

# ECO-MAX

## Lighting Optimisers Information Sheet

ECO-MAX lighting optimisers are a centralised modular lighting control system developed and manufactured by GWE here in the UK. ECO-MAX has been specifically designed for large commercial and industrial lighting systems, where it has reduced electricity consumption by as much as 50% by ensuring that lighting is only used when necessary, and only illuminated when in use, to the necessary light levels. We achieve this by uniquely combining standard on-off lighting controls, together with staged dimming of lighting, to either time, presence, or by fully daylight linking to available natural daylight. Metering can also be incorporated as required for a particular installation or customer requirement. ECO-MAX has also saved 30% without turning off a single light!, so even business premises that have little or no useful natural daylight available, and that operate long hours, even 24 hours / Day can still make substantial savings.

The ECO-MAX-(F)or(S) models are a "Fixed" or "Staged" step modular lighting optimiser that can be "tuned" during the commissioning process to provide the optimal savings and lighting performance. It will typically reduce the electricity consumption of your existing lighting by 20-40%. Its Modular design means that after a detailed site survey, the ECO-MAX can be built up to Maximise Savings and provide Optimum lighting performance specific to your site and operational requirements.

**The Modular Options will consist of one, some or all of the following:**

- Zoning of Lighting
- Manual Switching On-Off of Lighting Zones
- Timed Auto Switching On-Off of Lighting Zones
- Presence Auto Switching On-Off of Lighting Zones
- Daylight linked Auto Switching On-Off of Lighting Zones
- Manual Dimming of Lighting Zones
- Timed Dimming of Lighting Zones
- Presence Dimming of Lighting Zones
- Daylight Linked Dimming of Lighting Zones
- Voltage Optimisation of incoming electrical supply\*  
(\*not currently covered on ETL)

**GWE appear on the Energy Technology List, (ETL), and as such can provide lighting control systems that qualify for the Inland Revenue Enhanced Capital Allowance, (ECA) scheme, which allows companies to claim full tax relief in the year the investment is made, providing a welcome cash flow boost.**

### Your Benefits

**Installation is quick and easy saving you time and money because;**

ECO-MAX has been designed to use your existing light fittings by simply connecting to your existing electrical wiring infrastructure. The range of optional accessories and the unique all steel, heavy duty, powder coated enclosure offers ample access and unparalleled flexibility for the installer, so reducing disruption and cost.

**All your electronic and delicate IT equipment remains safe and unaffected by the installation of ECO-MAX because;**

ECO-MAX uses clean technology to achieve the savings, and unlike some other technologies it does not Generate Harmonic Distortion and RFI interference into your electrical system which can cause you serious problems.



**The combined visual and audible indication ensures that even non-technical staff will always be able to see straight away at a glance, exactly what the status of the ECO-MAX is at any time because;**

ECO-MAX has a unique Onboard Status and Fault Monitoring System provided by both Audible and Visual indicators for: In Ignition, Optimising, In Bypass, Under Voltage, Over Temperature, and Optimiser Inhibited. Alarms can only be reset by authorised personnel using a key switch, which can also be used to inhibit the ECO-MAX for maintenance purposes. To cater for remote locations, in addition to these onboard indicators, all ECO-MAX optimisers are capable of sending their alarm status to a remote monitoring point, such as a manned security post.

**ECO-MAX is truly, Fit & Forget, because;**

The system will enable savings as the lighting is used, with chosen modules being fully automated. ECO-MAX also continuously monitors the area / zones, and ensures that you always get the light you need.

**Your lighting will remain fully operational at all times because;**

In the unlikely event of an internal fault ECO-MAX can be totally removed from the lighting circuit by even non-technical staff, just follow the clear instruction on the front of the unit to use the True Manual Bypass facility.

**ECO-MAX provides enhanced**

**protection for your electrical systems because;**

Every ECO-MAX is fitted with both Input and Output fault protection, in the form of Fused Isolators or Miniature Circuit Breakers, (MCB's), dependant on model size. These offer both protection, and a central point of Isolation for your entire lighting system, making maintenance easy, so saving you time and money. These protective devices can handle Fault Currents up to 80,000A, allowing ECO-MAX to be installed directly to any distribution point without the need to fit additional expensive protection, another feature unique to ECO-MAX.

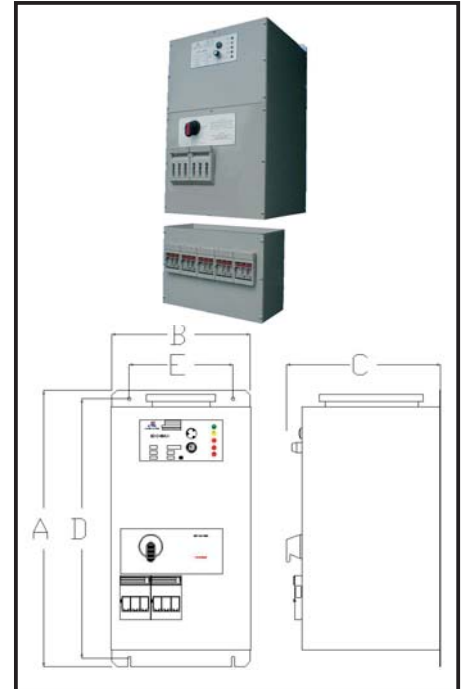
**One ECO-MAX can be used on multiple lighting zones, so reducing capital and installation costs because;**

Unique to ECO-MAX is its ability to deal with four separate lighting zones from the same unit. The standard ECO-MAX optimiser can monitor activity within the four individual lighting zones and independently control the lighting accordingly.

