

# Features

## DALI Power Supply

- Universal AC input range: 90-264VAC
- Suitable for DALI installation
- EN61347-1 certified
- Cooling by free air convection
- Over current and short circuit protected

**RECOM**  
AC/DC Converter

## RELV4-16

## DALI Bus Power Supply



EN61347-1 certified  
EN61347-2-11 certified  
EN55015 certified  
EN61547 certified

### Description

The RELV4-16 is designed to power a DALI digital lighting control bus. The output is current limited to 200mA, sufficient to power a complete DALI zone with up to 64 addressable DALI devices. The universal input voltage range from 90V to 264VAC enables the RELV4-16 to be used anywhere in the world. Due to its compact design with mounting tabs, it can be easily and conveniently integrated into any DALI network. An indicator LED shows Power OK and DALI bus traffic to aid installation and commissioning. The RELV4-16 comes with a 5 year warranty.

### Selection Guide

| Part Number | Input Voltage Range [VAC] | Input Current (@ 115VAC) [mA] | Output Voltage [VDC] | Output Current [mA] | Output Power [W] | Efficiency typ. [%] |
|-------------|---------------------------|-------------------------------|----------------------|---------------------|------------------|---------------------|
| RELV4-16    | 90-264                    | 110                           | 16                   | 200                 | 3.2              | 68                  |

### Specifications (measured @ Ta= 25°C and 230VAC)

#### BASIC CHARACTERISTICS

| Parameter                       | Condition          | Min.    | Typ.           | Max.       |
|---------------------------------|--------------------|---------|----------------|------------|
| Input Voltage Range             |                    | 90VAC   | 230VAC         | 264VAC     |
| Output Voltage Range            | full load          |         | 16VDC          |            |
| DC Voltage Range                |                    | 13.6VDC |                | 18.4VDC    |
| Inrush Current                  | 115VAC<br>230VAC   |         |                | 21A<br>42A |
| DC Output Current Range         | 13.6VDC<br>18.4VDC |         | 240mA<br>180mA |            |
| Start-up Time                   | 115VAC<br>230VAC   |         |                | 1s<br>0.5s |
| Rise and Fall Times             |                    | 10µs    |                | 100µs      |
| Input Frequency Range           |                    | 47Hz    |                | 63Hz       |
| Ripple and Noise <sup>(1)</sup> |                    |         |                | 150mVp-p   |

#### Notes:

Note1: Ripple and Noise is measured @20MHz BW by using a 12" twisted pair-wire terminated with 0.1µF & 47µF parallel capacitor

#### REGULATIONS

| Parameter                      | Condition | Value            |
|--------------------------------|-----------|------------------|
| Output Accuracy <sup>(2)</sup> |           | ±15% typ.        |
| Current Tolerance              |           | +20% / -10% typ. |

#### Notes:

Note2: Voltage Tolerance includes line regulation, load regulation and set-up tolerance

Specifications (measured @ Ta= 25°C and 230VAC)

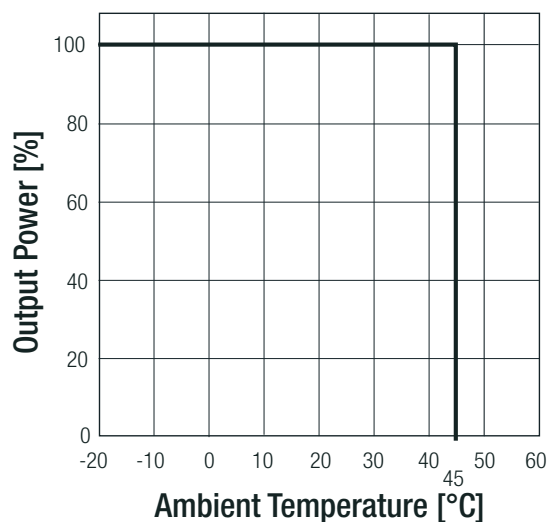
### PROTECTION

| Parameter                      | Condition                        | Value                           |
|--------------------------------|----------------------------------|---------------------------------|
| Short Circuit Protection (SCP) | with terminal switch (80°C typ.) | Limiting Current Mode           |
| Over Current Protection (OCP)  | 240mA max.                       | Limiting Current Mode           |
| Isolation Voltage              |                                  | 3.75kVAC / 1 Minute             |
| Isolation Resistance           | 500VDC at 25°C                   | 100MΩ                           |
| Isolation Grade                |                                  | Double Isolated for SELV Output |

