatory Authorities so that practically inductance free operation results.

日光灯和 HID 灯电路

由于控制装置的电感作用，日光灯和 HID 灯电路固有的功率因数较低（在 0.4 到 0.5 之间）。电路中的电感可限制通过灯具的电流，然而，在使用了大量灯具的照明设备中，较大的输入电流会增加电源网的成本。

通过引入电容（与电感的作用相反）的方式提高功率因数能够大大降低电源输出的电流，提高电源网的效率，反过来又能够减小铜线大小和变压器大小（发电设备）。

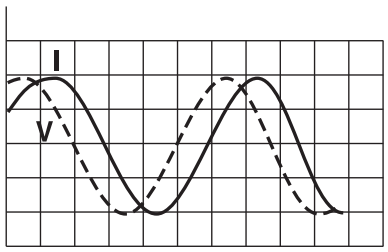
大多数的配电机构对照明设备都有较高的功率因数要求，通常会要求功率因数最低应在 0.85 到 0.95 之间。

不带功率因数补偿功能的典型放电灯照明电路（例如 400 W 高压钠光灯）的功率因数约为 0.4。图 1 显示了此应用中电流与电压的关系。

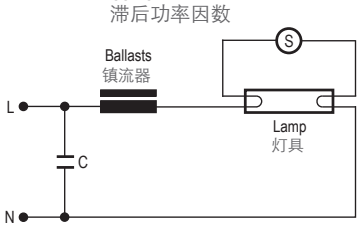
可通过在滞后线路电流中增加电容器（超前）来抵消发生的相移，将此功率因数特性补偿约为 0.9。图 2 显示补偿后的结果。

因此，在常见的应用中，通过将电容器连接到电路，可将功率因数提高到监管机构通常所规定的值，从而实现无电感操作。

figure 1
图 1

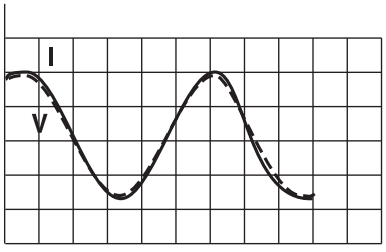


Lagging power factor
滞后功率因数

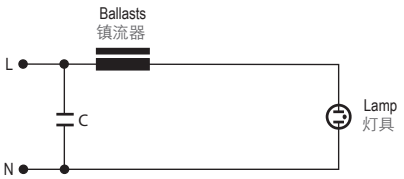


Fluorescent lamp circuit with parallel power factor correction capacitor.
日光灯电路采用并行功率因数补偿电容器。

figure 2
图 2



Power factor corrected
补偿后的功率因数



HID lamp circuit with parallel power factor correction capacitor.
HID 灯电路采用并行功率因数补偿电容器。

Capacitors
电容器

Features of metallised polypropylene
金属化聚丙烯性能

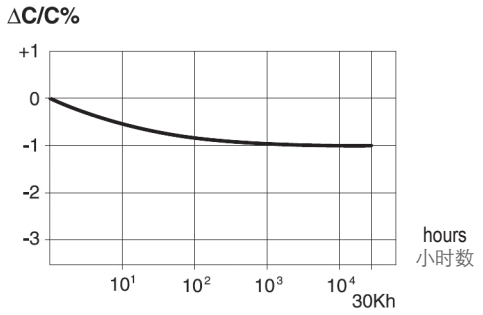
Low capacitance loss
低电容损耗

Polypropylene is an extremely efficient dielectric. The losses (or heating effects) are mainly restricted to internal connections and electrode resistance.

聚丙烯是极其有效的电介质。损耗（或热效应）主要局限于内部接线和电极电阻。

The temperature rise is typically about 1°C. This means that higher ambient temperatures can be reached without the risk of thermal runaway.

温度通常会上升1°C 左右。这意味会达到较高环境温度，而不存在热失控的风险。



Capacitance versus Time under normal working conditions
正常工作条件下的电容与时间

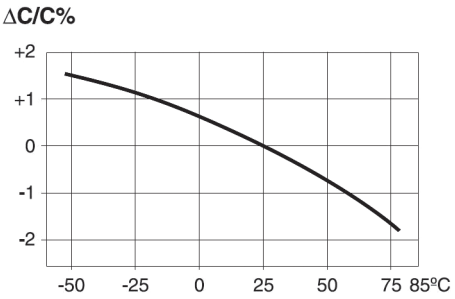
Self healing
自我修复

The capacitor electrodes of a metallised polypropylene capacitor are thin layers of metal deposited on to the polypropylene under vacuum.

金属化聚丙烯电容器的电容电极是通过在真空条件下将金属沉积在聚丙烯上而制成的薄层。

An isolated dielectric breakdown within the capacitor windings is “repaired” by vapourisation of the metal deposits around the “fault” area. The capacitor remains unchanged except for an insignificant capacitance loss.

如果电容器绕组中出现的隔离介质击穿现象，将通过汽化“故障”区域周围的金属沉积物的方式进行维修。除微不足道的电容损耗以外，电容器保持不变。

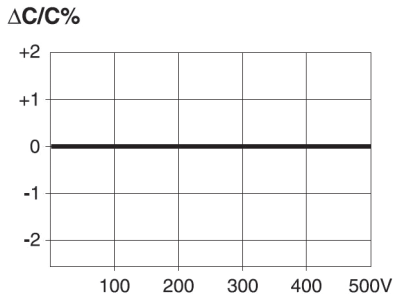


Capacitance versus Temperature
电容与温度

High insulation resistance
绝缘电阻高

Some special applications demand high insulation resistance which can be satisfied with a metallised polypropylene capacitor. This means that the capacitor is capable of holding an electric charge for long periods. Resistance values are typically greater than 1,000 MΩ.

某些特殊应用需要较高的绝缘电阻，可使用金属化聚丙烯电容器满足要求。这意味着，该电容器能够长期存储电荷。电阻值通常大于1,000 MΩ。



Capacitance versus Voltage
电容与电压

Capacitors
电容器

Quality

Assured quality of capacitors is first and foremost and cannot be compromised. CMP uses accepted IEC and BSI Standards as the minimum measure of quality.

All CMP capacitors are manufactured in accordance to Australian and International Standards assuring the customer of the highest quality.

Service life

The quality of the raw materials, the manufacturing technique and processes and the operating conditions determine the service life of the capacitor.

In accordance with relevant applicable standards, the stated operating life of a capacitor allows for a limited degradation of the capacitance of up to 10% and a failure rate of up to 3%. To demonstrate this performance there are a series of prescribed tests, which includes thermal cycling, application of voltage at elevated temperatures where the duration of this test at elevated voltage simulates the equivalent of 30,000 hr operation.

品质

有品质保证的电容器是首要条件，而且品质不得降低。CMP 使用公认的 IEC 和 BSI 标准作为最低品质衡量标准。

所有 CMP 电容器均按照澳大利亚标准和国际标准生产，确保向客户提供最高品质。

使用寿命

原材料品质、生产技术与流程以及工作条件共同决定电容器的使用寿命。

根据相关适用标准，电容器的规定工作寿命允许电容有限制地衰减最高 10%，并允许故障率有限制地降低最高 3%。为了证明该性能，有一系列的既定测试，包括热循环和在高温下施加电压，该测试在高压下的模拟时长相当于 30,000 小时工作时间。

Thermal stress above the limiting temperature of the capacitor, voltages above the rating of the capacitor, harmonic distortion and excessive humidity can have an influence on the service life expectancy or cause premature failures.

Capacitors shall not be mounted in the close vicinity of heat sources (such as conventional ballasts, lamps, etc.) as high ambient temperatures may cause premature ageing. Every 10°C above the limiting temperature at the surface of the capacitor case will halve its service life.

The capacitors have been designed for continuous operation at the rated voltage marked on the label. Operating the capacitor 5% above the rated voltage will result in a 35% decrease in its service life.

热应力高于电容器限定温度、电压高于电容器额定值、谐波失真以及湿气过多都会对使用寿命造成影响或造成过早失效。

由于环境温度较高会导致过早老化，因此电容器的安装位置不得靠近各种热源（例如传统镇流器、灯具等）。比电容器外壳表面的限定温度每高出 10° C 就会导致其使用寿命缩短一半。

电容器用于在其标签上标记的额定电压下持续工作。在高于额定电压 5% 的电压下操作电容器会导致其使用寿命缩短 35%。

CE RoHS

CP 2 – 45 µF
Supply voltage up to 250 V 电源电压最高 250 V

Product description

- Can: Aluminium
- Self healing polypropylene winding film
- Filling material: Liquid, based on vegetable oil, non-PCB
- Protection class: B, with overpressure protection
- Max. operating temperature of case: 100°C
- Test class: 40/100/21
- Discharge resistor: yes, <50 V within <60s

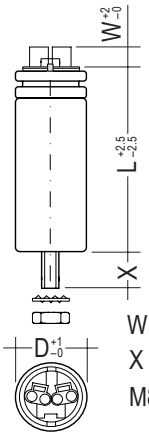
Conforming with IEC/EN 61048 and IEC/EN 61049

For product data sheet go to www.cmpcontrols.com, or available on request

产品描述

- 容器：铝
- 自我修复型聚丙烯绕组薄片
- 薄片材料：液体，以植物油为基础，非 PCB
- 保护等级：B，过压保护
- 容器最高工作温度：100° C
- 测试类： 40/100/21
- 放电电阻：是，<50 V，<60s 以内
- 符合 IEC/EN 61048 和 IEC/EN 61049

有关产品数据表，请访问 www.cmpcontrols.com 或按要求提供



W = Height 高度
X = 10/16 mm,
M8/M12

Technical data
技术数据

Rated supply voltage 额定电源电压	280 V
Mains frequency 电源频率	50 / 60 Hz
Capacitor tolerance 电容器公差	±5%
Operating temperature 工作温度:	-40 ... +100°C
Push-in terminal 推入式端子	0.5 – 1.5 mm² for rigid wires 用于硬线

Ordering data
订购数据

Weight 重量	Packaging, carton 包装纸箱	Type 类型	Article Number 商品号
0.036 kg	98 pieces 98 个	CP 2.0 280V P2 AL 25x48 PI M8 OIL	09100621
0.037 kg	98 pieces 98 个	CP 4.0 280V P2 AL 25x48 PI M8 OIL	09100625
0.043 kg	98 pieces 98 个	CP 6.0 280V P2 AL 25x58 PI M8 OIL	09100622
0.047 kg	98 pieces 98 个	CP 8.0 280V P2 AL 25x68 PI M8 OIL	09100623
0.054 kg	98 pieces 98 个	CP 10.0 280V P2 AL 25x78 PI M8 OIL	09100624
0.050 kg	72 pieces 72 个	CP 12.0 280V P2 AL 30x58 PI M8 OIL	09100613
0.090 kg	50 pieces 50 个	CP 18.0 280V P2 AL 35x78 PI M8 OIL	09100615
0.090 kg	50 pieces 50 个	CP 20.0 280V P2 AL 35x78 PI M8 OIL	09100616
0.110 kg	36 pieces 50 个	CP 25.0 280V P2 AL 40x78 PI M8 OIL	09100617
0.110 kg	36 pieces 50 个	CP 30.0 280V P2 AL 40x93 PI M8 OIL	09100618
0.110 kg	36 pieces 50 个	CP 35.0 280V P2 AL 40x93 PI M8 OIL	09100619
0.200 kg	32 pieces 50 个	CP 45.0 280V P2 AL 45x119 PI M8 OIL	09100620

Specific technical data
特定技术数据

Capacity 容量	Type 类型	Article Number 商品号	Mounting 安装	Diameter d 直径 d	Length L 长度 L	Height 高度
2 µF	CP 2.0 280V P2 AL 25x48 PI M8 OIL	09100621	M8	25	48 mm	22 mm
4 µF	CP 4.0 280V P2 AL 25x48 PI M8 OIL	09100625	M8	25	48 mm	22 mm
6 µF	CP 6.0 280V P2 AL 25x58 PI M8 OIL	09100622	M8	25	58 mm	22 mm
8 µF	CP 8.0 280V P2 AL 25x68 PI M8 OIL	09100623	M8	25	68 mm	22 mm
10 µF	CP 10.0 280V P2 AL 25x78 PI M8 OIL	09100624	M8	25	78 mm	22 mm
12 µF	CP 12.0 280V P2 AL 30x58 PI M8 OIL	09100613	M8	30	58 mm	20 mm
18 µF	CP 18.0 280V P2 AL 35x78 PI M8 OIL	09100615	M8	35	78 mm	16 mm
20 µF	CP 20.0 280V P2 AL 35x78 PI M8 OIL	09100616	M8	35	78 mm	16 mm
25 µF	CP 25.0 280V P2 AL 40x78 PI M8 OIL	09100617	M8	40	78 mm	16 mm
30 µF	CP 30.0 280V P2 AL 40x93 PI M8 OIL	09100618	M8	40	93 mm	16 mm
35 µF	CP 35.0 280V P2 AL 40x93 PI M8 OIL	09100619	M8	40	93 mm	16 mm
45 µF	CP 45.0 280V P2 AL 45x119 PI M8 OIL	09100620	M8	45	119 mm	16 mm

CE RoHS

CP 20 – 50 µF
Supply voltage up to 440 V 电源电压最高 440 V

Product description

- Can: Aluminium
- Self healing polypropylene winding film
- Filling material: Liquid, based on vegetable oil, non-PCB
- Protection class: B, with overpressure protection
- Max. operating temperature of case: 85°C
- Test class: 25/85/21
- Discharge resistor: yes, <50 V within <60s

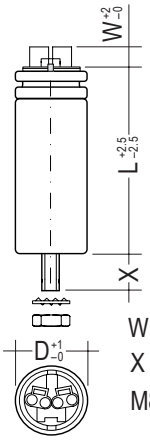
Conforming with IEC/EN 61048 and IEC/EN 61049

For product data sheet go to www.cmpcontrols.com, or available on request

产品描述

- 容器：铝
- 自我修复型聚丙烯绕组薄片
- 薄片材料：液体，以植物油为基础，非 PCB
- 保护等级：B，过压保护
- 容器最高工作温度：100° C
- 测试类： 40/100/21
- 放电电阻：是，< 50 V，< 60 s 以内
- 符合 IEC/EN 61048 和 IEC/EN 61049

有关产品数据表，请访问 www.cmpcontrols.com 或按要求提供



W = Height 高度
X = 10/16 mm,
M8/M12

Technical data
技术数据

Rated supply voltage 额定电源电压	440 V
Mains frequency 电源频率	50 / 60 Hz
Capacitor tolerance 电容器公差	±5%
Operating temperature 工作温度:	-25 ... +85°C
Push-in terminal 推入式端子	0.5 – 1.5 mm² for rigid wires 用于硬线

