INSTALLATION INSTRUCTIONS

DQS SERIES LINEAR INTEGRATED MODULE RANGE

Module:	Reference	Cells	Rating	Duration	Lamps
	DQS35	6	4 Ah	3 hours	21 – 35 watt T5 HE
	DQS35/M1	6	1.5 Ah	1 hour	21 – 35 watt T5 HE
	DQS39	6	4 Ah	3 hours	24 & 39 watt T5 HO
	DQS39/M1	6	1.5 Ah	1 hour	24 & 39 watt T5 HO
	DQS49	6	4 Ah	3 hours	49 watt T5 HO
	DQS49/M1	6	1.5 Ah	1 hour	49 watt T5 HO
	DQS54	6	4 Ah	3 hours	54 watt T5 HO
	DQS54/M1	6	1.5 Ah	1 hour	54 watt T5 HO
	DQS55	6	4 Ah	3 hours	55 watt TC-L
	DQS55/M1	6	1.5 Ah	1 hour	55 watt TC-L
	DQS80	6	4 Ah	3 hours	80 watt T5 HO
	DQS80/M1	6	1.5 Ah	1 hour	80 watt T5 HO

Battery: 6 x 4 Ah cells either NiCd or NiMH for 3 hour duration.
6 x 1.5 Ah NiCd Sub C Cells or 1.6 Ah NiMH cells for 1 hour duration.

GENERAL DESCRIPTION

The unit comprises high frequency ballast, solid state automatic device operating a changeover relay, battery charger, deep discharge protection circuit and charge indicator for use with rechargeable NiCd or NiMH cells. 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.

REMOTE MOUNTING

In general these units are not suitable for remote mounting due to their inherent low power consumption. **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. The “high voltage leads” (see diagram overleaf and product label) should be kept to a minimum length and should never exceed 0.5m.

TEMPERATURE

The ambient temperature range for the unit is 0 – 55°C but in any event the temperature reference point Tc should not exceed 70°C.

ELECTRICAL INSTALLATION

Modules comply with the EMC directive in both modes of operation, mains and emergency. Compliance will be protected by keeping lamp leads away from mains leads to avoid transfer of RFI to the live and neutral connections. The fused terminal block should be situated so that the incoming mains connections are short. 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 unswitched supply should be left undisturbed during the commissioning and installation period, as otherwise lamp damage may occur.

OPERATION

When the un-switched live and neutral are connected, the indicator will light to show that the battery is receiving charge and after a period of 24 hours the unit will be capable of achieving a 3 hour emergency duration. It should be noted that inserting the plug alone (connecting the battery) will not light the lamp – this will only operate when the mains has been applied and failed. Connecting the switched live will cause the ballast to operate the lamp in mains mode and this can be switched in the usual way.

DIMENSIONS

MODULE		BATTERY
		For details of alternative battery configurations,
LENGTH	430 mm	please refer to our web site:
FIXINGS	420 mm	www.mackwell.com
WIDTH	30 mm	
HEIGHT	21 mm	INDICATOR
WEIGHT	266 g	Requires an 8 mm hole

BATTERIES

Mackwell supply a wide range of high quality battery packs for use with our products. They have all been designed to provide the 4 year life required by BS EN 60598-2-22 and ICEL 1001, where operated within the temperature range specified. The maximum operating temperature of Mackwell battery packs is detailed in our web site. This should not be exceeded, or the operational life of the cells will be reduced. REVERSING BATTERY POLARITY WILL CAUSE DAMAGE TO THE MODULE.

DEEP DISCHARGE PROTECTION

The module is fitted with a deep discharge protection circuit, which disconnects the battery after the cell voltage has dropped below the end of discharge level (1 volt/cell) and the circuit will remain inert until the mains supply is restored. This protects the battery against excessive discharge when the mains supply is removed for long periods.

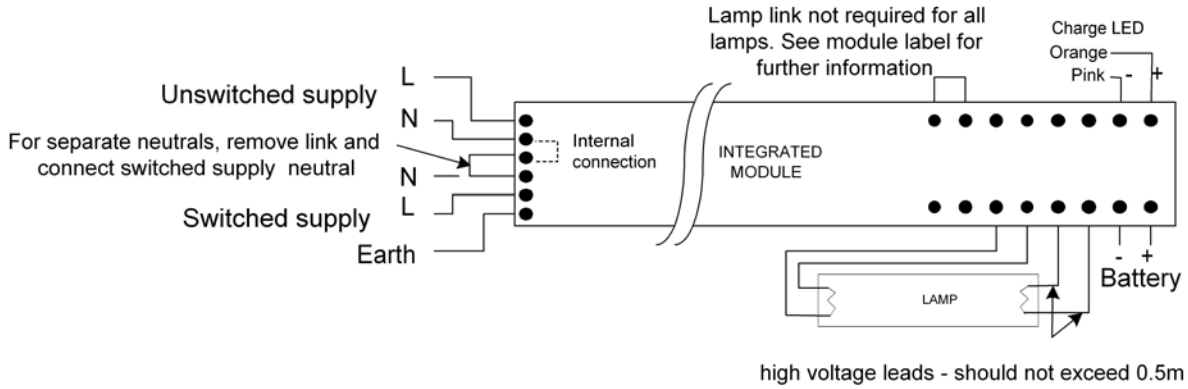
FUSES

Battery — A non-serviceable fuse is incorporated in the module to protect the battery from heavy discharge

Charger — Although the charger is already short circuit protected a fuse should always be fitted in the luminaire to protect the system integrity against total failure of any unit. A suitable value is 2A anti surge

Ballast — Overload and short circuit protection is incorporated so that the ballast will safely shut down to standby mode when an abnormal load is detected in the lamp circuit. The unit will automatically reset to normal operating when the fault condition is cleared.

CONNECTIONS



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.
Battery packs are guaranteed for one year, but when operating within the temperature specified in our web site have a design life in excess of four years as required by BS EN 60598-2-22.