Remote Control, Monitoring & Metering

General Information

The cloud based remote control monitoring and metering system that is standard on all intelligent ECO-MAX voltage optimisers, provides the end user with a simple to operate, real time display. It shows the optimiser's status, grid supply and optimised output voltages, current and energy being consumed by the site. ECO-MAX then automatically provides alarm and status updates, via text or email based on this real time data. Remote operation is also possible, which when combined with the metering functionality, allows comparisons of energy consumption to be made at grid supply and optimised voltages.

The system can be easily expanded to provide a complete energy management solution. Any device with pulse outputs or RS485 Modbus can be connected via various interface modules including electricity, gas, water and heat meters or temperature sensors. As standard ECO-MAX can record data from up to 16 Modbus devices, but with the use of additional equipment data can be collected and recorded from up to 4,096 devices. These devices transmit the collected data directly to our servers, at a selectable frequency that ranges from once per minute to once per month, via ether GPRS, or Ethernet connection.

Users are able to access their account online, from any PC, Tablet or Smart Phone that has an internet connection. Additional applications are also available for iPhone, iPad and Android devices, for comprehensive software access.

Because the system is cloud based there are no up-front charges for purchasing our software. Twelve months free access to the system is included in your initial equipment purchase cost. After that you simply pay a small annual fee for data hosting, website access and maintenance.

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Technical Features

Communication	GPRS(GSM) (900/1800 MHz)
SIM Type	Mini – UK roaming (please state if to be used outside UK)
Minimum GSM signal strength requirement	-108dBm
Supported Meters	Modbus RS-485 (pulsed output meters via I/O) expanders)
Maximum number of meters	16 (4,096 with expanders)
Meter wiring topology	Daisy Chain
Recommended Modbus cable specification	BELDEN 9842NH Multipair Screened Cable
Modbus end of line resistor value	120Ω
Maximum temperature sensors via 1-Wire bus	3

Standard Alarms & Status Updates

Description	Action	
	Email	Inhibit
Voltage Optimisation Inhibit – (Grid supply voltage too low)		Yes
Manual Optimisation Inhibit - (ECO-MAX key switch in inhibit)		Yes
ECO-MAX @ 90% Loading – (phase current above 90% rating)	Yes	
ECO-MAX Overloaded – (phase current above 100% rating)	Yes	Yes
ECO-MAX Over Temperature – (winding temperature exceeded)	Yes	Yes
Voltage Optimisation Inhibit – (Grid supply voltage too low)		Yes

Please note that the standard alarms and status updates shown above represent only small selection of the available functionality. Please contact us to discuss any additional requirements that you may have.

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