Ordering data
订购数据

Weight 重量	Packaging, carton 包装,纸箱	Packaging, pallet 包装,货板	Type 类型	Article Number 商品号
0.287 kg	21 pieces 21 个	1,890 pieces 1,890 个	CP 20.0 440V P2 AL 40x093 PI M8 OIL	09010019
0.173 kg	36 pieces 36 个	3,240 pieces 3,240 个	CP 25.0 440V P2 AL 40x119 PI M8 OIL	09100188
0.175 kg	36 pieces 36 个	3,600 pieces 3,600 个	CS 30.0-02 30.0 UF 440V S1	09100101
0.800 kg	32 pieces 32 个	960 pieces 960 个	CS 35.0-02 35.0 UF 440V RE S1	09100103
0.224 kg	32 pieces 32 个	3,200 pieces 3,200 个	CP 40.0 440V P2 AL 45x119 PI M8 OIL	09100104
0.253 kg	21 pieces 21 个	1,890 pieces 1,890 个	CS 45.0-07 45.0 UF 440V RE S1	09100075
0.287 kg	21 pieces 21 个	1,890 pieces 1,890 个	CS 50.0-07 50.0 UF 440V RE S1	09100106

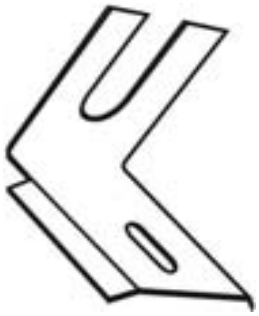
Specific technical data
特定技术数据

Capacity 容量	Type 类型	Article Number 商品号	Mounting 安装	Diameter d 直径 d	Length L 长度 L	Height 高度
20 µF	CP 20.0 440V P2 AL 40x093 PI M8 OIL	09010019	M8	40	93 mm	16 mm
25 µF	CP 25.0 440V P2 AL 40x119 PI M8 OIL	09100188	M8	40	119 mm	16 mm
30 µF	CS 30.0-02 30.0 UF 440V S1	09100101	M8	40	119 mm	16 mm
35 µF	CS 35.0-02 35.0 UF 440V RE S1	09100103	M8	45	119 mm	16 mm
40 µF	CP 40.0 440V P2 AL 45x119 PI M8 OIL	09100104	M8	45	119 mm	16 mm
45 µF	CS 45.0-07 45.0 UF 440V RE S1	09100075	M12	50	124 mm	16 mm
50 µF	CS 50.0-07 50.0 UF 440V RE S1	09100106	M12	50	124 mm	16 mm

Capacitor mounting accessories 电容器安装附件

Right angle mounting bracket, Article number 09000932
- Cat. No. 60067

直角安装支架，商品号 09000932
- 纸箱编号 60067



Clip, Article number 09006767
- Cat. No. 60071
- For 30–35 mm diameter capacitors
- To suit 7 mm diameter hole, 0.50–0.53 mm metal thickness

夹具，商品号 09006767
- 纸箱编号 60071
- 用于直径为 30-35 mm 的电容器
- 适合直径为 7 mm 的孔，0.50-0.53 mm 的金属厚度

Clip, Article number 09000933
- Cat. No. 60072
- For 40–45 mm diameter capacitors

夹具，商品号 09000933
- 纸箱编号 60072
- 用于直径为 40-45 mm 的电容器

Blocking inductors for HPF lighting circuits

HPF 照明电路的屏蔽电感器

Blocking inductors are used to stop high frequency signals from being excessively attenuated by shunt power factor correction capacitors. Such signals are superimposed on the mains network in certain areas to switch meter tariffs and loads.

The blocking inductor must match the capacitor size to work correctly. To make selection easier, the description contains the suitable capacitor size in µF, eg. BE12 is suitable for a 12 µF capacitor.

Product description

- supply voltage frequency: 240V to 250V 50Hz
- blocking frequency: 750Hz to 1,050Hz
- series resonance frequency: 320Hz nominal
- maximum capacitor tolerance: +10% -5%
- terminals: screw

屏蔽电感器用于防止高频信号被并联功率因数补偿电容器过度衰减。电源网络中的某些区域添加此类信号，以切换仪表价目表和负载。

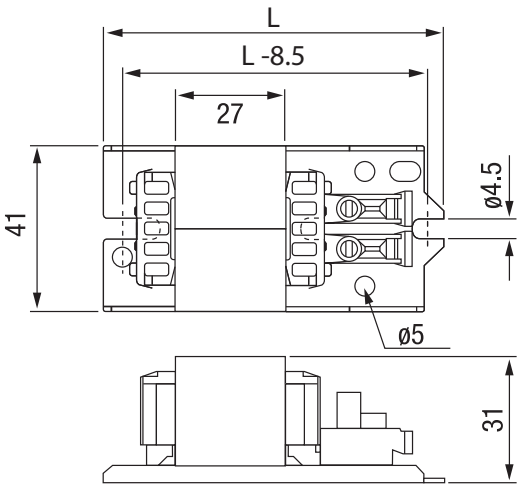
屏蔽电感器必须与电容器大小相匹配才能正常工作。为了便于选择，描述包含合适的电容器大小（单位：µF），例如 BE12 适合 12 µF 电容器。

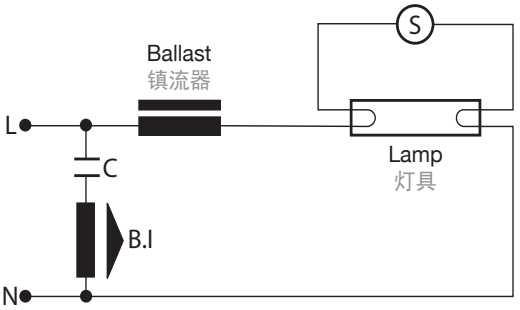
产品描述

- 电源电压频率：240V 至 250V 50Hz
- 阻塞频率：750Hz 至 1,050Hz
- 串联谐振频率标称 320Hz
- 最大电容器公差：+10% -5%
- 端子：螺丝

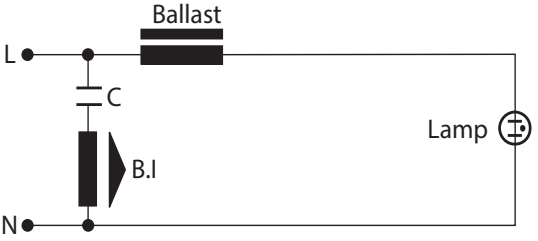
Ordering Data
订购数据

Weight 重量	Length (mm) 长度	Packaging, carton 包装，纸箱	Type 类型	Article Number 商品号
0.330 kg	110	36 pieces 36 个	BE 4	89000706
0.330 kg	110	36 pieces 36 个	BE 8	89000715
0.330 kg	110	36 pieces 36 个	BE 9	89000716
0.330 kg	110	36 pieces 36 个	BE 10-02	20888387
0.330 kg	85	40 pieces 40 个	BE 11-01	89000692
0.330 kg	110	36 pieces 36 个	BE 12	89000693
0.330 kg	110	36 pieces 36 个	BE 18	89000697
0.330 kg	85	40 pieces 40 个	BE 20-01	89002745
0.330 kg	110	36 pieces 36 个	BE 25	89000700
0.330 kg	110	36 pieces 36 个	BE 30	89000705
0.330 kg	110	36 pieces 36 个	BE 35-02	20888286
0.330 kg	110	36 pieces 36 个	BE 40	89000708
0.330 kg	110	36 pieces 36 个	BE 45	89000709





Fluorescent lamp circuit with power factor correction capacitor and blocking inductor.
日光灯电路使用功率因数补偿电容器和屏蔽电感器。



HIDlamp circuit with power factor correction capacitor and blocking inductor.
HID 灯电路使用功率因数补偿电容器和屏蔽电感器。

Index 索引

page 页码

Magnetic transformers for low-voltage halogen lamps
用于低压卤素灯的磁性变压器

In principle, operation of low-voltage halogen lamps, which are universally popular for accent lighting, requires a transformer which adapts the mains voltage to a 12V operating voltage. All transformers also ensure that the protective measures required by relevant standards are met, for instance in the event of a short-circuit or voltage interruption.

原则上，低压卤素灯一般适用于局部照明，需要一个可将电源电压变换为 12V 的工作电压的变压器。所有变压器还确保符合相关标准要求的保护措施，例如在出现短路或电压中断时提供保护措施。

LVL D427

Magnetic transformers are a rugged, extremely affordable solution offering long service life together with excellent thermal endurance.

磁性变压器是极具成本效益的耐用性解决方案，使用寿命长，耐热性佳。

CMP's diversified range of units for integration in luminaires and remote-mounted applications covers all relevant uses. The transformers guarantee operation of lamps in accordance with specifications, thereby enabling lamps to achieve their maximum luminous flux and service life.

照明设备和远程安装应用中集成的 CMP 的各种装置涵盖所有相关用途。变压器保证按照规范使用灯具，因此使灯具能够实现最佳光通量和使用寿命。

Essentially, all CMP magnetic transformers are characterised by minimal power consumption, compact winding, optimised dimensions and high-quality materials. They are continuously controllable using phase-control dimmers for inductive loads.

本质上，所有 CMP 磁性变压器的特点是：功耗最低，绕组结构紧凑，尺寸最优，材料品质高。针对电感负载，可使用相位控制调光器持续控制这些变压器。

Designed for long service life

Thanks to their high-quality insulating material, coil form and the quality of the copper wire used, ECT, OMT and OGT open type transformers for integration in luminaires and LVL enclosed types for remote-mounted applications achieve a maximum service life of approximately 100,000 hours of operation, i.e. roughly 10 years of continuous operation with a winding temperature of 130ºC. The winding temperature is calculated from the ambient temperature and the temperature increase due to intrinsic consumption. An upward or downward change in temperature of 10ºC causes halving or doubling of the life of the unit respectively.

The transformers can be protected on the line side either by a time-delay fuse or by a built-in current sensitive thermal cutout appropriate to the transformer type. Protection on the secondary side against overload and short-circuit trips if the lamp becomes faulty.

专为长使用寿命而设计

凭借所使用的高品质的绝缘材料、线圈架和高品质的铜线，照明设备和 LVL 封闭型远程安装应用中集成的 ECT、OMT 和 OGT 开放式变电器能够实现约 100,000 个工作小时的最长使用寿命，即在 130ºC 的绕组温度下能够连续工作约 10 年。绕组温度是根据环境温度以及由于固有消耗而导致的温升计算得出。温度每向上或向下变化 10ºC 都会分别导致装置的使用寿命缩短一半或翻倍。

可通过适合变压器类型的延时保险丝或内置电流灵敏型热断路器在线路侧保护变压器。如果灯具出现故障，将在出现过载和短路时在二次侧提供保护。

Magnetic transformers for low-voltage halogen lamps
用于低压卤素灯的磁性变压器

Consistent high quality

Certified to ISO 9001, the production process and equipment guarantee a consistent high quality standard. All finished goods are 100% end of line tested and only the highest quality raw materials are used.

一致的高品质

生产工艺和设备通过了 ISO 9001 标准认证，可保证一致的高品质标准。所有成品在制成后都需通过测试，并且仅使用最优质的原材料。

Protection and approval

It is mandatory under the Australian and New Zealand wiring rules that transformers for remote mounting are housed in a suitable enclosure and as a prescribed item must be approved by the Statutory Authority to AS/NZS 61558. The approval number must be clearly marked on the enclosure.

The enclosed transformer must be located in the installation in a position where it is easily accessible for inspection and maintenance.

The transformer enclosure and wiring to the light fitting must have adequate ventilation. If the wiring and the transformer enclosure are covered with building insula-tion material then substantial derating and overheating may occur.

保护和批准

按照澳大利亚和新西兰布线法规规定，远程安装的变压器应放置在合适的外壳内，并且作为规定项目，必须获得法定管理机构的批准，通过 AS/NZS 61558 认证。外壳上必须清晰地标识批准文号。

封闭的变压器必须位于便于检查和维护的位置。

变压器外壳和灯具布线必须保持足够的通风。如果布线和变压器外壳被建筑绝缘材料所覆盖，则可能出现明显的额定值降低和过热现象。

The specialist for integrated applications

ECT magnetic transformers are characterized by especially compact dimensions (31 x 42 mm) and an excellent price/performance ratio. This model is available with power ratings from 20 to 100 VA.

OMT transformers are compactly designed units of reduced length. The device has a cross-sectional area of 65 x 47 mm. Thanks to its high efficiency, the OMT model, which is available in versions from 25 to 200VA , is also suitable for use at relatively high ambient temperatures.

OGT transformers reveal their full potential in situations where several lamps are connected. Power ratings range from 180 to 1,200VA versions.

