

DALI Power Supply – 1 DALI Line



PATENT PENDING
REGISTERED DESIGN



Designed in Australia to
meet Australian Standards
and installation conditions



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A member of the Gerard Lighting Group

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1. Product Item

This guide provides installation and product specification information for the Diginet Lighting Management System DALI Power Supply unit **DGLMPS01**.

2. Important Notes and Safety Information

WARNING – Electric shock may result in serious injury or death. Follow all warnings in this guide and on the product while working in accordance with the latest electrical safety practices.

- ❖ The DALI Power Supply unit requires a mains supply connection and is mounted on DIN rail that **must** be installed horizontally. The installer must be suitably qualified and should work in accordance with standard safety procedures for mains-powered electrical equipment.
- ❖ DALI lines operate on an ELV dc supply between 9.5V and 22.5V and must be considered at **mains** potential due to equipment isolation and cable segregation between the two supplies.
- ❖ There are no user serviceable parts inside the power supply unit. Do not attempt to disassemble or operate the power supply unit with any covers removed.
- ❖ The power supply unit is intended for indoor use in a typical switchboard enclosure. Outdoor installations will require the power supply to be housed in a suitable IP rated enclosure with due consideration to thermal conditions when operating.
- ❖ Consult the manufacturer's instructions for ballasts, LED drivers and other DALI equipment that may be connected to the DALI lines.

If you require information or assistance regarding the installation or operation of the power supply unit, contact Technical Services at Diginet Control Systems. Contact details are on the back cover of this guide and at www.diginet.net.au.

3. Product Summary

The DALI power supply unit is part of the Diginet Lighting Management System which incorporates the **Digital Addressable Lighting Interface (DALI)** open standard protocol for lighting.

The unit provides power for one DALI line that may contain lighting fixtures, including emergency lighting, RGB colour changing controllers, switches, sensors and interface devices. Each of these DALI devices draw power from the DALI line which must be provided by a DALI power supply.

4. Product Capabilities

The DALI Power Supply has been expertly designed to ensure the maximum permissible current on a DALI line will not be exceeded. The nominal rated load current for the DALI Power Supply is 238mA with a guaranteed minimum load current of 225mA.

Each DALI line in an installation requires a dedicated DALI power supply for correct operation of a DALI system.

5. Installation and Wiring Connections

The DALI Power Supply unit is mounted on DIN rail which **must** be installed horizontally in a suitable switchboard enclosure. Where necessary, multiple DALI power supplies, controllers or interface devices can be mounted on the same horizontal DIN rail.

The DALI Power Supply should be installed/connected by a suitably qualified person and it is the responsibility of the installer to ensure the power supply is connected in accordance with local wiring regulations. Figure 1 details the terminations required for the power supply unit.

DALI line terminals are sized to allow 3x1.5mm² or 2x2.5mm² (solid or stranded) to be terminated. The mains connection terminals can accept 3x1.5mm² or 2x2.5mm² conductor (solid or stranded) per tunnel. The DALI standard requires power supplies to be marked +/- however when connecting this unit polarity is not applicable.

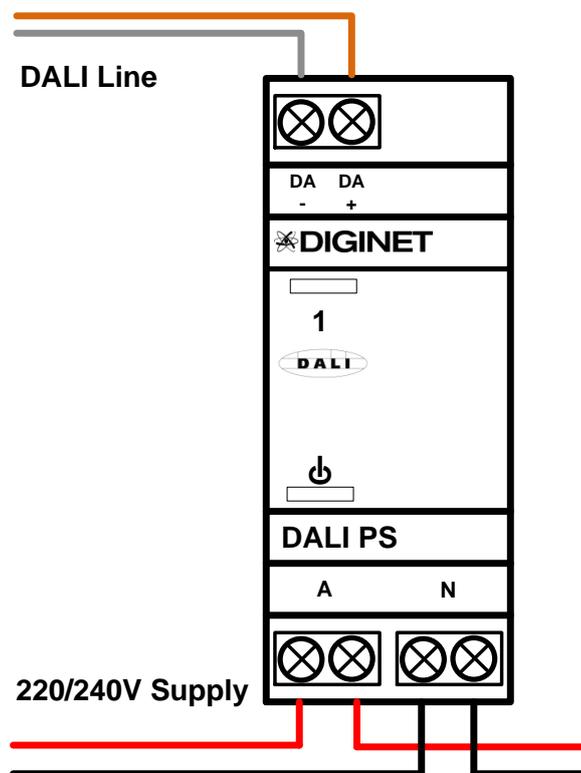


Figure 1 – DGLMPS01 electrical terminations.

It is recommended to connect the DALI Power Supply unit to a dedicated control circuit rather than a lighting circuit. Where possible, this control circuit should be connected to a back-up power system (UPS and/or generator). This will ensure the DALI system will remain powered and allow control/monitoring of lighting that may be connected to circuits that also have back-up power in the event of mains failure.

6. Operation and Indicators

There is no configuration required for the DALI Power Supply. The unit has indicators for displaying the mains supply connection and the DALI line status. Figure 2 shows the location of the DALI line and mains supply indicators.