Written testimonials, site visits, or further information from the Carbon Trust can be provided by contacting Gw Energy directly.

# ECO-MAX Range

Code	Rating	Weight	Dimensions (mm)				
			A	B	C	D	E
ECO-MAX-S1-20	14KVA	40Kg	650	360	350	600	250
ECO-MAX-S1-32	23KVA	50Kg	650	360	350	600	250
ECO-MAX-S1-40	28KVA	60Kg	650	360	350	600	250
ECO-MAX-S2-50	36KVA	75Kg	800	410	450	750	300
ECO-MAX-S2-63	45KVA	80Kg	800	410	450	750	300
ECO-MAX-S2-80	57KVA	90Kg	800	410	450	750	300
ECO-MAX-S3-100	72KVA	115Kg	900	510	500	850	400
ECO-MAX-S3-125	90KVA	140Kg	900	510	500	850	400
ECO-MAX-160	115KVA (bespoke enclosure to suit final application/location)						
ECO-MAX-200	143KVA (bespoke enclosure to suit final application/location)						
ECO-MAX-250	180KVA (bespoke enclosure to suit final application/location)						



## Options for Control Modules and Accessories

Control Module options are available for the entire ECO-MAX range. **At least one Modular Control Function must be chosen with the ECO-MAX central hub unit to achieve control and savings.** For example the Lighting Control Modules (LCM) provide lighting zone control in response to time; occupancy or daylight availability, so further increasing the potential savings of the system. A Voltage Optimiser\* module is also available for reducing incoming supply voltages in line with site requirements when unnecessary excessive voltage is being applied as standard. Frame kits, extension and distribution boxes are designed to increase the flexibility of the ECO-MAX range and reduce installation time. All modules fix directly to the bottom of the ECO-MAX and may be "stacked" to incorporate varying degrees of functionality.

### ORDER CODES

**Lighting Control Modules** – Incorporates a wiring centre to provide any combination of electricity saving control of up to four lighting zones by time signal, occupancy detector, or daylight availability.

**S1-40-LCM-xZ-xT-xDL-P-FDIM-DL-VO** → Incoming Supply Voltage Optimiser (\*not currently covered on ETL) or leave blank  
 → Signal for Dimming via Daylight-DL, Timed-T, Presence-P, Manual-M or leave blank  
 → Dimming option either Fixed-FDIM, or 2Staged-SDIM or leave blank  
 → Presence detection and no. of Zones or leave blank  
 → Daylight Switched Zones and no. of zones either - , 1DL,2DL,3DL,4DL or leave blank  
 → Time switched Zones and no. of Zones either - 1T,2T,3T,4T or leave blank  
 → Contactor Module no. of contactors/zones required – 1Z,2Z,3Z,4Z or leave Blank  
 → Lighting Control Module  
 → Denotes ECO-MAX Central Hub Current Rating  
 → Denotes ECO-MAX Central Hub Enclosure size – S1, S2, S3

**Eg. S2-63-LCM-4Z-2T-SDIM-DL** : an ECO-MAX Central Hub unit, Size 2, 63A (45KVA 3 phase) with a Lighting Control Module controlling 4 separate lighting Zone contactors (4 areas) on-off via 2 time controllers (ie. each timer controls 2 zones) with overall 2 Staged Dimming via Daylight Sensor.

Too Technical? Don't worry, our Engineering Consultants will always identify for you at the survey stage, exactly what combination of modules you need for your site, to ensure you maximise your savings potential.

**Free Standing Frame Kits** - Allows a standard wall mounted enclosure to become floor mounted.

<b>S1-FK</b>	For use with all S1 optimisers
<b>S2-FK</b>	For use with all S2 optimisers
<b>S3-FK</b>	For use with all S3 optimisers

**Extension Module** - Provides more space for terminating when oversized cabling has originally been installed.

<b>S1-EXM</b>	For use with all S1 optimisers
<b>S2-EXM</b>	For use with all S2 optimisers
<b>S3-EXM</b>	For use with all S3 optimisers

**Distribution Module** - Allows a number of separate lighting circuits or Lighting Distribution Sub-Main Cables to be fed from one ECO-MAX optimiser or is used to separate lighting circuits from an electrical distribution board with a mixed power and lighting configuration.

<b>S1-18DM</b>	For use with all S1 optimisers, providing 18 modules to accept either single or triple pole MCB's
<b>S2-21DM</b>	For use with all S2 optimisers, providing 21 modules to accept either single or triple pole MCB's
<b>S3-4WDM</b>	For use with all S3 optimisers, providing four 3ph switched fused (100A max) outgoing ways