集成应用专家

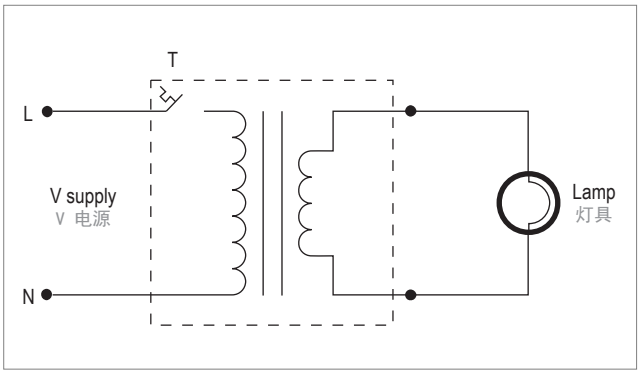
ECT 磁性变压器的特点是尺寸极其紧凑 (31 x 42 mm) 和优异的性价比。该型号的额定功率在 20 到 100 VA 之间。

OMT 变压器长度已缩减，结构紧凑。该设备的横截面积为 65 x 47 mm。OMT 型号提供 25 到 200VA 的多种版本，由于高效，还适于在相对较高的环境温度下使用。

连接多个灯具后，OGT 变压器可释放全部势能。额定功率在 180 到 1,200VA 之间。

Technical tips for low-voltage lighting circuits
低压照明电路的技术小常识

Symptom 症状	**Possible fault** 可能的故障	**Test and remedy** 测试和补救措施
Lamp appears to be intact but will not light 灯具看起来完好无损，但是不亮	Failed lamp 灯具失效	Replace lamp 更换灯具
	Supply fault 电源故障	Check supply volts and circuit fuse or breaker 检查电源电压和电路保险丝或断路器
	Wiring fault 布线故障	Check for loose connections on input and output of transformer and the lampholder connections. 检查变压器的输入和输出是否出现连接松动以及灯座连接情况。
	Transformer fault 变压器故障	Check output voltage of transformer, if no voltage measured, substitute transformer 检查变压器的输出电压，如果未测量到电压，请更换变压器
Blowing fuses or tripping circuit breakers 保险丝熔断或断路器断开	Short circuit 短路	Disconnect secondary at the transformer and re-energise the circuit. Sho uld short circuit re-occur immediately (fuse blows), then try substituting the transformer. If short circuit does not immediately re-occur then replace the secondary wiring and/or the light fitting 断开变压器处的二次设备，并重新给电路上电。如果立即再次出现短路情况（保险丝熔断），则请尝试更换变压器。如果未立即再次出现短路情况，请更换二次布线和/或灯具。
Lamp cycling on/off 灯具循环开/关	Loose connection 连接松动	Check for loose connection at supply source on primary and secondary connections of the transformer and also at the lamp 检查变压器的一次和二次接线在电源处是否出现松动以及灯具
	Poor contact in lamp holder 是否与灯座接触不良	Check the lamp contact condition and if necessary replace lampholder 检查灯具接触情况，必要时，请更换灯座
	Transformer cycling 变压器循环	Check that transformer is installed in a ventiated area on a flat surface. Remove transformer away from heat source such as the lamp. Remove any insulation which may be around or covering the transformer. 检查变压器是否安装在平整表面上、是否处于通风区域。将变压器从灯具等热源处拆下。移除变压器周围或覆盖在变压器上的任何绝缘材料。
	Lamp and transformer incompatible 灯具和变压器不兼容	Check lamp wattage is the same as the transformer rating. 检查灯具功率是否与变压器额定功率相同。
Short lamp life 灯具寿命短	High lamp power 灯具功率高	Check voltage at lamp is the same as the transformer nominal secondary voltage rating. Note: The voltage measurement must be recorded over time to check voltage fluctuations. 检查灯具处的电压是否与变压器的标称二次额定电压相同。 注意：必须随着时间的推移记录电压测量值，检查电压是否波动。
	Lamp and transformer incompatible 灯具和变压器不兼容	Check lamp wattage is the same as the transformer rating. Also check the secondary voltage at the lamp, that it matches the lamp nominal voltage rating. 检查灯具功率是否与变压器额定功率相同。另外检查灯具处的二次电压是否与灯具的额定电压匹配。
	Over temperature of lamp 灯具温度过高	Check the light fitting and ensure the lamp is well ventilated. 检查灯具并确保灯具保持良好的通风。
High or low light output 光输出过高或过低	Incorrect lamp wattage 灯具功率不正确	Check lamp wattage is the same as the transformer rating. 检查灯具功率是否与变压器额定功率相同。
	Supply voltage 电源电压	Check supply voltage is correct and is the same as the transformer nominal voltage rating. Note: The supply voltage measurement should be taken over time to check voltage fluctuations. 检查电源电压是否正确、是否与变压器的标称电压相同。 注意：应随着时间的推移测量电源电压，检查电压是否波动。
	Incorrect wiring 布线不正确	Electrical practice guidelines must be followed in selection of conductor rating to avoid the impact of voltage drop. 选择导体额定值时必须遵循电气实践指南，避免影响电压降。
	Lamp voltage 灯具电压	Check secondary voltage of transformer, it must match the lamp rated voltage. 检查变压器的二次电压，该电压必须与灯具额定电压匹配。
Audible noise 可闻噪声	Lamp noise 灯具噪声	Check if lamp filament is generating noise due to dimmer controller 检查灯丝是否由于调光控制器而产生噪声
	Transformer noise 变压器噪声	Check with the dimmer supplier or manufacturer to ensure the phase control dimmer is suitable for dimming inductive loads such as transformers. If dimmer switching is asymmetrical it can induce a DC wave form into the transformer winding which can lead to overheating, noise and possible damage or failure of the transformer. 与调光器供应商或生产商一起检查，确保相位控制调光器适合调节变压器等电感负载的亮度。如果调光器开关不对称，会导致直流波形进入变压器绕组，从而导致变压器过热、发出噪声、可能出现损坏或故障。



Low voltage lighting transformer circuit
低压照明变压器电路

ECT transformers, 20-100 VA 50/60 Hz

ECT 变压器，20-100 VA 50/60 Hz

CE RoHS

figure 1
图1

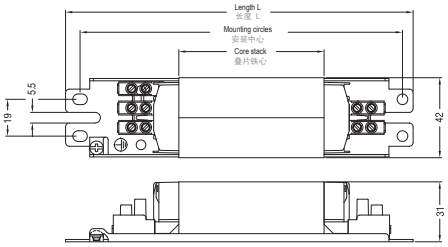
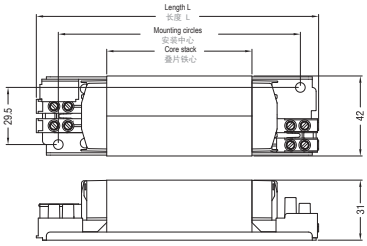


figure 2
图2



- slim cross-section and compact
- low magnetic stray field
- excellent load weight ratio
- vacuum impregnation
- insulation class “H”
- long service life
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- screw terminals
- high current on secondary may require alternative connector or flying leads at the discretion of CMP
- recommended total load is 70 to 100% of the VA rating
- short-circuit protection via built-in self-resetting thermal cutout or external fuse

- 横截面窄，外观紧凑
- 低杂散磁场
- 极佳的负载重量比
- 真空浸渍
- “H”级绝缘
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 螺丝端子
- 较高的二次电流可能需要备用导体或悬空引线，具体由 CMP 决定
- 建议总负载为额定 VA 的 70% 到 100%
- 通过内置自复位热断路器或外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

已批准通过以下认证

- AS/NZS 61558

100% 最终测试

- 高压
- 绕组短路
- 二次电压

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (mA)	U_L/U_o	losses 损耗	stack 堆叠厚度	length 长度	mounting centres 安装中心	weight 重量
50	ECT 75 127/12 V [1]		-	500	83	12.9	75	142	125	0.85
105	ECT 160 127/12 V		-	1,000	83	27.1	160	265	250	1.50
50	ECT 75 220/12 V [1]	89000772	-	315	83	12.9	75	142	125	0.85
100	ECT 160 220/12 V	89000741	-	600	84	25.3	160	265	250	1.50
100	ECT 160 220/24 V		-	600	84	25.3	160	265	250	1.50
50	ECT 75 230/11.4 V [1]	89003588	120	-	83	12.9	75	142	125	0.85
50	ECT 75 230/12 V [1]		-	250	83	12.9	75	142	125	0.85
50	ECT 90-15-01 230/12 V	89000781	-	315	86	11.9	90	195	180	1.00
50	ECT 90-230/12 V	89000786	120	-	86	11.9	90	195	180	1.00
105	ECT 160 230/11.4 V		-	600	83	27.1	160	265	250	1.50
20	ECT 35 240/11.4 V		120	-	83	5.2	35	140	125	0.45
35	ECT 50 240/11.4 V		120	-	83	9.0	50	155	140	0.55
35	ECT 60 240/12 V		120	-	86	8.8	60	165	150	0.65
50	ECT 75 240/11.4 V	89000769	120	-	83	12.9	75	180	165	0.85
50	ECT 75 240/12 V [1]	89000767	-	250	83	12.9	75	142	125	0.85
50	ECT 90 240/12 V		120	-	86	11.9	90	195	180	1.00
70	ECT 105 240/11.4 V	89000717	120	-	83	18.1	105	210	195	1.10
80	ECT 120 240/11.4 V		120	-	83	20.7	120	225	210	1.20
80	ECT 140 240/12 V		120	-	86	19.0	140	245	230	1.40
100	ECT 160 240/12 V	89000739	120	-	84	25.3	160	265	250	1.50

Notes

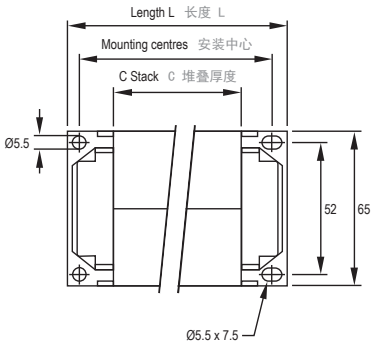
1. refer to figure 2

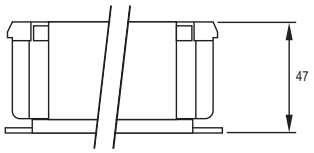
备注：

1. 请参见图 2

OMT transformers, 25-200 VA 50/60 Hz

OMT 变压器，25-200 VA 50/60 Hz





- high power density relative to low weight
- low magnetic stray field
- excellent load weight ratio
- vacuum impregnation
- insulation class “H”
- long servicelife
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- integrated screw terminals
- high current on secondary may require alternative connector or flying leads at the discretion of CMP
- recommended total load is 40 to 100% of the VA rating
- short-circuit protection requires external fuse

- 重量轻，功率密度重量
- 低杂散磁场
- 极佳的负载重量比
- 真空浸渍
- “H”级绝缘
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 集成螺丝端子
- 较高的二次电流可能需要备用导体或悬空引线，具体由 CMP 决定
- 建议总负载为额定 VA 的 40% 到 100%
- 需要外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

已批准通过以下认证

- AS/NZS 61558

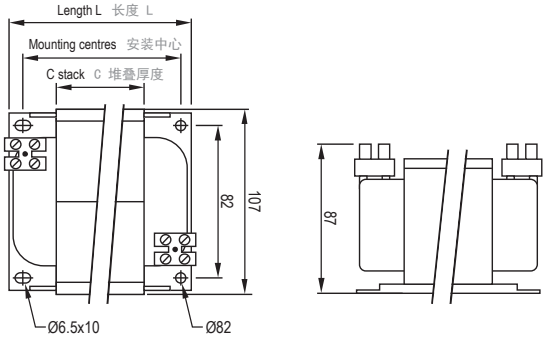
100% 最终测试

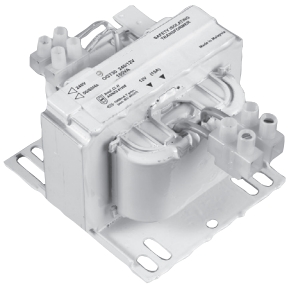
- 高压
- 绕组短路
- 二次电压

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (mA)	U_L/U_O	losses 损耗	stack 堆叠厚度	length 长度	mounting centres 安装中心	weight 重量
100	OMT 75 220/12 V	89001399	140	80	93	13.0	75	110	96	1.80
100	OMT 75 220/24 V	89001569	140	80	93	13.0	75	110	96	1.80
100	OMTM 55-6-01 220/12 V	89001689	-		90	14.9	55	90	76	1.30
200	OMT 120 220/12 V	89001396	140	1,600	93	25.9	120	155	141	2.65
200	OMT 120 220/24 V	89001454	140	1,600	93	25.9	120	155	141	2.65
25	OMT 30 240/12 V	89001501	140	315	93	3.2	30	65	51	0.75
25	OMT 30 240/24 V	89001502	140	315	93	3.2	30	65	51	0.75
40	OMT 40 240/24 V	89001521	140	400	93	5.2	40	75	61	1.00
40	OMT 40 240/32 V	89001522	140	400	93	5.2	40	75	61	1.00
50	OMTM 40-2-SP01 240/12 V	89001665	140	400	92	7.5	40	75	61	1.00
50	OMTM 40-2-SP03 240/24 V		140	400	92	7.5	40	75	61	1.00
50	OMTM 55-2-SP09 240/32 V	89001686	140	630	95	5.5	55	90	76	1.30
65	OMT 55 240/115 V	89001537	140	630	93	8.4	55	90	76	1.30
65	OMT 55 240/12 V		140	630	93	8.4	55	90	76	1.30
65	OMT 55 240/24 V	89001541	140	630	93	8.4	55	90	76	1.30
80	OMT 65 240/12 V		140		93	10.4	65	100	86	1.55
100	OMT 75 240/110 V	89001580	140	800	93	13.0	75	110	96	1.80
100	OMT 75 240/12 V	89001582	140	800	93	13.0	75	110	96	1.80
100	OMT 75 240/24 V	89001589	140	800	93	13.0	75	110	96	1.80
100	OMT 75 240/32 V	89001593	140	800	93	13.0	75	110	96	1.80
150	OMTM 75-2-SP17 240/12 V	89001710	140	800	90	22.4	75	110	96	1.80
160	OMT 105 240/12 V	89001415	140	1,250	93	20.7	105	140	126	2.40
160	OMT 105 240/24 V	89001420	140	1,250	93	20.7	105	140	126	2.40
200	OMT 120 240/12 V	89001461	140	1,600	93	25.9	120	155	141	2.65
200	OMT 120 240/24 V	89001468	140	1,600	93	25.9	120	155	141	2.65
200	OMT 120 240/32 V	89001473	140	1,600	93	25.9	120	155	141	2.65
25	OMT 30 415/240 V	89001510	-	16	93	3.2	30	65	51	0.75
25	OMT 30 415/24 V	89001511	-	16	93	3.2	30	65	51	0.75
40	OMT 40 415/240 V	89001528	-	20	93	5.2	40	75	61	1.00
40	OMT 40 415/24 V		-	20	93	5.2	40	75	61	1.00
100	OMT 75 415/240 V	89001608	-	40	93	13.0	75	110	96	1.80
100	OMT 75 415/24 V	89001609	-	40	93	13.0	75	110	96	1.80
120	OMTM 75-4-03 415/32 V		-	40	92	17.9	75	120	106	1.80
200	OMT 120 415/240 V	89001484	-	100	93	25.9	120	155	141	2.65

OGT transformers, 180-1200 VA 50/60 Hz

OGT 变压器，180-1200 VA 50/60 Hz





- excellent regulation 5%
- high power density
- low magnetic stray field
- excellent load weight ratio
- vacuum impregnation
- insulation class “H”
- long servicelife
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- screw terminals
- high current on secondary may require alternative connector or flying leads at the discretion of CMP
- recommended total load is 20 to 100% of the VA rating
- short-circuit protection requires external fuse

- 出色的调节 5%
- 大功率密度
- 低杂散磁场
- 极佳的负载重量比
- 真空浸渍
- “H”级绝缘
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 螺丝端子
- 较高的二次电流可能需要备用导体或悬空引线，具体由 CMP 决定
- 建议总负载为额定 VA 的 20% 到 100%
- 需要外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

