

Bulb Monitoring Universal PSU



Installation Instructions Bulb Monitoring Universal PSU

Derwent Systems Limited has designed special power supplies to operate with the Derwent range of Infra Red Lamps. Only qualified and competent personnel should carry out all installation and maintenance functions. This power supply provides the following functions.

1. Photocell switch for automatic day/night switching. The sensitivity of the photocell can be altered by the use of a potentiometer located inside the PSU.
2. High quality toroidal transformer to provide the required 28 volt supply to Derwent Infra-Red Lamps. Taps are provided for adjustment of mains variation.
3. Camera power supply facility to provide power to camera 12V reg DC up to 500mA.
4. Remote switching interface to provide for manual remote switching of lamps.
5. Bulb monitoring which allows the condition of the bulb(s) to be monitored both day and night. When a fault is found it is recorded through a contact that can operate a detection device up to 1A.

GENERAL

Supplied in four formats:

UNIPSU3BMS for use with a **SINGLE UF300** lamp
UNIPSU5BMS for use with a **SINGLE UF500** lamp

UNIPSU3BMT for use with two **UF300** lamps.
UNIPSU5BMT for use with two **UF500** lamps.

WARNING: Ensure that the mains supply is isolated before checking that all connections are secure and correct.

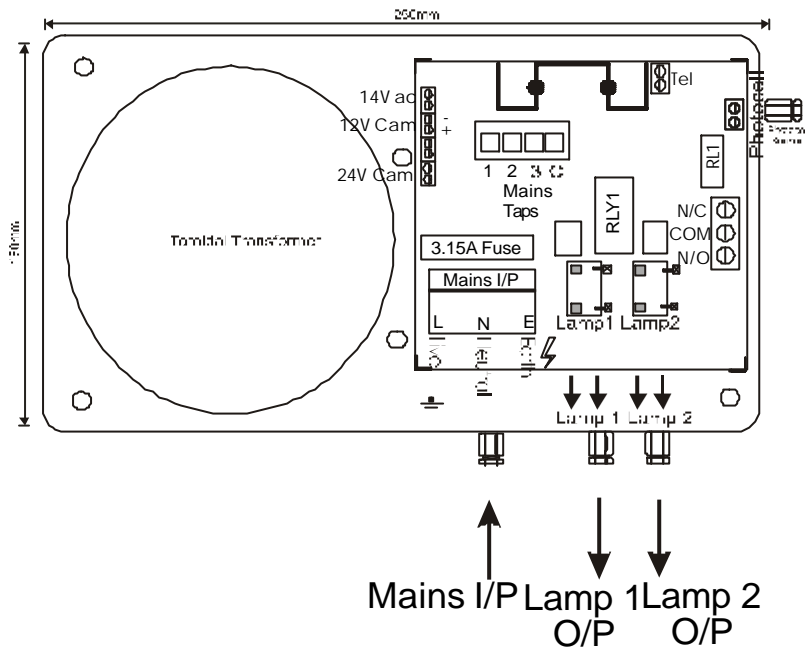
The units supplied in a IP67 weatherproof enclosure as standard. Care should be taken during installation to avoid damage to any of the components and extra care should be taken with power tools as the control circuits incorporate sensitive components. Ensure that all fixings and lid are sealed. The mains Input to the PSU should be protected by a 5A (8A for 110V version) slow blow fuse/breaker.

Earthing: The backing plate is connected to mains earth on the fused terminal block (The Earth connection on the Fused terminal block SHOULD NOT be connected to the Transformer Stud).

All transformer secondary and control circuits are floating. If the OV signal is to be earthed then this is to be done at the user control panel end of the circuit.

Electrical connections should be sound. Up to 6.5A can flow in lamp output circuits.

DAY / NIGHT PHOTOCELL



Mains I/P Lamp 1 Lamp 2
O/P O/P

Voltage Selector			
Input Voltage (240 Ver)	Input Voltage (110 Ver)	Tap No.	Colour
240	120	1	Yellow (5 Series) Orange (3 Series)
230	110	2	Orange (5 Series) Red (3 Series)
220	100	3	Red (5 Series Only)

CONTACT

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Derwent provide a photocell mounted in the PSU enclosure as standard. The PSU and photocell should be mounted externally in order for it to monitor the prevailing light conditions.

The photocell is designed to monitor the average light conditions. It is important not to point the photocell at a nearby artificial light source as it will affect its performance. Also, it is important to ensure that the photocell is not blanked off and is recommended that it faces sideways or downwards on the enclosure - not upwards.

The photocell is designed to automatically switch the lamps ON at dusk and turn OFF at dawn. A high degree of hysteresis is incorporated to avoid on/off switching in marginal light conditions.

The unit is factory set at approximately 20 lux ON and 65 lux OFF.

TOROIDAL TRANSFORMER

The toroidal transformer is specially designed to provide the correct voltage at the lamp housing after allowing for voltage drops across the cable supplying the lamps. It is important that the correct power supply (and hence transformer) is connected to lamps with appropriate cable lengths.

NOTE: It is very important to run the lamp unit at the correct voltage. DO NOT RUN THE BULBS IN EXCESS OF 28V at the bulb. This will shorten bulb life.

(Transformer may be tapped to suit mains input voltages. See table).

CAMERA POWER SUPPLY

The PSU has a built-in camera supply of 12V DC regulated 500mA and 24V AC. This supply can be used for other ancillary equipment eg Fibre optic interface, PIR's etc..

REMOTE SWITCHING INPUT

The lamps may be activated remotely by a volt-free contact latched across the telemetry connector. When connecting to the telemetry, JP1 link must be removed.

A telemetry input is defined as 'on' when the input is connected to 0V via the telemetry loop.

The photocell disables the remote switching input during daylight hours. To activate the unit continuously during hours of darkness using the photocell, ensure a link is fitted across the telemetry terminals (Factory Setting).

Testing of the unit during daylight hours can be achieved by covering up the photocell with the telemetry fitted. The PSU lid must also be fitted during this test.

BULB MONITORING SECTION

The bulb monitoring section controls a fault status relay. The dry relay contacts are accessible via CONN 16 as indicated in the diagram. Under normal running conditions i.e. the PSU and bulb are working correctly, the relay (RL1) is energized so that COM is connected to N/O and N/C is unconnected. When a fault occurs, for example, the bulb blows the COM connection is now connected to the N/C connection and N/O is now unconnected. The relay contacts are rated at 1A 24V DC.

BULB MONITORING SECTION

1. **Check mains supply.** Check mains fuse 2A slow blow (4A for 110V version). Visually check transformer for physical damage or overheating. The mains input to the PSU should be protected by a 5A (8A on 110V version) slow-blow fuse/breaker.
2. **Check lamp output from PSU.** With telemetry link closed and photocell covered, check voltage at lamp output terminal on PCB block approx 28.5V. Check that open/close telemetry link switches output voltage on/off.
3. **Check photocell functions** by covering with black tape with telemetry link closed the lamp(s) should illuminate and when the tape is removed from the photocell they should then turn off after a slight delay.
4. **Check the bulb.** Disconnect lamp supply lead at the PSU lamp output and check continuity.

Certification

This product Complies with
89/336/EEC
73/23/EEC

Electromagnetic Compatibility Directive meeting the following standards:

BS EN 60335-1 : 1995,
BS EN 50081-1 : 1992,
BS EN 50130-4 : 1996,
BS EN 55015 : 2001.

Low Voltage Directive meeting the following standard:
BS EN 60598-2-5 : 1998

