

# DC Drives Ltd MERLIN Modules

## Mains Equivalent Radio LINK

*Overview:*

The modules are intended for use as imbedded communications links, and use the buildings mains wiring as a medium for carrying the signals. It is well known that mains wiring is a much noisier environment than it used to be mainly due to the proliferation of switch-mode power supplies. However the MERLIN modules are designed to work in the presence of this noise, and they do so by the use of very narrow bandwidth and very high frequency stability. The trade-off is that data rates are by restricted to 20 BPS but it is possible to multiplex different pairs of frequencies for greater throughput, however for most applications 20BPS is perfectly adequate and a small price to pay advantages of Range and Reliability. A 12 bit word passes in under 2 seconds.

	<u>MERLIN System</u>	<u>VHF/UHF Radio</u>
<b>Range</b>	Building—Wide, especially large buildings	Restricted by Walls Often less than 1/3 of stated range
<b>Reliability</b>	Very High—hard wired	Subject to Interference
<b>Link Redundancy</b>	Ring-Main provides 2 paths	Single path
<b>Data Rate</b>	Low 20 BPS	High up to 76kBPS
<b>International recognition</b>	Virtually Worldwide	Frequency Bands vary from Country to Country
<b>Screened Rooms, Vaults, Fridges</b>	Yes	No
<b>Portability</b>	Any available 3-pin socket	Severe Range Restrictions

**MERLIN** Modules provide the means to allow occasional events to be sent to a remote receiver, such as part of a Nurse-Call, or a Security System. There is no need for new cabling as the existing Mains wiring carries the signals; ideal as a retrofit in Stately Homes, Museums etc. where the fabric of the building must not be altered.

The receiver itself may be plugged into any available socket, and moved as required. Numerous Receivers may be placed on a system.

Senders will usually have their own ID which is sent in a 12 bit word (4096 possible combinations) in under 2 seconds. The receiver will identify the ID and react accordingly.

In a multiple installation, collisions of signals are avoided by fitting a 'Line Busy' Module. This monitors activity on the line and will delay sending until the line is clear.

The technology is proven to be reliable in Universities, Schools, Banks and very large buildings fitted with a 3-phase supply.