已批准通过以下认证

- AS/NZS 61558

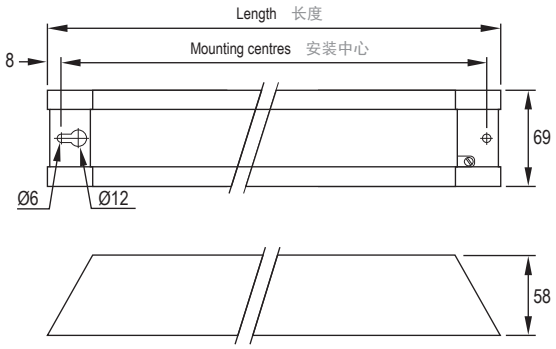
100% 最终测试

- 高压
- 绕组短路
- 二次电压

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (mA)	U_L/U_0	losses 损耗	stack 堆叠厚度	length 长度	mounting centres 安装中心	weight 重量
320	OGT 50 220/12 V	27021259	-	1,600	95	26.4	50	130	101-117	3.5
320	OGT 50 220/24 V		-	1,600	95	26.4	50	130	101-117	3.5
400	OGT 60 220/12 V	27002332	-	2,000	95	33.0	60	140	111-127	4.0
400	OGT 60 220/24 V	27002333	-	2,000	95	33.0	60	140	111-127	4.0
500	OGT 70 220/12 V	27021328	-	2,500	95	41.3	70	150	121-137	5.0
500	OGT 70 220/24 V	27021329	-	2,500	95	41.3	70	150	121-137	5.0
550	OGTM 70 230/24 V	27003523	-	2,500	95	56.0	70	150	121-137	5.0
180	OGT 30 240/12 V		-		95	14.9	30	110	81-97	2.5
250	OGT 40 240/12 V		-	1,250	95	20.7	40	120	91-107	3.0
250	OGT 40 240/115 V	27021224	-	1,250	95	20.7	40	120	91-107	3.0
250	OGT 40 240/24 V	27021227	-	1,250	95	20.7	40	120	91-107	3.0
320	OGT 50 240/12 V	27021275	-	1,600	95	26.4	50	130	101-117	3.5
320	OGT 50 240/24 V	27021279	-	1,600	95	26.4	50	130	101-117	3.5
400	OGT 60 240/12 V		-	2,000	95	33.0	60	140	111-127	4.0
400	OGT 60 240/24 V	27021313	-	2,000	95	33.0	60	140	111-127	4.0
500	OGT 70 240/115 V	27021334	-	2,500	95	41.3	70	150	121-137	5.0
500	OGT 70 240/12 V	27021336	-	2,500	95	41.3	70	150	121-137	5.0
550	OGTM 70 240/24 V	27003524	-	2,500	95	56.0	70	150	121-137	5.0
550	OGT 80 240/12 V		-		95	45.4	80	160	131-147	5.5
650	OGT 90 240/12 V		-		95	53.7	90	170	141-157	6.0
750	OGT 100 240/12 V	27002335	-	4,000	95	62.0	100	180	151-167	6.5
800	OGT 110 240/12 V		-		95	66.1	110	190	161-177	7.0
900	OGT 120 240/12 V		-		95	74.3	120	200	171-187	7.5
1,000	OGT 140 240/12 V		-	5,000	95	82.6	140	220	191-207	8.5
1,000	OGT 140 240/115 V	27021163	-	5,000	95	82.6	140	220	191-207	8.5
1,000	OGT 140 240/24 V	27021166	-	5,000	95	82.6	140	220	191-207	8.5
1,200	OGT 160 240/12 V		-		95	99.1	160	240	211-227	9.5

LVL (D427) indoor transformers, 65-200 VA 50/60 Hz

LVL (D427) 室内型变压器，65-200 VA 50/60 Hz



- robust extruded aluminium enclosure (58 x 69mm)
- IP 31 protection rating
- high power density relative to low weight
- long servicelife
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- screw terminals; 160VA and above have stud output terminals
- recommended total load is 40 to 100% of the VA rating
- short-circuit protection via secondary fuse

- 坚固的挤制铝外壳 (58 x 69mm)
- IP 31 防护等级
- 重量轻，功率密度高
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 螺丝端子；160VA 以及以上有螺柱型输出端子
- 建议总负载为额定 VA 的 40% 到 100%
- 需要外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

Flex and plug version available

- LVL13A-2
- LVL14A-2
- LVL11A-2
- LVL 8A-2

已批准通过以下认证

- AS/NZS 61558

100% 最终测试

- 高压
- 绕组短路
- 二次电压

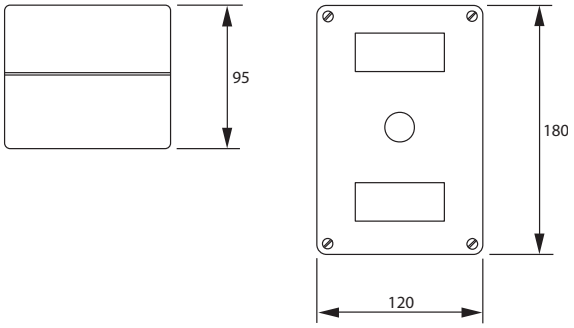
提供 Flex 版和插头版

- LVL13A-2
- LVL14A-2
- LVL11A-2
- LVL 8A-2

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (A)	U_L/U_O	losses 损耗	length 长度	mounting centres 安装中心	weight 重量
65	LVL13-2 240/12 V		Y	10.0	93	8.4	320	300	1.9
100	LVL14-2 240/12 V	89000918	Y	15.0	93	13.0	340	320	2.3
100	LVL14-2-24 V 240/24 V		Y	7.5	93	13.0	340	320	2.3
100	LVL14A-2-24 V 240/24 V	89000923	Y	7.5	93	13.0	320	300	2.3
160	LVL11-2 240/12 V	89000904	Y	25.0	93	20.7	360	340	3.0
160	LVL11-2-24 V 240/24 V	89000906	Y	12.0	93	20.7	360	340	3.0
200	LVL8-2 240/12 V	89000938	Y	30.0	93	25.9	360	340	3.3
200	LVL8-2-24 V 240/24 V	89000939	Y	15.0	93	25.9	360	340	3.3
200	LVL8A-2 240/12 V	89000941	Y	30.0	93	25.9	340	320	3.3

LVL (D490) weatherproof transformers, 50-200 VA 50/60 Hz

LVL (D490) 防水变压器，50-200 VA 50/60 Hz



Enclosure type D490

- high impact green polycarbonate enclosure (180 x 120 x 95 mm)
- IP 24 protection rating
- 4 x 16 mm (knock-out) conduit entries
- high power density relative to low weight
- long service life
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- screw terminals; 160VA and above have stud output terminals
- recommended total load is 40 to 100% of the VA rating
- short-circuit protection via secondary fuse

- 耐冲击型绿色聚碳酸酯外壳 (180 x 120 x 95 mm)
- IP 24 防护等级
- 4 x 16 mm（主要）导管引入装置
- 重量轻，功率密度高
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 螺丝端子；160VA 以及以上有螺柱型输出端子
- 建议总负载为额定 VA 的 40% 到 100%
- 需要外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

已批准通过以下认证

- AS/NZS 61558

100% 最终测试

- 高压
- 绕组短路
- 二次电压

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (A)	U_L/U_O	losses 损耗	length 长度	mounting centres 安装中心	weight 重量
50	LVL10-2-SP22 240/12 V	89000891	Y	7.5	93	6.5	180	165	2.2
75	LVL10-2-SP23 240/12 V		Y	10.0	93	9.7	180	165	2.4
100	LVL10-2-SP24 240/12 V	89000893	Y	15.0	93	13.0	180	165	2.6
160	LVL10-2-SP20 240/12 V	89000890	Y	25.0	93	20.7	180	165	3.0
200	LVL6-2-24-01 240/24 V	89120673	-	15.0	96	12.6	180	165	3.8
200	LVL6-2-SP01 240/12 V	89120677	-	25.0	96	12.6	180	165	3.8

LVL 48 below ground transformers, 50-200 VA 50/60 Hz

LVL 48 地下式变压器，50-200 VA 50/60 Hz

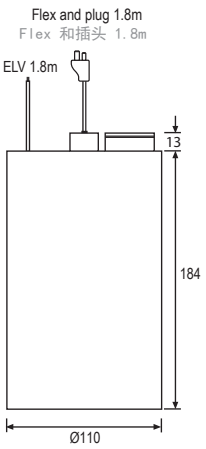


figure 1
图1

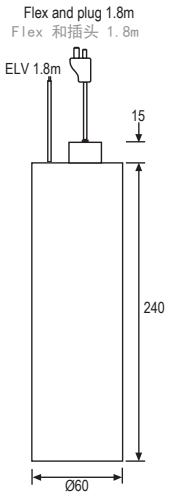


figure 2
图2

- Designed for buried applications when installed by a licenced electrical contractor in accordance with AS/NZS 3000.
- encapsulated construction
- IP 67 protection rating
- long service life
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- short-circuit protection via built-in self-resetting thermal cutout (50 VA) or secondary fuse (100-200 VA)

- 专门为埋地应用而设计，由经认证的电气承包商按照 AS/NZS 3000 标准安装
- 封装结构
- IP 67 防护等级
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 通过内置自复位热断路器 (50 VA) 或二次侧保险丝 (100-200 VA) 提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

已批准通过以下认证

- AS/NZS 61558

100% 最终测试

- 高压
- 绕组短路
- 二次电压

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (A)	U_L/U_0	losses 损耗	length 长度	mounting centres 安装中心	weight 重量
50	LVL48A-2-01 240/12V	89000930	Y	-	91	10.8	240	-	3.0
50	LVL48A-2-13 240/12V *	89000933	Y	-	91	10.8	240	-	3.0
100	LVL48A-2-02 240/12V	89120661	-	20	97	6.3	184	-	5.5
200	LVL48A-2-03 240/12V	89120662	-	30	97	12.6	184	-	6.5

Notes

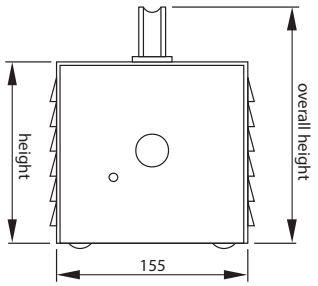
1 input flex, no plug

备注：

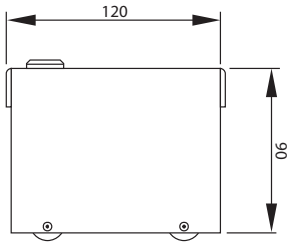
1 输入 Flex，无插头

LVL (D600) indoor transformers, 250-650 VA 50/60 Hz

LVL (D490) 防水变压器，50-200 VA 50/60 Hz



LVL4-2, LVL17-2, LVL19-2



LVL21-2

- fabricated metal enclosure
- IP 31 protection rating
- excellent regulation 5%
- high power density
- long service life
- mains voltage: 240 V 50/60 Hz (other voltages and frequencies on request)
- standard secondary voltage 12 V, VA quoted at full resistive load 100% duty cycle (other voltages and VA ratings on request)
- stud output terminals
- recommended total load is 20 to 100% of the VA rating
- short-circuit protection via secondary fuse

- 金属外壳
- IP 31 防护等级
- 出色的调节 5%
- 大功率密度
- 使用寿命长
- 电源电压：240 V 50/60 Hz（可按要求提供其他电压和频率）
- 标准二次电压 12 V，满电阻负载 100% 负载率时引用的功率 （可按要求提供其他额定电压和功率）
- 螺柱型输出端子
- 建议总负载为额定 VA 的 20% 到 100%
- 需要外部保险丝提供短路保护

Approved to

- AS/NZS 61558

100% final testing

- high voltage
- winding short circuit
- secondary voltage

Flex and plug version available

- LVL13A-2
- LVL14A-2
- LVL11A-2
- LVL 8A-2

已批准通过以下认证

- AS/NZS 61558

100% 最终测试

- 高压
- 绕组短路
- 二次电压

提供 Flex 版和插头版

- LVL13A-2
- LVL14A-2
- LVL11A-2
- LVL 8A-2

VA	type 类型	article no. 商品号	thermal cutout 热断路器	recommended primary fuse 建议的一次侧保险 (A)	U_L/U_O	losses 损耗	length 长度	width 宽度	height 高度	weight 重量
250	LVL4-2 240/12 V	89120659	-	30	95	20.7	230	155	170	4.6
250	LVL4-2-24 V 240/24 V	89120660	-	12	95	20.7	230	155	170	4.6
320	LVL21-2 240/12 V	89120641	-	35	95	26.4	240	120	90	4.8
320	LVL21-2-24 V 240/24 V	89120642	-	20	95	26.4	240	120	90	4.8
320	LVL21A-2 240/12 V	89120646	-	35	95	26.4	240	120	90	4.8
500	LVL19-2 240/12 V	89120632	-	50	95	41.3	320	155	190	7.9
650	LVL17-2 240/12 V	89120626	-	63	95	53.7	320	155	190	8.9
650	LVL17-2-24 V 240/24 V	89120627	-	35	95	53.7	320	155	190	8.9

Index 索引

page 页码

Lamps and lighting control equipment
灯具与照明控制设备

The factors governing the growth of the electric lamp industry include the initial cost and the lamp life. The efficiency with which the input energy is converted into visible light is also important and it is interesting to look at the efficacy of improved light sources.

控制电灯业发展的因素包括初期成本和灯具寿命。输入能量转换为可见光的效能也很重要，有趣的是看看改良后光源的效能。

In discharge lamps, a gas or vapour is contained in an arc tube. When a stream of electrons pass through the arc tube, the gas or vapour is ionised, it becomes excited and emits radiant energy. The energy radiated is distributed over wavelengths characteristic of the particular gas or vapour mix in which the discharge takes place.

在放电灯中，电弧管中包含气体或蒸汽。当电子流通过电弧管时，气体或蒸汽被电离，处于激励状态，释放辐射能。辐射能量分布在发生放电的特定气体或蒸汽混合物的特征波长上。

The market requirements of modern light sources are defined essentially by economy and design. In lamp technology, design means size, shape and photometric performance such as luminance and colour. Discharge lamps in the form of compact fluorescent, metal halide and sodium lamps have been developed for general lighting applications, specifically in response to the market requirements of economy, design and energy efficacy.