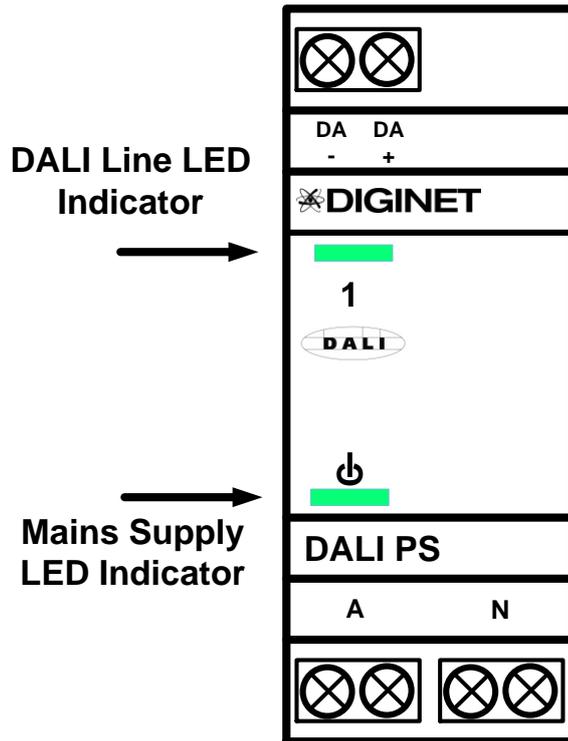


Figure 2 – Indicator locations.

DALI Line Indicator

Indicator Operation	Outcome
Green – on	Correct operation supplying 18V dc (nominal) to the DALI line
Off	DALI line power error. Check the: <ul style="list-style-type: none"> ❖ mains supply is connected with 220/240V ❖ DALI line for short circuit condition

Mains Supply Indicator

Indicator Operation	Outcome
Green – on	Correct operation indicating mains supply is present
Off	Check the mains supply is connected with 220/240V. If so, the unit is faulty and should be replaced

7. Power Surges

The DALI Power Supply unit should only be connected to a mains supply within the range stated in Section 9. Nominal fluctuations in mains supply voltage will have no effect on the DALI line voltage as the output remains stable. However induced voltages or surges may occur on electrical circuits in an installation as a result of excessive voltages from external influences which can damage electronic equipment. It is strongly recommended that the electrical installation be fitted with suitable over-voltage protection at the electrical switchboard to avoid these situations.

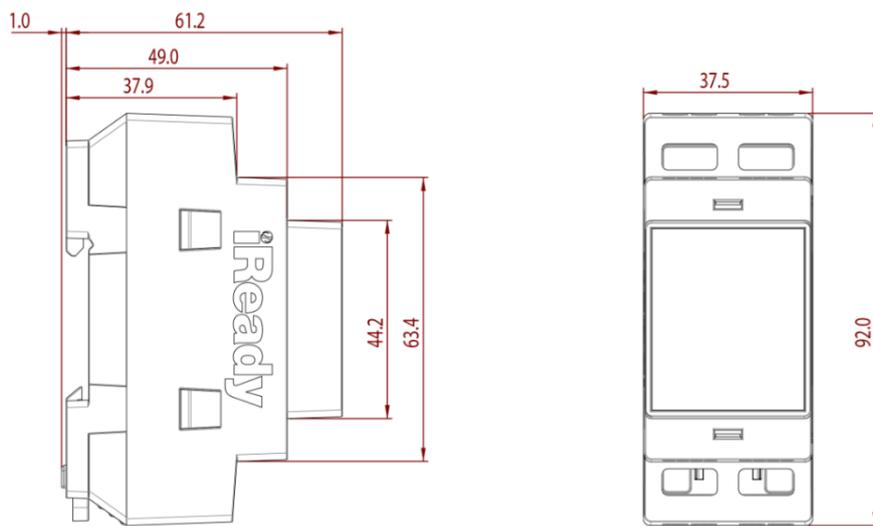
8. Insulation Resistance Testing

It is generally not a requirement to perform an IR test on DALI lines. In the event it is required, the DALI line cables must be disconnected from the power supply to conduct the test and then reconnected.

Performing IR tests on the mains supply circuit connected to the DALI power supply is not recommended. An inaccurate (low) IR value may be observed as a result of the internal circuitry of the power supply.

9. Product Specifications

Parameter	Specification
Input voltage	220 – 240V ac
Input power	10VA
Frequency	50/60Hz
DALI line capacity	1
DALI line supply voltage	18V dc (nominal)
DALI line rated current	238mA (nominal)/225mA (minimum)
DALI line signal current	250mA (maximum)
Isolation	≥3.75kV ac (DALI line/mains supply)
Start-up time	<1 sec
Ambient operating temperature	0 to 50° C
Ambient storage temperature	-10 to 70° C
Humidity	0% to 95% RH non condensing
DALI line terminals	Screwed – 3 x 1.5mm ² or 2 x 2.5mm ² solid/stranded
Mains supply terminals	Screwed – 3 x 1.5mm ² or 2 x 2.5mm ² solid/stranded per tunnel
Ingress protection	IP20
Materials	Enclosure/fascia – flame resistant polycarbonate
	DIN rail clip – ABS
Weight	104 grams
Dimensions – 2 DIN modules	92 x 37.5 x 62.2 (H x W x D in millimetres)
Approvals	     



