INSTALLATION INSTRUCTIONS

FOR INVERTERS WITH CHANGE OVER RELAYS

LC522, LC524/24/16/G, LC526/50/16/G, LC528/110/16/G, LC532/12/125/G, LC534/24/125/G, LC536/50/125/G & LC538/110/125/G

LAMP RANGE:	4 – 16 WATTS	15 – 125 WATTS
12 VOLTS	LC522	LC532
24 VOLTS	LC524	LC534
50 VOLTS	LC526	LC536
110 VOLTS	LC528	LC538

GENERAL DESCRIPTION

These inverters are intended for intermittent operation in the emergency mode from low voltage supplies, which are either AC/DC or DC only. They are also complete with a changeover relay to allow continuous operation with mains gear in the normal mains healthy mode. The method of connection is by terminal block fitted with a quick release mechanism so that leads may be easily removed. Wires of 0.5 – 2.5mm² cross section may be connected by pushing a solid conductor into the connection or operating the release mechanism to insert a stranded conductor.

PROTECTION

A fuse should always be fitted in a slave luminaire to protect the integrity of the system against total failure of any unit (BS EN 60598-2-22). Full wave rectification protects against polarity reversal.

RUNNING CONDITIONS

Overall voltage ranges are:

DC supplies

Maximum	=	Nominal + 13% continuously with excursions up to 25%
Minimum	=	Nominal – 16%

AC supplies

Maximum	=	Nominal + 6% continuously
Minimum	=	Nominal – 11%

The inverters are designed to function with mains control gear of all types and will accept supplies from all types of central system. **If there is any doubt about the supply voltage, then please check with supplier**

TEMPERATURE

The ambient temperature range for the inverter is 0 – 55℃ but in any event the centre side of can sho uld not exceed 60℃.

DIMENSIONS - 42mm W x 35mm H x 210mm L x 200mm FC

REMOTE MOUNTING

Inverters may be operated in remote gearboxes but increasing distance will result in voltage attenuation at the high frequency used due to capacitive effects between wires and earth. This will impair lamp striking and running efficiency. **MINERAL INSULATED CABLES MUST NOT BE USED IN ANY CIRCUMSTANCE.** Multicore cables, which also have an inherently high capacitance between wires, may be used with caution providing the insulation is thick and opposite sides of the core leads are used for opposite ends of the lamp to minimise losses. Distance between inverter and luminaire should be kept to a minimum. If in doubt – ask for advice.

ELECTRICAL INSTALLATION

The connection diagrams for the inverter shows the lamp leads in bold to indicate that they must be considered ‘hot’ for EMC purposes. These wires must be kept as short as possible and separated from all mains leads to minimise RFI transfer to live and neutral connections. Fused terminal blocks should be situated so that incoming supply leads are kept short. Where there is no alternative to mounting the inverter remote from the luminaire then for EMC compliance it is essential to keep mains

supplies separate i.e. switched mains to luminaire and unswitched mains direct to remote box. In addition for switch start gear it is essential to screen choke and neutral leads from luminaire to module in order to prevent RFI transfer within the interconnecting conduit. To prevent premature lamp damage, after test the assembled luminaire should only be energised for a minimum of 24 hours to fully charge the batteries. The un-switched supply should be left undisturbed during the commissioning and installation period.

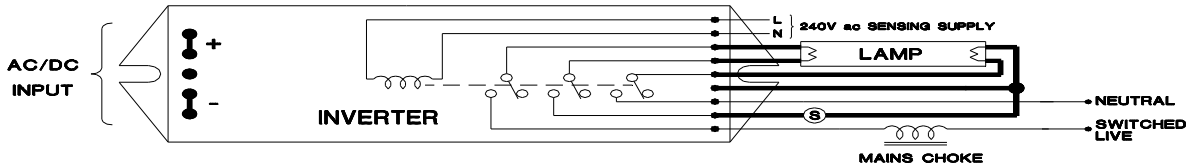
WIRING

Smaller inverters are available to run lamps in a non-maintained mode and are less expensive than inverters with changeover relays. If any of the above inverters are used in the non-maintained mode, then in addition to connecting the lamp to terminals 1 & 2 and 3 & 4 it is desirable to tie terminal 4 to earth to assist striking the lamp. The 240V AC sensing connections may be used to hold off the emergency supply.

NON-MAINTAINED WITH HOLD OFF RELAY

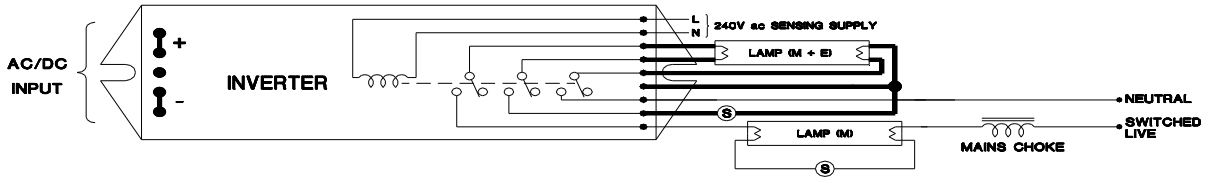
Where used with mains control gear, the unit should be wired as suggested below. Internal connections are shown in the diagrams so that wiring for any specific control gear may be worked out.

SWITCH START CIRCUIT

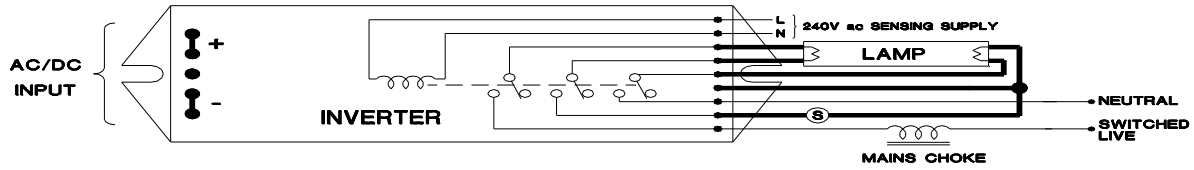


* If the emergency supply is permanently live at the luminaire, the sensing supply will have to be unswitched, but if the emergency supply only appears on mains failure, the switched supply in the luminaire may be used.

TWIN SWITCH START WITH ONE LAMP ON EMERGENCY



Where a luminaire is equipped with integral starter holder/lampholder, these are best replaced with a separate lampholder and starter holder, but where this is impossible the unit may be wired thus:



WARRANTY

All our electronic products are guaranteed for three years to cover both faulty workmanship and materials. This “Return to Base” warranty requires that the product is used within the terms and conditions stated above and in our literature, and in particular, modules must be used with the correct or approved battery pack. Items should be carefully checked thermally so that the specified temperatures are not exceeded under any conditions. Do not insulation test this product. Products returned to us under warranty must be carriage paid. Mackwell Electronics accept no liability for costs incurred. This does not affect your statutory rights.