实际上，现代光源的市场要求由经济和设计界定。在灯具技术中，设计意味着大小、形状和光度性能（例如光度和颜色）。为了专门响应市场的经济、设计和效能需求，已经开发出了适于一般照明用的放电灯，此类放电灯结构紧凑，包括日光灯、金属卤化物灯和钠光灯。

The function of control equipment

The correct operation of discharge lamps depends largely on the properties of the control gear and poor or incompatible equipment will inevitably result in imperfect functioning of the lamp. The control equipment and the lamp must be compatible in all respects. The control gear must limit the electric current passing through the lamp to a specified value prescribed for that particular lamp and this match is the prime criteria for ensuring compatibility between control gear and lamp. Therefore, each type and rating of discharge lamp requires compatible control gear to ensure the lamp operates within its specified electrical parameters.

控制设备的功能

放电灯能够正常工作很大程度上取决于控制装置的属性，设备品质较差或不兼容必然会导致灯具工作不完美。控制设备和灯具必须各个方面兼容。控制装置必须将通过灯具的电流限定为一个该特定灯具规定的指定值，该匹配是确保控制装置与灯具兼容的主要标准。因此，每种类型和等级的放电灯都需要兼容的控制装置，确保灯具在器指定的电气参数范围内正常工作。

Inevitably, watts losses occur in any current limiting device, therefore the question of how much power is lost (or in other words the efficiency of the control equipment) is an important factor when considering the performance of a lighting system.

The improved efficiency of only a few watts per control gear set can rapidly add up to kilowatts in large project applications.

任何限流装置中都不可避免地会发生功率损耗，因此，在考虑照明系统的性能时，损耗多少功率（换言之即控制设备的性能）这一问题成为了一个重要的因素。

在大型项目应用中，这种每个控制设备组仅损耗数瓦的高功效很快就能累计节约数千瓦。有许多不同类型的控制设备技术和限流方法，每种技术和方法都有各自的优缺点。

There are different types of control equip ment technologies and methods of current limitation, each having its own advantages and disadvantages.

Requirements of the control equipment

Discharge lamps cannot function directly on main supply voltage. Certain devices have to be built into the circuit in the form of what we call control equipment. Depending on the type of lamp, the control equipment performs one or more of the following primary functions:

- it provides the ignition voltage higher than the normal operating voltage to enable initial lamp starting
- it ensures that the lamp continues to operate despite the fact that twice during each AC cycle the voltage is zero
- it prevents the self destruction of the lamp by limiting and stabilising the lamp current. This is a necessary measure in view of the negative resistance characteristic of discharge lamps.

In addition to these primary functions, lighting control equipment must also fulfil a number of other important requirements:

- it must ensure a sufficiently high power factor
- it must limit the generation of harmonics
- it must offer adequate suppression of any radio
- interference that might be produced by the lighting system.

Finally, the control equipment must satisfy other requirements dictated by both the luminaire manufacturer and the user:

- to have control components of compact dimensions
- to have low watts loss, high efficiency characteristics which also impact the control equipment temperature
- to have low operating noise level and long service life
- to have a high impedance to frequencies used for ripple switching (if required)

控制设备的要求

放电灯不能直接在电源电压下工作。某些设备需要作为控制设备的方式内置在电路中。根据灯具类型，控制设备执行以下一项或多项主要功能：

- 提供高于正常工作电压的启辉电压实现初始灯具启动
- 确保灯具连续工作，尽管在每次交流循环期间会出现两次零电压的情况。
- 通过限制和稳定灯具电流，防止灯具自毁。鉴于放电灯的负阻特性，这是一项必要措施。

除上述主要功能以外，照明控制设备还必须符合许多其他重要要求：

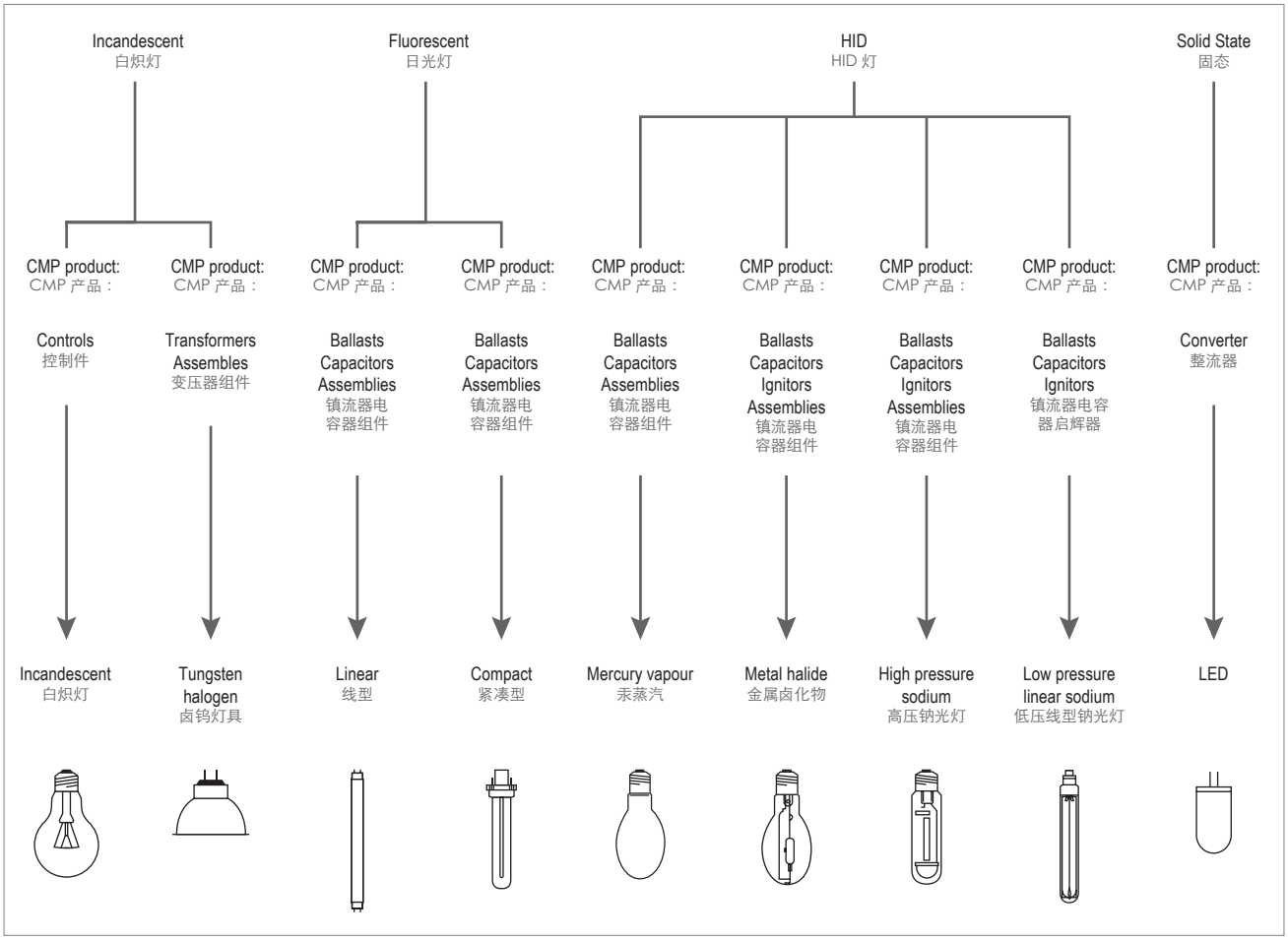
- 必须确保足够高的功率因数
- 必须限制谐波的生成
- 必须对照明系统可能产生的任何
- 无线电干扰提供 足够抑制作用。

最后，控制设备必须满足灯具生产商和用户指定的其他要求：

- 具有紧凑小巧的控制组件
- 具有低功率损耗、高效率特性，这些特性还可影响控制设备温度
- 噪声级低，使用寿命长
- 对波纹开关使用的频率具有高阻抗（如果需要）

Light source 光源	**Efficacy (lumens/watt)** 效能（流明/瓦特）
Candle 蜡烛	0.1
Gas mantle 气灯罩	2.0
Carbon arc 碳弧	7.0
Early carbon filament 早期碳灯丝	2.0
Cellulose filament 纤维素灯丝	3.0
Tungsten vacuum 真空钨	9.0
Tungsten gas-filled coiled coil 充气双螺旋钨灯丝	15.0
Mercury vapour 汞蒸汽	40–60
LED white LED 白光	50–70
Fluorescent lamp 日光灯	64–104
Metal halide 金属卤化物	70–90
High pressure sodium 高压钠	90–125
Low pressure sodium 低压钠光灯	120–200

Lamp families
灯具系列



Don't save light – save energy
别省光—要省能源

CMP is internationally recognised as a world class manufacturer and supplier of energy saving lighting control equipment. "Don't Save Light – Save Energy" is synonymous with energy saving lighting and optimized performance of lamps and systems for industrial, commercial, as well as domestic applications.

Even though the long-term environmental effects of greenhouse gas emissions on the earth's climate remain uncertain, the responsibility to explore and develop economically viable opportunities to reduce emissions through energy efficiency improvements is of paramount importance to CMP.

Energy efficiency is really about cost management. In the big picture, for every unit of energy demand saved, three or four units of fuel are saved back at the power plant, plus the pollution that goes with burning that fuel. The application of energy efficient lighting ultimately leads to significant savings in electricity demand, particularly in commercial and industrial installations. Reducing energy demand, is therefore both economically sensible and environmentally responsible.

Lighting

A lighting system should enable people to see effectively and comfortably; energy performance considerations should not detract from this primary objective. The energy load of a system depends on the use of efficient lamps operating in efficient luminaires, using efficient control equipment. Ballasts for fluorescent lamps may offer the most sustainable improvement in the energy demand of commercial and industrial lighting systems. This is because the ballast is a hard-wired component that is not easily tampered with, it lasts the life of a light fitting and its energy performance is maintenance free.

CMP 是一家国际公认的世界级节能照明控制设备生产商和供应商。"别省光—要省能源"与工业应用、商业应用以及国内应用的灯具和系统的节能照明和优化性能具有同等意义。

尽管温室空气排放对地球气候的长期环境影响仍不确定，但通过探索和发展经济上可行的机会来改进能源效率从而减少排放的责任对 CMP 具有至高无上的重要性。

能源效率实际上等同于成本管理。在大局上来看，节约一个单位的能源需求，反过来对发电厂而言则节约三到四个单位的燃料，另外可消除燃烧该燃料所导致的污染。应用节能照明设备最终会显著降低电力需求，尤其是商业和工业装置的电力需求。因此，降低能源需求在经济上是明智的，同时也是对环境负责。

照明设备

使用照明系统，可以提供有效、舒适的视觉体验；能效性能考虑不得偏移该主要目标。系统的能源负载取决于高效照明设备中使用高效灯具和高效控制设备。日光灯的镇流器可以为商业和工业照明系统的能源需求提供最具可持续性的改进。这是因为镇流器是一个硬接线组件，不易被篡改，其使用寿命与灯具使用寿命相同，并且其能效性能无需维护。

Ballasts

Initially the EC ballast was the most reliable, economical, Australian made ferromagnetic ballast. It was developed and manufactured to cater for the insatiable demands of lighting markets, wanting a quality, affordable product. This has been achieved, far exceeding expectations for sustainability, and more than accommodating the needs of the industry.

As the requirements became more sophisticated, and to establish itself at the forefront of energy efficient lighting, the Low Loss Energy Control LLEC ballast was developed. The CMP LLEC ballast set a new industry standard for lighting efficiency.

The CMP range of ferro-magnetic ballasts offer a choice of watts loss efficiency characteristics (the unproductive power consumed by the ballast) when operated in accordance with International (IEC) Standards.

CMP is proud to be associated with the development and manufacture of exciting and innovative products, helping to take the lighting industry into the future.

CMP has a full range of magnetic ballasts and transformers, for fluorescent, high intensity discharge and low voltage halogen lamps.

镇流器

EC 镇流器最初是澳大利亚生产的最可靠、经济的铁磁镇流器。它的开发和生产是为了迎合照明市场需要高品质、可负担的产品难以满足的需求。该需求已经得到了满足，可持续性远远超出预期，而且不仅仅适应行业的需要。

随着需求更加复杂，为了让自己位于节能照明的最前沿，开发出了低损耗节能型 (LLEC) 镇流器。CMP LLEC 镇流器为照明效率制定了新的行业标准。

CMP 的一系列铁磁镇流器按照国际 (IEC) 标准工作时提供功率损耗系数特性（镇流器消耗非生产性功率）。

CMP 为开发和制造出令人激动的创新产品而自豪，帮助引领照明行业迈向未来。

CMP 拥有适用于日光灯、高强度放电灯和低压卤素灯的全系列电感镇流器和磁性变压器。

Energy savings in a commercial building
商业建筑节能

Lighting is a significant proportion of the energy demand. For example, in a multi-story office building, it can account for up to 40% of a n annual power bill. Incorporating an energy efficient lighting system will significantly reduce energy costs.

Low loss ferro-magnetic ballasts offer:
- permanent reduction in energy use
- a long and reliable life
- no maintenance
- short payback – small capital outlay

Consider a medium sized commercial building. Savings can be calculated when using LLEC ferro-magnetic ballasts in lieu of standard ballasts.

A solid investment

An analysis of the cost difference using LLEC low loss over EC standard ferro-magnetic ballasts relative to the energy savings in our typical medium sized commercial building example reveals a very solid investment opportunity.

For low loss, the initial outlay is repaid in one year and the investment outlay is returned more than ninefold in the first 10 years. Even with low energy costs, this represents an excellent return on investment and a sound commercial business decision.

在能源需求中，照明占很大的比例。例如，在多层办公建筑中，照明费用最高占每年电费的 40%。引入节能照明系统会大幅降低能源消耗。

低损耗铁磁镇流器提供：

- 永久性降低能源使用
- 使用寿命长、可靠
- 免维护
- 回收期短—小资本支出

考虑中型商业建筑。使用铁磁镇流器替代标准镇流器时，可计算出节约成本。

可靠投资

从节能的角度，对在典型的中型商业建筑示例中使用 LEEC 低损耗镇流器与 EC 标准铁磁镇流器之间的成本差异进行分析后得出，这是一个非常可靠的投资机会。

在低损耗方面，初期支出可在一年内回报，投资支出可在第一个 10 年内获得九倍以上的回报。甚至可带来低廉的能源成本，这意味优异的投资回报率，是一个明智的商业决策。

Added bonus

An added bonus is significant saving in air-conditioning costs. In the case of our example of 10,000 LLEC low loss ferro-magnetic ballasts generating 4 watts less heat per circuit, that means 40 kW of heat load does not have to be extracted from the building space. The additional running cost saving on the air-conditioning, taking into account heating requirements in cooler months, can be calculated and in this case would be typically in excess of A$8,800 minimum per year. This represents another significant saving and ensures the payback period is even more commercially acceptable.

