

# ***Xtra-Sense* Merlin Eco Power Saving System**

The ***Xtra-Sense* Merlin Eco Power Saving** system is an innovative product for allowing the remote switching of power consuming plant and equipment over long distances within a building or complex of buildings, without the need for new wiring.

It can be linked to simple switches, timer switches and complex building management control systems to switch equipment on and off, either directly or indirectly.



The input signal from a switch or control system is transmitted through the fixed mains-power wiring from one location to another within the building or complex using a powerful and reliable proprietary data transmission technology, enabling long distance signalling.

The signal includes the identity of the receiving equipment to be switched, so that multiple systems can operate in the same site. On seeing a signal, the relevant receiving equipment operates an internal relay. The relay can be a mains-rated device which will directly switch the power to the heater / fan etc. Alternatively, the relay may be a DC rated relay to switch the control circuitry to the power consuming plant.

Applications include the switching and control of equipment in office buildings, industrial premises, retail sites, schools, hospitals, nursing homes, banks, universities and residential properties.

## **Key Benefits**

- Long distance switching without the need for new wiring.
- Easy installation. The signal transmitting and receiving units are simply wired or plugged into a mains power point where they are required
- Reliable signalling. The existing mains-power wiring provides an extremely reliable wired communication network, which is considerably more dependable than wireless radio communication
- Signalling can be achieved throughout a multi-storey building or complex which is fed by the same main power feed cable, and the range is not affected by the factors e.g. walls that limit radio signals
- Signals can cross phases enabling communication across three phase as well as single phase ring mains networks

The key to the success of the units is the proprietary electronic filters which enable the data signals to be detected in the presence of high levels of electrical noise, especially that generated by the proliferation of computer switch-mode power supplies and transformer-less battery chargers.

The system can provide either uni-directional or bi-directional communication.

### Merlin Eco Transmitter Unit

Designed to be housed in a two-gang plastic enclosure, the Transmitter unit takes an input from a switch or control system. An encoded signal is injected into the ring mains wiring including the identity of the specific Receiver units to be switched. A Transmitter can activate one or more Receiver units.

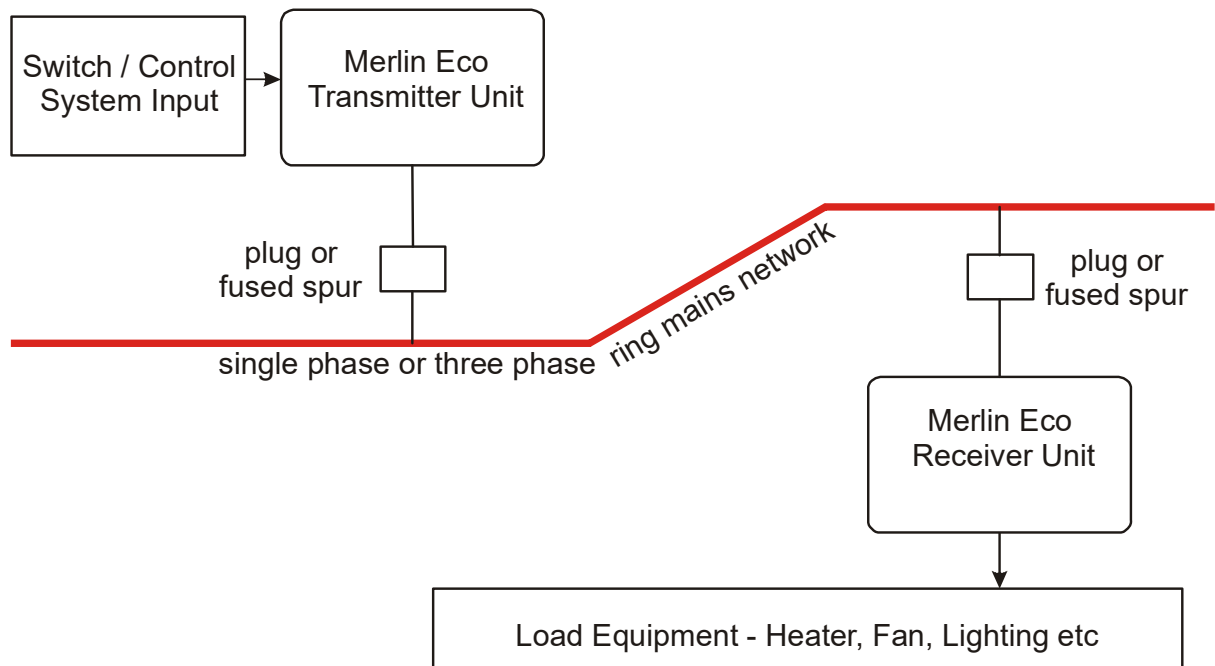


### Merlin Eco Receiver Unit

Designed to be housed in a two-gang plastic enclosure, the Receiver monitors the mains wiring for the Transmitter signals. Signals are decoded and used to switch an internal relay.

Where the load equipment to be switched is rated at less than 16A at 230VAC, Receivers are fitted with a mains-rated relay and are wired directly in series with the load equipment e.g. heater, fan, lighting. (see diagram below). Where multiple Receivers are switched by a single Transmitter, the Receiver switching can be staggered to prevent power surges.

For higher power loads, the Receiver can be fitted with a DC rated relay to switch the control circuitry for the load equipment.



Bi-directional communication can be achieved by specifying the devices to include the capability to both transmit and receive signals.

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