

HID DIMMER ENERGY CONTROLLER

ECS6000

There is an increasing demand to maximise energy savings of lighting sources. Industry in particular is constantly looking for opportunities to reduce overheads.

Lighting installations in factories, warehouses, industrial storage, etc generally utilise 'High Intensity Discharge' light source such as High Pressure Sodium, Metal Halide and Mercury Vapour lamps. Although these light sources are inherently efficient, energy savings can often be achieved by reducing the light output, and therefore lamp power, with an ECS 6000 Energy Controller.

This multi-level energy controller operates in conjunction with an ECS Solar Control Panel which provides time control, daylight level control and ensures the lights operate at full power for an initial startup period of 15 minutes. This facilitates striking of the lamp and stabilisation of discharge lamp.

After this stabilisation period, the lamp can be automatically (or manually) controlled to adopt a new duty point at either 83% or 68% of nominal power.

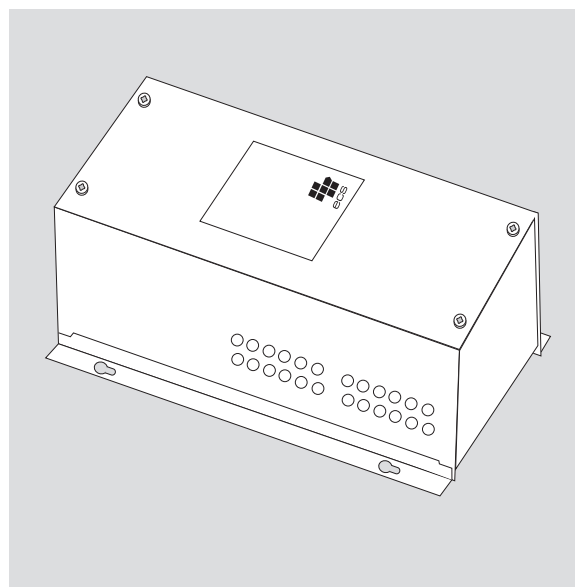
83% of nominal power setting provides 75% of full light output. 68% of nominal power setting provides 55% of full light output.

The 6000 series controller can be controlled by BMS systems and other proprietary daylight controllers.

Solar level control provides automatic adjustable switching thresholds, according to the levels of artificial lighting required.

Take an example of a typical industrial storage area with sky-lights built into the roof structure. At night 100% of light output may be required. However, because of the ingress of natural light, during the daytime, the artificial lighting could be reduced.

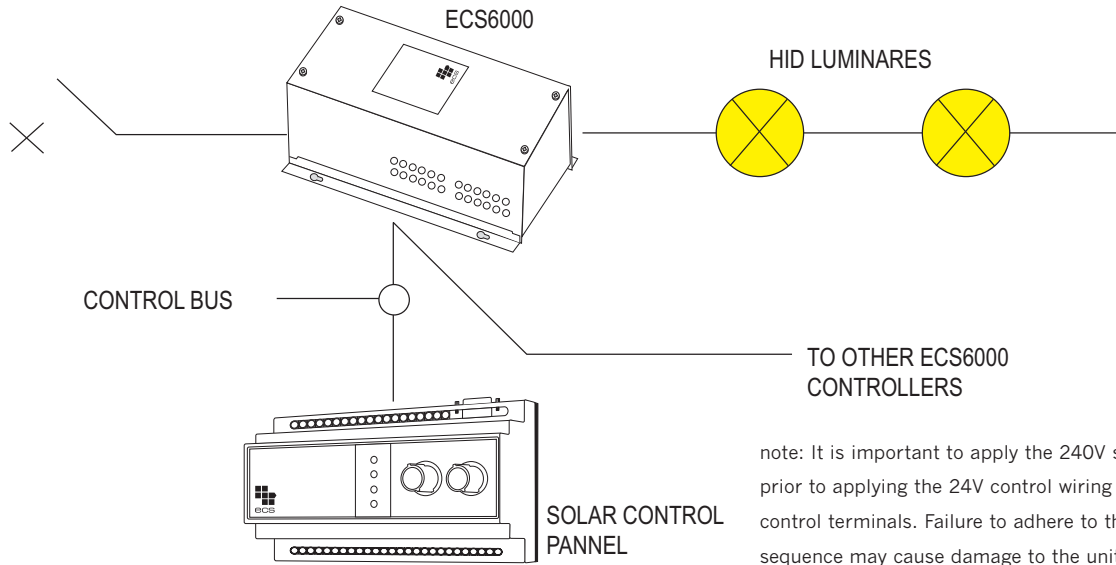
During the early morning and evening periods, output could be reduced to 83% of nominal power and the rest of the day to 68% of nominal power.



Nominal power levels depend on many factors including lamp and gear types, voltage variations etc. Operating the lamp at reduced power has little effect on the lumen depreciation characteristics of the lamp or its rated life.

The ECS 6000 Energy Controllers are suitable with luminaires with reactor control, constant wattage luminaires in an initiative more commonly utilised in North America and Australasia. Europe has an environment which reduces the scope for this initiative. This is due to the environment which allows higher levels of natural light to Ingress reduces the cost effectiveness of the initiative. As a result of the regional use of this initiative and its practical implementation, the North American lamps have more exposure to the technology. The European lamps do not have the exposure and as such ECS recommend the use of the North American lamps only. e.g GE, Phillips (USA), Sylvania. Not recommended for Metal Halide lamps below 250w ratings

Wiring Schematic



note: It is important to apply the 240V supply to the unit prior to applying the 24V control wiring to the dimming control terminals. Failure to adhere to the above wiring sequence may cause damage to the unit

Installation Notes

ECS 6000 Energy Controllers are simple and inexpensive to install. The units are simply installed at the beginning of the final sub-circuit cabling run.

See the typical wiring diagram below for typical connection and control wiring requirements.

Electricity Authorities are concerned with harmonic distortion which dimming equipment can generate.

ECS 6000 Energy Controllers produce no such distortion of the authorities 240V supply.

Should changes to the lighting installation be required at any time in the future, no modifications are required to the installed energy control equipment.

ECS 6000 Energy Controllers are suitable for most High Pressure Sodium, Mercury Vapour and Metal Halide lamps. Contact your nearest ECS office for further details.

Light level settings can be automatically, or manually, set at 100%, 75% or 55% of full light output.

Installation Details

Maxium lamp load	2400W e.g 6 x 400W lamps 9 x 250W lamps
Maxium PRC capacitance	270 MFD
Control logic voltage:	norm (24VDC), min (16.8VDC), max (26.4VDC)
Control circuit current	No 1 - 44mA (approx) No 2 - 22mA (approx)

1	2	3	Light Output
0	0	0	100%
1	0	0	75%
1	1	0	55%

Operating Instructions

1. Start the system at 100% and run for 15 minutes
2. When Switching between light levels, the following sequence must be followed:
 - a. Switching from 100 down.
100%>75%>55%>
 - b. Switching from 55% up.
55%<75%<100%
3. The lamp must remain at a particular level for at least 5 minutes before switching to a lower level. This allows the HID lamps time to attain thermal equilibrium.
4. The lamp must remain at a particular level for at least 5 seconds before switching to a higher level.

Ordering Information

Catalogue Number	Description
ECS 6000	Bulk Dimming Unit (Minimum Order: QTY 25, 10 week lead time)