In Australia and New Zealand, CMP has been at the forefront of development of energy efficient ballasts that comply with the Australian and New Zealand Minimum Energy Performance Standards (MEPS).

Look to the future

CMP ballasts offer a technology that is easily applied providing significant permanent load reduction. When looking at life cycle costs, CMP ballasts introduce savings that cannot be ignored, and actually offer a very profitable investment opportunity. Consider the energy cost of yesterday, the energy cost of today and forecast the energy cost of tomorrow, and then decide. Whatever the decision, CMP has the right Lighting Control Equipment for the application.

额外回报

额外的一个回报是大幅降低空调费用。在我们的 10,000 个 LLEC 低损耗铁磁镇流器的示例中，每个电路少产生了 4 瓦的热量，这意味着不需要从建筑空间中排出 40kW 的热负载。另外，可节约空调的运行成本，鉴于较为寒冷的月份的供暖需求，可计算出该节约成本，在这个示例中，通常每年最低能够节约 8,800 澳元以上。这代表了另一项重大节约，确保从商业的角度看，回收期更易令人接受。

在澳大利亚和新西兰，CMP 始终处于开发符合澳大利亚和新西兰最低能效标准 (MEPS) 的节能镇流器的最前沿。

放眼未来

CMP 镇流器提供易于应用的技术，可永久性降低负载。考虑到寿命周期成本，CMP 镇流器引入了不容忽视的节能性能，实际上是提供了一个可获得丰厚回报的投资机会。考虑过去和当前的能源成本并预测将来的能源成本，然后再做出决策。无论做出哪种决策，CMP 都有合适的照明控制设备可供选择。

Criteria 标准	Unit 单位	EC (EEI = C)	LLEC (EEI = B1)
Quantity of ballasts 镇流器数量		10,000	10,000
Input power 输入功率		46	42
Energy savings 节能	W	–	4
Operating period 工作时间	hours/day 小时/天	10	–
	days/week 天/周	5.5	–
	weeks/year 周/年	50	–
Energy costs[1] 能源成本[1]	A$/kWh	0.16	–
Annual savings 每年节约	A$	–	17,600
Added savings[2] 额外节约[2]	A$	–	8,800

Notes
1 based on average commercial user (subject to variation)
2 HVAC: air-conditioning

备注：
1 基于普通商业用户（可能会发生变化）
2 HVAC：空调

Quality Policy
质量方针

Our Quality Policy is founded on the importance that our customers, people, processes and suppliers play in the overall quality of products and services we provide. To achieve this:

- We strive to exceed customer expectations by understanding customer requirements and building a sustainable customer relationship.
- We develop a progressive culture where people enjoy working, are continually trained and take ownership as part of our continuous improvements.
- We strive for continuous quality improvement and excellence through continued development of our Quality System.
- We have structured procedures that are simple and easy to use that add value to the organization and are geared towards our customer requirements.
- We use only those key suppliers that have demonstrated that they have a Quality Assurance system appropriate to the reliable supply of the products.
- We conform to the Quality system requirements of AS/NZS ISO 9001:2008.
- We use internationally recognised benchmarks to continually guide and review our progress.

我们的质量方针是基于客户、人员、流程和供应商对我们提供的整体产品和服务质量的重要性而制定的。为了实现这一点：

- 我们通过了解客户要求并建立
- 可持续的客户关系，努力超越客户期望。
- 我们培养进步文化做为我们持续改进的一部分，使员工享受工作，持续培训并全心投入。
- 我们通过持续开发质量体系，努力实现持续的质量改进并追求卓越。
- 我们制定了简单易用的程序，可为组织增值，并满足我们客户的要求。
- 我们仅使用已证明其拥有质量保证体系，可以稳定地提供可靠产品的主要供应商。
- 我们遵守 AS/NZS ISO 9001:2008 质量体系要求。
- 我们使用国际公认的标准来
- 持续指导和评审我们的进度。

Recognition of international excellence

A commitment to quality

As the leading manufacturer of lighting control equipment, CMP success is built on a philosophy of always striving to achieve excellence in every field. This not only applies to levels of excellence in control equipment and component engineering, but also in our service to the customer.

Our commitment is manifested in benchmark standards of product reliability, customer relations, product support and attention to detail. Our aim is to be recognized as a customer focused, quality-oriented organisation.

ISO9001 Standard Certified

A key element of commitment to quality is the establishment, implementation and maintenance of an internationally recognized quality system, consistent with the requirements of the Quality System Standard.

This is our commitment to providing a total quality system supporting CMP components from conception, through manufacture to the customer.

国际卓越认可

质量承诺

作为领先的照明控制设备制造商，CMP 的成功哲学是始终奋力实现每个领域的卓越。这不仅适用于控制设备和构件工程的卓越级别，也适用于我们提供给客户的服务。

我们的承诺体现在产品可靠性基准标准、客户关系、产品支持和注重细节等方面。我们的目标是成为公认的以顾客为中心，以质量为导向的机构。

ISO9001 标准认证

质量承诺的要素是遵照质量体系标准的要求来制定、实施和维护国际公认的质量体系。

我们承诺提供一个全面质量体系，从概念到制造再到客户的整个过程中支持 CMP 组件。

Quality Endorsed Company

Standards Australia
ISO 9001
Lic QEC 22895

Minimum Energy Performance Standards (MEPS)
最低能效标准 (MEPS)

The Australian (and New Zealand) Government introduced a program of Minimum Energy Performance Standard (MEPS) for fluorescent lamp ballasts within the framework of the National Appliance Equipment Efficiency Program early 2003. From that time, State and Territory laws have required fluorescent lamp ballasts to be registered by the manufacturer, or the importer, as to their Energy Efficiency Index (EEI) within the MEPS efficiency requirements.

澳大利亚（和新西兰）政府引入一个针对日光灯镇流器的最低能效标准 (MEPS) 项目，其框架是 2003 年初提出的国家电器设备效率计划。从那时起，州法和地区法都要求制造商或进口商注册日光灯镇流器，且其能效指数 (EEI) 处于 MEPS 能效要求范围内。

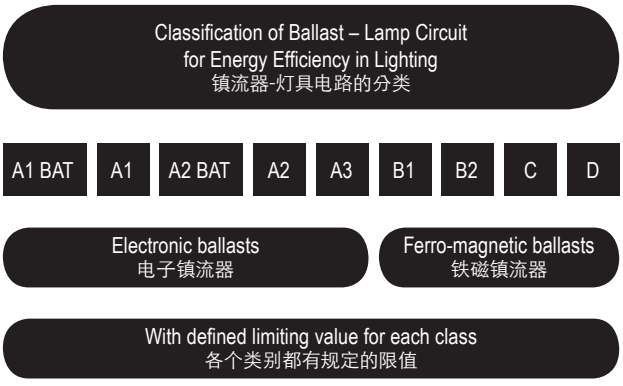
MEPS classifications (Energy Efficiency Index)

The corrected total input power of the lamp-ballast circuit is defined as “Energy Efficiency Index” (EEI) of the lamp-ballast combination. There are 7 classifications of efficiency with every class defined by a limiting value of total input power related to the pertinent ballast lumen factor. A BLF of 1.00 is defined for high frequency electronic ballasts and 0.95 for ferromagnetic ballasts.

MEPS 分类（能效指数）

灯具-镇流器电路的补偿后总输入功率被定义为灯具-镇流器组合的“能效指数”

(EEI)。有七大能效分类，每个类别由总输入功率的限值定义，与相关镇流器流明系数有关联。对于高频电子镇流器，BLF 为 1.00，对于铁磁镇流器，BLF 为 0.95。



What are the technical requirements in Australia?

In Australia, MEPS is applied to ballasts used with linear fluorescent lamps (type T) from 15W and above. There is no mandatory requirement for ballasts used with compact fluorescent lamps but such ballasts can be voluntarily marked.

The Australian MEPS levels are essentially harmonized with the European Commission requirements drafted in late 2000 (EU directive 2000/55/EC). The E U requirements cover a wider range of lamps, including most compact fluorescent lamps, except integral types.

Full details are contained in AS/NZS 4783.2, Energy Labelling and Minimum Energy Performance Standards Requirements and AS/NZS 4783.1, Method of Measurement to Determine Energy Consumption and Performance of Ballast-Lamp Circuits.

澳大利亚的技术要求有哪些?

在澳大利亚，MEPS 适用于与 15 W 或以上功率的线性日光灯配合使用的镇流器。与紧凑型日光灯配合使用的镇流器并无强制要求，但可主动标记此类镇流器。

澳大利亚 MEPS 级别本质上与 2000 年底起草的欧盟委员会要求（欧盟指令 2000/55/EC）是一致的。欧盟要求涵盖了各种灯具，包括除了整形灯之外的大部分紧凑型日光灯。

AS/NZS 4783.2（能源标签和最低能效标准要求）和 AS/NZS 4783.1（确定整流器-灯具电路的能耗和性能的测量方法）中提供了完整的详细信息。

Benefits

From Government studies, the impact of the MEPS Regulation suggests that the standard Class C ballast will disappear from the Australian market, replaced by more efficient Class A (electronic) and B1 and B2 (lower watts loss) ballasts.

In so doing, the community will have saved almost $270 million by 2010. At the same period, the annual abatement of greenhouse gas derived from this measure will be in the order of 350,000 tonnes.

益处

政府研究显示，MEPS 法规的影响表明标准的 C 类镇流器将从澳洲市场上消失，代之以更高效的 A 类（电子）和（最低功损）镇流器。电子镇流器 铁磁镇流器各个类别都有规定的限值

这样，到 2010 年，社区将可节省约 2.7 亿美元。同时，此措施每年约可减少约 350,000 吨的温室气体。

Lamp type 灯具类型	**Lamp power** 灯具功率		**EEI-Class** EEI 等级							
	50 Hz	**HF**	**IIcos code** IIcos 代码	**A1** [2]	**A2**	**A3**	**B1**	**B2**	**C**	**D**
T			**maximum corrected total input power – watts** 补偿后的最大总输入功率—瓦特							
	15 W	13.5 W	FD-15-E-G13-26/450	18 W	≤ 16 W	≤ 18 W	≤ 21 W	≤ 23 W	≤ 25 W	> 25 W
	18 W	16 W	FD-18-E-G13-26/600	21 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W	> 28 W
	30 W	24 W	FD-30-E-G13-26/895	30 W	≤ 31 W	≤ 33 W	≤ 36 W	≤ 38 W	≤ 40 W	> 40 W
	36 W	32 W	FD-36-E-G13-26/1200	38 W	≤ 36 W	≤ 38 W	≤ 41 W	≤ 43 W	≤ 45 W	> 45 W
	58 W	50 W	FD-58-E-G13-26/1500	59 W	≤ 55 W	≤ 59 W	≤ 64 W	≤ 67 W	≤ 70 W	> 70 W

Notes

1. Values are for 230 V rated ballasts, an additional 0.5 and 1.0 W is added for the 240 and 250 V rated ballasts respectively.
2. A ballast marked with classification EE =I A1 shall be dimmable and the values in the table refer to the maximum total input power at 100%.
   The total circuit power at 25% light output shall not exceed 50% of the value stated for Class A3 of the same lamp.

备注：

1. 这些值适用于额定功率为 230 V 的镇流器，对于额定功率为 240 V 和 250 V 的镇流器，各自添加 0.5 W 和 1.0 W。
2. 带 EE =I A1 分类标志的镇流器应是可调光的，表中的值指满负荷运行时的最大总输入功率。
   25% 光输出时的总电路功率不应超出同一 A3 类灯具的指定值的 50%。

Energy classification table for lighting systems in accordance with ErP directive 2009/125/EC

照明系统的能源分类表（基于 ErP 指令 2009/125/EC）

Lamp Data 灯具数据					Ballast Efficiency (P_{lamp} / P_{input}) 镇流器效率 ($P_{灯具}$ / $P_{灯具}$) Non-dimmable 不可调光				
Lamp type 灯具类型	Nominal wattage 标称功率 W	ILCOS code ILCOS 代码	Rated / typical wattage 额定/典型功率 50 Hz W	Rated / typical wattage 额定/典型功率 HF W	A2 BAT	A2	A3	B1	B2
T8	15	FD-15-E-G13-26/450	15	13.5	87.8%	84.4%	75.0%	67.9%	62.0%
T8	18	FD-18-E-G13-26/600	18	16	87.7%	84.2%	76.2%	71.3%	65.8%
T8	30	FD-30-E-G13-26/900	30	24	82.1%	77.4%	72.7%	79.2%	75.0%
T8	36	FD-36-E-G13-26/1200	36	32	91.4%	88.9%	84.2%	83.4%	79.5%
T8	38	FD-38-E-G13-26/1050	38.5	32	87.7%	84.2%	80.0%	84.1%	80.4%
T8	58	FD-58-E-G13-26/1500	58	50	93.0%	90.9%	84.7%	86.1%	82.2%
T8	70	FD-70-E-G13-26/1800	69.5	60	90.9%	88.2%	83.3%	86.3%	83.1%
TC-L	18	FSD-18-E-2G11	18	16	87.7%	84.2%	76.2%	71.3%	65.8%
TC-L	24	FSD-24-E-2G11	24	22	90.7%	88.0%	81.5%	76.0%	71.3%
TC-L	36	FSD-36-E-2G11	36	32	91.4%	88.9%	84.2%	83.4%	79.5%
TCF	18	FSS-18-E-2G10	18	16	87.7%	84.2%	76.2%	71.3%	65.8%
TCF	24	FSS-24-E-2G10	24	22	90.7%	88.0%	81.5%	76.0%	71.3%
TCF	36	FSS-36-E-2G10	36	32	91.4%	88.9%	84.2%	83.4%	79.5%
TC-D / DE	10	FSQ-10-E-G24q=1 FSQ-10-I-G24d=1	10	9.5	89.4%	86.4%	73.1%	67.9%	59.4%
TC-D / DE	13	FSQ-13-E-G24q=1 FSQ-13-I-G24d=1	13	12.5	91.7%	89.3%	78.1%	72.6%	65.0%
TC-D / DE	18	FSQ-18-E-G24q=2 FSQ-18-I-G24d=2	18	16.5	89.8%	86.8%	78.6%	71.3%	65.8%
TC-D / DE	26	FSQ-26-E-G24q=3 FSQ-26-I-G24d=3	26	24	91.4%	88.9%	82.8%	77.2%	72.6%
TC-T / TE	13	FSM-13-E-GX24q=1 FSM-13-I-GX24d=1	13	12.5	91.7%	89.3%	78.1%	72.6%	65.0%
TC-T / TE	18	FSM-18-E-GX24q=2 FSM-18-I-GX24d=2	18	16.5	89.8%	86.8%	78.6%	71.3%	65.8%
TC-T / TC-TE	26	FSM-26-E-GX24q=3 FSM-26-I-GX24d=3	26.5	24	91.4%	88.9%	82.8%	77.5%	73.0%
TC-DD / DDE	10	FSS-10-E-GR10q FSS-10-L/P/H-GR10q	10.5	9.5	86.4%	82.6%	70.4%	68.8%	60.5%
TC-DD / DDE	16	FSS-16-E-GR10q FSS-16-I-GR8 FSS-16-L/P/H-GR10q	16	15	87.0%	83.3%	75.0%	72.4%	66.1%
TC-DD / DDE	21	FSS-21-E-GR10q FSS-21-L/P/H-GR10q	21	19.5	89.7%	86.7%	78.0%	73.9%	68.8%
TC-DD / DDE	28	FSS-28-E-GR10q FSS-28-I-GR8 FSS-28-L/P/H-GR10q	28	24.5	89.1%	86.0%	80.3%	78.2%	73.9%
TC-DD / DDE	38	FSS-38-E-GR10q FSS-38-L/P/H-GR10q	38.5	34.5	92.0%	89.6%	85.2%	84.1%	80.4%
TC	5	FSD-5-I-G23 FSD-5-E-2G7	5.4	5	72.7%	66.7%	58.8%	49.3%	41.4%
TC	7	FSD-7-I-G23 FSD-7-E-2G7	7.1	6.5	77.6%	72.2%	65.0%	55.7%	47.8%
TC	9	FSD-9-I-G23 FSD-9-E-2G7	8.7	8	78.0%	72.7%	66.7%	60.3%	52.6%
TC	11	FSD-11-I-G23 FSD-11-E-2G7	11.8	11	83.0%	78.6%	73.3%	66.7%	59.6%