10. Standards and Compliance

The DGLMPS01 product is designed to meet/exceed the following Australian and International standards:

Australian/New Zealand EMC and Electrical Safety Frameworks and Standards

Regulation	Standard	Title
EMC	AS/NZS CISPR 15:2011	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
Electrical Safety	AS/NZ 61347.2.2:2007	Lamp Control Gear – Particular requirements for dc or ac supplied electronic step-down convertors for filament lamps
	AS/NZ 61347.1:2002	Lamp Control Gear – General and safety requirements (IEC 61347-1:2000, MOD)
	IEC 61347-2-13	Lamp Control Gear – Part 2-13: Particular requirements for dc or ac supplied electronic control gear for LED modules – edition 1.0 (2006)

The product is in conformity with the essential requirements of the following EC Directives and accordingly carries the CE marking.

EC Council Directive	Title
2006/95/EC	Low Voltage
2004/108/EC	Electromagnetic Compatibility (EMC)
2011/65/EU	Restriction of Hazardous Substances (RoHS) in Electrical and Electronic Equipment

Other International Directives and Standards

Regulation	Standard	Title
Digital Addressable Lighting Interface (DALI)	IEC 62386-101	Digital Addressable Lighting Interface – Part 101: General Requirements – System

11. Product Warranty

The DALI Power Supply unit has a two-year warranty against manufacturing defects in accordance with the following terms:

1. Nothing in this Warranty affects any person's rights under the Australian Consumer Law. The benefits to any person under the DIGINET Warranty are in addition to the rights and remedies available under any Consumer Guarantees.
2. Subject to the other clauses of this Warranty, DIGINET warrants that the Goods will be free of manufacturing defects and will perform to DIGINET's specifications.
3. The benefit of the DIGINET Warranty extends only to the owner of the property in which the Goods are installed (the Owner) for two (2) years after the date of purchase (Warranty Period).
4. If within the Warranty Period the Goods fail to perform to DIGINET's specifications as a result of some defect in material or workmanship in the Goods (Defect) then DIGINET will, at its option, repair the Goods or supply replacement Goods free of charge.
5. The DIGINET Warranty will not apply to Goods:
 - 5.1. installed by any person other than a qualified tradesperson; or
 - 5.2. subjected to misuse, neglect, negligence or accidental damage; or
 - 5.3. operated in any way contrary to any operating or maintenance instructions; or
 - 5.4. improperly handled, installed or maintained; or
 - 5.5. altered or modified prior to or after installation.
6. The DIGINET Warranty does not apply to faulty or defective design of Goods unless DIGINET has designed the Goods and DIGINET expressly accepts responsibility for such design in writing.
7. In order to make a claim under the DIGINET Warranty, the Owner must:
 - 7.1. contact DIGINET to obtain a Returned Goods Authorisation Number for the Goods and to be notified of DIGINET's return address for the Goods by:
 - 7.1.1. freecall **1300 95 DALI (3254)**; or
 - 7.1.2. post to **PO Box 314, Padstow NSW 2211**; or
 - 7.1.3. fax to **1300 95 3257**; or
 - 7.1.4. email to sales@diginet.net.au.
 - 7.2. return the Goods at the Owners expense to the return address notified by DIGINET together with all accessories, instructions, specifications or other material supplied with the Goods and a notice in writing:
 - 7.2.1. stating the Returned Goods Authorisation Number for the Goods;
 - 7.2.2. describing in detail the defect or fault in the Goods;
 - 7.2.3. setting out the Owner's contact details (including postal address, email address and telephone numbers at which the Owner can be contacted during usual business hours).
 - 7.3. DIGINET will not accept any returned Goods which have not been returned strictly in accordance with the above instructions.
8. DIGINET will examine any returned Goods and if DIGINET determines that they are defective through no fault of the Owner and are otherwise undamaged, DIGINET will repair or replace the Goods free of charge.
9. DIGINET will notify the Owner whether it accepts the Goods are defective within a reasonable time of return.
10. DIGINET will not be responsible for any costs of de-installation, re-installation, returning Goods or for redelivery of the Goods (whether original or repaired and/or replacement Goods) by DIGINET and any other related expenses of the Owner in claiming under the DIGINET Warranty.
11. DIGINET will not be responsible for any loss or damage to the Goods occurring while the Goods are in transit (either on return to DIGINET or upon redelivery to the Owner of the original or repaired and/or replacement Goods).
12. DIGINET will not be responsible (whether arising in contract or tort (including negligence) or under any statute) for any special, indirect, incidental, consequential or economic losses or damages (including loss of data, business, profits, revenue, anticipated savings, bargain, opportunity or goodwill) whether or not the possibility of those losses or damages being suffered had been brought to the attention of DIGINET.

The Australian Consumer Law requires the inclusion of the following statement with the DIGINET Warranty:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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