Lamp Data 灯具数据					Ballast Efficiency (P_{lamp} / P_{input}) 镇流器效率 ($P_{灯具}$/ $P_{灯具}$) Non-dimmable 不可调光				
Lamp type 灯具类型	**Nominal wattage** 标称功率 W	**ILCOS code** ILCOS 代码	**Rated / typical wattage** 额定/典型功率 50 Hz W	HF W	**A2 BAT**	**A2**	**A3**	**B1**	**B2**
T5	4	FD-4-E-G5-16/150	4.5	3.6	64.9%	58.1%	50.0%	45.0%	37.2%
T5	6	FD-6-E-G5-16/225	6	5.4	71.3%	65.1%	58.1%	51.8%	43.8%
T5	8	FD-8-E-G5-16/300	7.1	7.5	69.9%	63.6%	58.6%	48.9%	42.7%
T5	13	FD-13-E-G5-16/525	13	12.8	84.2%	80.0%	75.3%	72.6%	65.0%
T9-C	22	FSC-22-E-G10q-29/200	22	19	89.4%	86.4%	79.2%	74.6%	69.7%
T9-C	32	FSC-32-E-G10q-29/300	32	30	88.9%	85.7%	81.1%	80.0%	76.0%
T9-C	40	FSC-40-E-G10q-29/400	40	32	89.5%	86.5%	82.1%	82.6%	79.2%
T2	6	FDH-6-L/P-W4.3x8.5d-7/220		5	72.7%	66.7%	58.8%		
T2	8	FDH-8-L/P-W4.3x8.5d-7/320		7.8	76.5%	70.9%	65.0%		
T2	11	FDH-11-L/P-W4.3x8.5d-7/420		10.8	81.8%	77.1%	72.0%		
T2	13	FDH-13-L/P-W4.3x8.5d-7/520		13.3	84.7%	80.6%	76.0%		
T2	21	FDH-21-L/P-W4.3x8.5d-7/		21	88.9%	85.7%	79.2%		
T2	23	FDH-23-L/P-W4.3x8.5d-7/		23	89.8%	86.8%	80.7%		
T5-E	14	FDH-14-G5-L/P-16/550		13.7	84.7%	80.6%	72.1%		
T5-E	21	FDH-21-G5-L/P-16/850		20.7	89.3%	86.3%	79.6%		
T5-E	24	FDH-24-G5-L/P-16/550		22.5	89.6%	86.5%	80.4%		
T5-E	28	FDH-28-G5-L/P-16/1150		27.8	89.8%	86.9%	81.8%		
T5-E	35	FDH-35-G5-L/P-16/1450		34.7	91.5%	89.0%	82.6%		
T5-E	39	FDH-39-G5-L/P-16/850		38	91.0%	88.4%	82.6%		
T5-E	49	FDH-49-G5-L/P-16/1450		49.3	91.6%	89.2%	84.6%		
T5-E	54	FDH-54-G5-L/P-16/1150		53.8	92.0%	89.7%	85.4%		
T5-E	80	FDH-80-G5-L/P-16/1150		80	93.0%	90.9%	87.0%		
T5-E	95	FDH-95-G5-L/P-16/1150		95	92.7%	90.5%	84.1%		
T5-E	120	FDH-120-G5-L/P-16/1450		120	92.5%	90.2%	84.5%		
T5-C	22	FSCH-22-L/P-2GX13-16/225		22.3	88.1%	84.8%	78.8%		
T5-C	40	FSCH-40-L/P-2GX13-16/300		39.9	91.4%	88.9%	83.3%		
T5-C	55	FSCH-55-L/P-2GX13-16/300		55	92.4%	90.2%	84.6%		
T5-C	60	FSCH-60-L/P-2GX13-16/375		60	93.0%	90.9%	85.7%		
TC-LE	40	FSDH-40-L/P-2G11		40	91.4%	88.9%	83.3%		
TC-LE	55	FSDH-55-L/P-2G11		55	92.4%	90.2%	84.6%		
TC-LE	80	FSDH-80-L/P-2G11		80	93.0%	90.9%	87.0%		
TC-TE	32	FSMH-32-L/P-2GX24q=3		32	91.4%	88.9%	82.1%		
TC-TE	42	FSMH-42-L/P-2GX24q=4		43	93.5%	91.5%	86.0%		
TC-TE	57	FSM6H-57-L/P-2GX24q=5 FSM8H-57-L/P-2GX24q=5		56	91.4%	88.9%	83.6%		
TC-TE	70	FSM6H-70-L/P-2GX24q=6 FSM8H-70-L/P-2GX24q=6		70	93.0%	90.9%	85.4%		
TC-TE	60	FSM6H-60-L/P-2G8=1		63	92.3%	90.0%	84.0%		
TC-TE	62	FSM8H-62-L/P-2G8=2		62	92.2%	89.9%	83.8%		
TC-TE	82	FSM8H-82-L/P-2G8=2		82	92.4%	90.1%	83.7%		
TC-TE	85	FSM6H-85-L/P-2G8=1		87	92.8%	90.6%	84.5%		
TC-TE	120	FSM6H-120-L/P-2G8=1 FSM8H-120-L/P-2G8=1		122	92.6%	90.4%	84.7%		
TC-DD	55	FSSH-555-L/P-GRY10q3		55	92.4%	90.2%	84.6%		

CMP Controls guarantee conditions
CMP Controls 保修条件

CMP Controls stands for high quality products and services. Guarantee for lighting components exceeds usual legal guarantee.

CMP Controls offers a 5-year guarantee on all devices with a rated life of at least 50,000 hours of operation. A guarantee of 2 years is offered on devices with a rated life of less than 50,000 hours of operation.

1. Products

This guarantee applies to all control gear supplied by CMP Controls (magnetic ballasts for fluorescent and HID lamps, magnetic transformers, capacitors and control gear assemblies).

2. Duration of the guarantee

The guarantee period for CMP Controls products is 2 or 5 years depending on the rated life of the product.

2a. Basic guarantee

For products with a physical rated life of ≥ 50,000 hours of operation or more, CMP Controls offers a guarantee for a period of 5 years under the following conditions. To ensure that the product guarantee matches the guarantee offered by the luminare manufacturer, the guarantee is extended by a further 6 months from the date of manufacture indicated on the product, up to a maximum of 66 months from the date of manufacture.

This applies to those products for which a rated life of ≥ 50,000 hours of operation is indicated in the data sheets.

2b. Limited guarantee

For products with a physical rated life of less than 50,000 hours of operation, CMP Controls offers a guarantee for a period of 2 years under the following conditions. To ensure that the product guarantee matches the guarantee offered by the luminaire manufacturer, the guarantee is extended by a further 6 months from the date of manufacture indicated on the product, up to a maximum of 30 months from the date of manufacture. This applies to those products for which a rated life of < 50,000 hours of operation is indicated in the data sheets, e.g. capacitors.

3. Guarantee conditions

The guarantee offered by CMP Controls is valid under the following conditions:

The products from CMP Controls must be used in accordance with the relevant product and application specifications. Limit values for temperatures and voltages must not be exceeded and the product not exposed to any mechanical stresses.

The guarantee for the devices applies only if the product is installed with lamps that comply with the relevant IEC specifications.

The guarantee covers solely product failures caused by material, design or production faults and failure rates that exceed the rated failure rate. The rated life and rated failure rate of a device are considered to be the values defined in the technical documentation.

Additional conditions for magnetic ballasts of fluorescent lamps in case of extreme conditions (stuck starter) the increased temperature on the ballast will lead to a reduced lifetime, if failed components are not replaced within a short time. The guarantee conditions therefore only apply upon use in combination with safety starters or proof of immediate lamp and starter replacement.

4. Execution of the guarantee

In the event of failures exceeding the nominal failure rate, CMP Controls on its sole discretion might decide to repair defective components or products, supply adequate products as replacement or reimburse products to original customers. The customers or end customers bear the costs for demounting and remounting as well as for sending in and returning products. Any other costs, e.g. replacement costs upon installation, costs caused from failures of the installation or other damage and/or consequential damage are not covered by this guarantee.

The indicated lifetime is achieved by operating lighting components according to the conditions specified by the manufacturers, to the relevant international standards and in accordance with local regulations.

In designing and installing luminaries, it should be remembered that the ballast and/or other components may have to be replaced before the luminaire comes to the end of its life. The products must therefore be easy to access at all times. When installing the products, the requirements of easy maintenance must therefore be taken into consideration to keep maintenance costs down.

5. Utilisation of the Guarantee

The guarantee has to be claimed immediately by returning the defective product in order to check the validity of the claim.

6. Applicable Law

See the conditions supplied with the invoice.

CMP Controls 对于其提供的额定使用寿命至少达 50,000 个小时的所有设备都提供 5 年保修期。对于额定使用寿命低于 50,000 个小时的设备，则提供 2 年保修期。

1. 产品

此保修适用于 CMP Controls 提供的所有控制装置（日光灯和 HIP 灯的电感镇流器、磁性变压器、电容器和控制装置总成）。

2. 保修期

CMP Controls 产品的保修期为 2 年或 5 年，这取决于产品的额定使用寿命。

2a. 基本保修

对于实际额定使用寿命 ≥ 50,000 个小时的产品，CMP Controls 在以下条件下提供 5 年保修期。为了确保产品保修与灯具制造商提供的保修相匹配，从产品上所示的制造日期开始额外延长 6 个月，最高可从制造日期开始延长 66 个月。

这种情况适用于数据表中显示的额定使用寿命 ≥ 50,000 个小时的产品。

2b. 有限保修

对于实际额定使用寿命低于 50,000 个小时的产品，CMP Controls 在以下条件下提供 2 年保修期。为了确保产品保修与灯具制造商提供的保修相匹配，从产品上所示的制造日期开始额外延长 6 个月，最高可从制造日期开始延长 30 个月。这种情况适用于数据表中显示的额定使用寿命 < 50,000 个小时的产品，例如电容器

3. 保修条件

以下条件下，CMP Controls 提供的保修是有效的：

必须根据相关产品和应用规范使用 CMP Controls 提供的产品。不得超出温度和电压的限值，且产品不可承受任何机械应力。

仅当产品与符合相关 IEC 规范的灯具一同安装时，设备的保修才适用。

保修仅包括因材料、设计或生产故障导致的产品失效以及故障率超过额定比率的产品。设备的额定使用寿命和额定故障率应是技术文档中定义的值。

在极端条件下（启辉器卡住）日光灯的电感镇流器的其他状况。如果未在短时间内更换故障组件，镇流器温度升高将导致使用寿命缩减。因此仅在配合使用安全启辉器或提供立即更换灯具和启辉器的证据时，保修条件才有效。

4. 保修的实施

如果故障率超出标称故障率，CMP Controls 可自行决定是修理有缺陷的组件或产品，还是提供足够的产品作为更换件，或将产品的货款偿还给原始客户。客户或最终客户承担拆卸、重新安装、发送和返回产品的费用。任何其他成本，例如安装时的更换成本、设备故障或其他损坏和/或间接损坏所导致的成本都不在本保修协议的涵盖范围内。

根据制造商指定的条件、相关国际标准和当地法规操作照明组件，可实现指定的使用寿命。

在设计和安装灯具时，请记住，在灯具的使用寿命结束之前便可能有必要更换镇流器和/或其他组件。因此产品必须随时易于获取。也因此，安装产品时，必须将易维护要求纳入考虑范围，以降低维护成本。

5. 保修的利用

必须通过返回有缺陷的产品立即提出保修索赔，以检查此索赔的有效性。

6. 适用法律

请查看发票随附的条件。

Terms and conditions of sale
销售条款和条件

Unless otherwise agreed to in writing, all goods ("Goods") sold or offered for sale by CMP Controls Pty. Ltd. ("Supplier") are done so subject to the following conditions:

1. Quotations

Quotations given are valid for deliveries within 30 days from date of quotation. Orders placed within this period for delivery after the 30 days are subject to rise and fall adjustments. Prices are free into store Adelaide, Brisbane, Melbourne and Sydney for deliveries in excess of one (1) tonne loads. For export shipments, unless otherwise agreed to in writing, all prices quoted are ex works Melbourne for less than container load shipments or free on board Melbourne for full container load shipments.

2. Prices

2.1 Australian Domestic Prices: All prices are quoted excluding GST, and any
GST applicable will be charged to the Buyer on a Tax Invoice (as defined in the GST Act).
2.2 Export Prices: All export prices are quoted excluding all Government taxes, charges and/or imposts charged outside Australia.

3. Delivery

Late delivery or non-delivery due to any circumstances or events beyond the Supplier's control shall not constitute a breach of contract by the Supplier and the Supplier shall not be liable for any loss or damage howsoever arising through such late delivery or non-delivery. The choice of the carrier and method of transport remains with the Supplier, unless transport is paid for by the Buyer.

4. Warranties

The Warranties: Subject to paragraphs 5 and 6, unless otherwise agreed between the parties in writing, Goods manufactured, or sold, by the Supplier under any of the Brand Names, are warranted against faulty materials and/or workmanship:
4.1 for one year from date of delivery; or
4.2 in the case of Components, for two years from the date of manufacture of the Component.

5. Conditions of Warranty

The warranties set out in paragraph 4 are subject to compliance with the following conditions:
5.1 Goods must be used and handled with due care, under normal operating conditions and in accordance with the Relevant Standards and good practices.
5.2 Goods must be mounted, installed and connected with due care and in accordance with the Relevant Standards and good practices.
5.3 IEC compliant lamps must be utilised for all Components.
5.4 Goods must be returned to the Supplier's local office within 14 days of the detection of the alleged fault in their then current condition. Willfully damaged or defaced Goods are excluded from this warranty.
5.5 The Supplier reserves the right to request that the complete piece of equipment containing the allegedly faulty component be returned to the Supplier for inspection and testing.
5.6 In the case of any dispute under this warranty, the Supplier reserves the right to obtain the opinion of a suitably qualified independent expert whose opinion as to any question of fact under this warranty shall be binding on the parties.

6. Limitation of Liability

6.1 The Supplier will not be liable for any loss or damage incurred by the Buyer or End User for Goods damaged as a result of negligence, alteration, accident, use of the Goods in a way which is not in compliance with the Relevant Standards or use of the Goods in any way for which the Goods were not designed or approved by the Supplier or as a result of improper fitting, repair or replacement.
6.2 The liability of the Supplier in respect of faulty materials or workmanship shall, at the option of the Supplier, be limited to one of the following:
(a) the replacement of the Goods;
(b) the supply of equivalent Goods;
(c) the repair of the Goods; or
(d) the payment of the cost of having the Goods repaired.
6.3 The Supplier will not be liable for any special indirect or consequential damage arising out of the supply of the Goods.
6.4 If a claim is made by a Buyer or End User under one of the warranties set out in paragraph 4, the Supplier will not accept any claim for costs, charges or expenses incurred by the Buyer or End User in relation to replacement, supply or repair of the Goods.
6.5 Except for any warranties and conditions which cannot be excluded under any Act, all warranties and conditions with regard to the Goods sold which are implied by common law, statute or trade usage are excluded to the full extent legally permissible.

7. Payments

Unless otherwise agreed to in writing, all invoices are net payable thirty (30) days following the month of delivery to the Supplier's head office. All payments received by the Supplier must, in all cases, be allocated to the oldest account due for payment. Installments or part delivery of Goods shall be paid for separately and payment shall be made on or before the due date as stated above. An account-keeping fee of one and a half percent (1.5%) per month (or part thereof) will be charged (minimum of $ 10.00 per month) on all accounts which are unpaid within the above terms. For export orders, unless otherwise agreed to in writing, the payment terms must be via an unconditional and irrevocable letter of credit drawn at sight.

8. Return of Goods

Goods will not be accepted for return without prior written consent from the Supplier. Goods manufactured to Buyer's requirements and/or specification cannot be returned for credit.

除非另有书面约定，CMP Controls Pty. Ltd.（"供应商"）销售或提供用于销售的所有商品（"商品"）都遵循以下条件：

1. 报价

交付件的报价自报价日期起 30 天内有效。这 30 天内下的订单若要在 30 天后交付，则价格可能有升降调整。如果交付件超出 1 吨载重，则阿德莱德、布里斯班、墨尔本和悉尼等地可免费送货上门。

对于出口货物，除非另有书面约定，则对于非满载集装箱，所有报价都是墨尔本的出厂价，对于满载集装箱，所有报价都是墨尔本的离岸价。

2. 价格

2.1 澳大利亚国内市场价格：所有报价都不包括商品及服务税（GST），如有任何适用的 GST，都将向买方提供税务发票，由买方支付（依照商品服务税法案）。
2.2 出口价格：所有出口报价都不包括澳大利亚以外的任何政府税费、费用和/或课税。

3. 交付

因任何超出供应商控制范围之外的情况或事件所导致的延迟交货或无法交货都不构成供应商的违约，且供应商对此类延迟交付或无法交付所造成的任何损失或损害都概不负责。供应商保留选择承运人和运输方式的权利，除非由买方支付运费。

4. 保修

保修：根据第 5 和第 6 节，除非双方另有书面约定，否则由供应商在任意品牌名称下制造或销售的商品都可因有缺陷的材料和/或工艺而获得保修：
4.1 时间为自交付日起的一年；
4.2 或如果是组件问题，则保修时间为该组件制造日期起的两年内。

5. 保修条件

第 4 节中所述的保修应符合以下条件：
5.1 必须在正常操作条件下，根据相关标准和良好实践谨慎地使用和处理商品。
5.2 必须根据相关标准和良好实践谨慎地安装和连接商品。
5.3 所有组件都必须使用符合 IEC 标准的灯具。
5.4 如检测到商品现状中有所谓的故障，必须之后的 14 天内返回给供应商的当地办事处。故意损坏或损毁的商品不在本保修范围内。
5.5 供应商保留要求将包含所称的故障组件在内的完整设备返回给供应商进行检查和测试的权利。
5.6 如对本协议有任何争议，对于本协议下出现的任何事实问题，供应商保留听取合格独立专家的意见的权利，专家意见将对协议双方都有约束力。

6. 责任范围

6.1 对于买方或最终用户因疏忽、变更、事故、使用商品时不遵守相关标准、使用商品的方式并非供应商指定或批准的方式而损坏商品、或因不当的安装、维修或更换而导致的任何损失或损害，供应商概不负责。
6.2 根据供应商的意愿，供应商对有缺陷的材料或工艺的责任应仅限于以下任意一项：
(a) 更换商品；
(b) 提供等同的商品；
(c) 修理商品；或
(d) 支付商品的修理费用。
6.3 对于在提供商品时引发的任何特殊的间接或相应损害，供应商概不负责。
6.4 如果买方或最终用户根据第 4 节中所述的某个保修条款提出索赔，供应商将不接受买方或最终用户对更换、提供或修理商品所产生的成本或费用的任何索赔。
6.5 除了任何法案都不可排除的保修条款和条件之外，普通法律、法规或贸易惯例所暗示的有关已售商品的任何保修条款和条件都不包括在整个法律允许范围内。

7. 付款

除非另有书面约定，所有发票都是自商品交付月份起 30 天内应向供应商总部支付的净额。任何情况下，供应商收到的任何款项都必须分配到最早的付款帐户内。商品安装或部件交付的费用应单独支付，且应在上述付款日或之前支付款项。对于所有未在上述日期内付款的帐户，将收取每月（或其中一部分）1.5% 的帐户保管费（最低每月 $ 10.00）。对于出口订单，除非另有书面约定，支付条款必须是使用无条件不可撤销信用证见票即付。

8.

在未预先获得供应商的书面同意之前，供应商将不会接受退货。根据买方的要求和/或规格定制的商品不接受退货和退款。

9. Patents etc.

In all cases where the design is provided by the Buyer, the Supplier does not accept any responsibility for infringement of any patent, design, copyright, electronic layout or any other intellectual property or any other right of any other party. The Supplier undertakes that no disclosure of the design will be knowingly made to any other party unless with the Buyer's expressed or implied consent. The Buyer by acceptance of this quotation agrees to indemnify the Supplier absolutely in respect of all or any liability which the Supplier may incur in respect of any infringement of any of the rights referred to in this paragraph which might arise as a result of the Buyer's order.

10. Location of Contract (Legal Domicile)

Any contract with the Supplier shall be deemed to have been executed and entered into in the State of Victoria, Australia and the same shall be construed enforced and performed in accordance with the laws thereof. Any proceedings shall be brought and heard in the courts of the State of Victoria.

11. Title and Risk

The Supplier supplies Goods on condition that,
11.1 Property in the Goods does not pass to the Buyer until they have been paid in full and the Supplier has been paid for all other moneys then owing to the Supplier by the Buyer.
11.2 Notwithstanding paragraph 11.1, the Goods are at the risk of the Buyer as soon as they have been delivered to or into the custody of the Buyer or the Buyer's agent.
11.3 Until property in the Goods passes to the Buyer under paragraph 11.1, the Goods are merely entrusted to the Buyer as fiduciary and the Supplier remains the legal and beneficial owner of the Goods with full power to re-sell and regain possession of them if the Buyer defaults in payment of the purchase price.
11.4 If the Buyer defaults in payment of the purchase price or if the Buyer becomes insolvent, the Supplier and/or its authorized agents may at any time without notice to the Buyer enter onto the Buyer's premises and any other premises at which the Goods are situated for the purpose of recovering possession of them.
The Buyer agrees to indemnify the Seller against all costs, losses and expenses (including without limitation legal costs) incurred by the Seller as a result of or in connection with any default or breach of these Terms and Conditions of Sale by the Buyer.
11.5 If the Buyer receives any proceeds from the sale of the Goods from any other party, the Buyer receives those proceeds on trust for the Supplier to be applied in payment of the purchase price for the Goods and shall remit such sum forthwith to the Supplier. All such payments received by the Supplier shall be allocated to the oldest account due for payment.

12. Conflict with Buyer's terms

If any purchase order or other trading terms of the Buyer conflict with or are inconsistent with any of the Supplier's terms and conditions of sale, then the Supplier's terms and conditions of sale as amended from time to time prevail and will apply notwithstanding any conflicting or inconsistent terms of the Buyer. The Buyer acknowledges that the sale by the Supplier of any Goods will not constitute acceptance of any conditions of purchase of the Buyer which conflict or are inconsistent with any of the Supplier's terms and conditions of sale, even where the Supplier acknowledges the Buyer's conditions prior to, upon or by delivery of Goods.

13. Non-Waiver

A waiver by the Supplier with respect to any breach or default by the Buyer shall not constitute a continuing waiver of any other breach or default or of any other right or remedy. A failure or delay by the Supplier in exercising a right or remedy does not operate as a waiver of that right or remedy.

14. Variation

The Supplier reserves the right to update the Terms and Conditions of Sale from time to time. A variation of these Terms and Conditions of Sale shall be ineffective unless it is in writing and signed by the Supplier.

15. Severability

If a Court determines that a condition or part of these conditions is unenforceable, illegal or void then it shall be severed and the remainder of these Terms and Conditions of Sale shall remain operative.

16. Definitions

In these Terms and Conditions of Sale the following terms shall have the following meanings:
16.1 "Brand Names" means, "CMP Controls", "CMP", or any predecessor brand names;
16.2 "Buyer" means the buyer of the Goods;
16.3 "Component" means a component designed for use in the control of lighting;
16.4 "End User" means a person or business which purchases or uses Goods supplied directly or indirectly by the Buyer;
16.5 "Goods and Services Tax" or "GST" has the same meaning as given in the GST Act;
16.6 "GST Act" means the A New Tax System (Goods and Services Tax) Act 1999 (Commonwealth);
16.7 "Relevant Standards" means the relevant International Organisation for Standardisation ("ISO") standard and the relevant International Electrotechnical Commission ("IEC") standard applicable to the Goods.

9. 专利等

在设计是由买方提供的情况下，如果该设计侵犯了任何专利、设计、版权、电子布局、任何知识产权或任何其他方的任何其他权利，供应商在任何情况下都不负任何责任。供应商保证不会故意将该设计披露给任何其他方，除非得到买方明示或暗示的允许。买方接受此报价即表示同意供应商完全免于承担因买方的订单而可能导致的本节中所述的任何侵权行为的所有或任何相关责任。

10. 合同位置（法定住所）

任何与供应商签订的合同都应视为已执行并放在澳大利亚维多利亚州，并根据当地法律解释、实施和执行该合同。任何诉讼都应在维多利亚州法院提出并进行听证。

11. 所有权及风险

供应商在以下条件下提供商品：
在买方未向供应商全额付清货款以及所有其他应付款项之前，商品所有权不会转移给买方。
虽有 11.1 节的规定，但一旦商品交付到买方或买方代理的监护范围，商品的风险就由买方承担。
在根据 11.1 节将商品所有权转移给买方之前，商品仅仅是由买方作为信托人托管而已，供应商仍是商品的法定和受益所有人，如果买方拖欠货款，供应商可全权变卖和重新获得这些商品。
如果买方拖欠货款或买方破产，供应商和/或其授权代理可在不通知买方的情况下随时进入存放商品的买方所在地或任何其他地点收回这些商品。
买方同意卖方免于承担因买方不履行或违反这些销售条款和条件而导致的任何成本、损失和费用（包括但不限于诉讼费）。
如果买方收到向任何其他方销售这些商品所得的收益，买方以信托形式为供应商代收这些商品的采购货款，并应立即将此采购货款汇给供应商。任何情况下，供应商收到的所有此类款项都必须分配到最早的付款帐户内。

12. 与买方条款冲突

如果买方的任何采购订单或其他交易条款与供应商的销售条款和条件有冲突，则以供应商可随时修订的销售条款和条件为准。买方承认，如果买方的任何购买条件与供应商的销售条款和条件发生冲突或不一致，即使供应商在商品交付前或交付时承认了买方的条件，供应商销售任何商品的行为也并不表示接受此类冲突或不一致采购条件。

13. 不弃权条款

供应商放弃有关买方不履行或违反合约的权利不构成继续放弃任何其他违反或不履行合约的权利或任何其他权利或补救措施。供应商行使权利或采取补救措施时出现失误或延迟并不代表放弃该权利或补救措施。

14. 变更

供应商保留随时更新销售条款和条件的权利。要变更这些销售条款和条件，需要形成书面文件并由供应商签名。

15. 可分割性

如果法院确定这些条件中的一个或其中一部分不可执行、非法或无效，则应将此条件/此部分条件分割出去，余下的销售条款和条件仍将有效。

16. 定义

在这些销售条款和条件中，以下条款应具有以下含义：
"品牌名称"表示"CMP Controls"、"CMP"或任何
前任品牌名称；
"买方"表示商品的买家；
"组件"表示设计用于控制照明的组件；
"最终用户"表示采购或使用由买家直接或间接提供的商品的个人或企业。
"商品服务税"或"GST"的含义与 GST 法案中的 GST 相同。
"GST 法案"表示新税收制度（商品服务税）"GST Act"法案 1999（联邦）；
"相关标准"表示适用于商品的相关国际标准化组织（"ISO"）标准和相关的国际电工委员会（"IEC"）标准。

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