### ENVIRONMENTAL

| Parameter                   | Condition              | Value                                 |
|-----------------------------|------------------------|---------------------------------------|
| Operating Temperature Range |                        | -20°C to +45°C                        |
| Max. Case Temperature       |                        | +65°C                                 |
| Operating Humidity          | non-condensing         | 20% to 90% RH                         |
| IP Rating                   |                        | IP20                                  |
| Vibration                   |                        | 10-500Hz, 2G, 60Min. along X, Y and Z |
| MTBF                        | MIL-HDBK-217F, at 25°C | 200 x 10 <sup>3</sup> hours           |

#### Derating Graph



### SAFETY AND CERTIFICATIONS

| Certificate Type (Safety)  | File Number | Standard   |
|--|-------------|--|
| Lamp Controlgear - Part 1: General and safety requirements   |             | EN61347-1:2015                                       |
| Lamp Controlgear - Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires |             | IEC61347-2-11:2001, 1st Edition<br>EN61347-2-11:2001 |
| RoHS 2+  |             | RoHS 2011/65/EU + AM2015/863                         |

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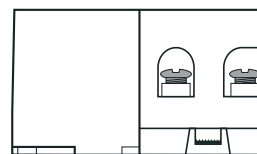
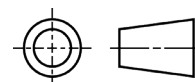
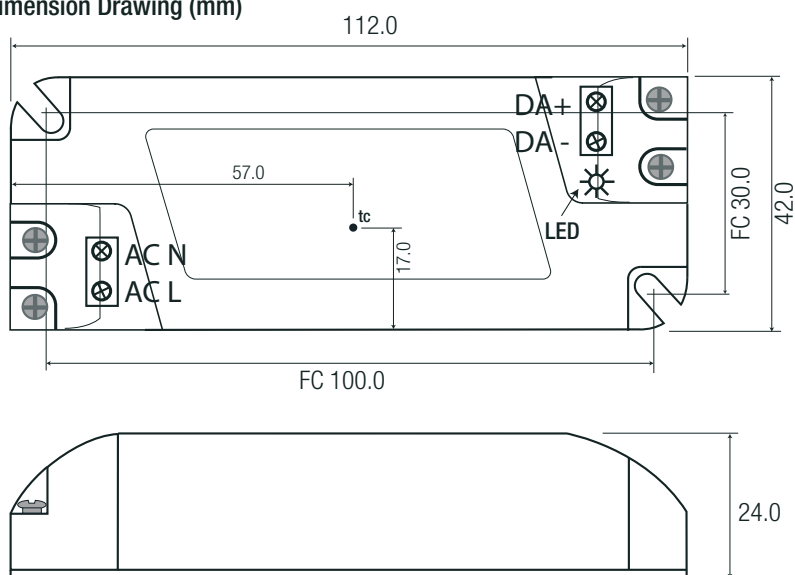
**Specifications (measured @ Ta= 25°C and 230VAC)**

| EMC Compliance  | Conditions  | Standard / Criterion           |
|---|---|--------------------------------|
| Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment |   | EN55015:2013 + A1:2015         |
| Limitations on the amount of electromagnetic interference allowed from digital and electronic devices               |   | FCC 47 CFR Part 15             |
| Equipment for general lighting purposes – EMC immunity requirements   |   | EN61547:2009                   |
| ESD Electrostatic discharge immunity test   | Air $\pm 2, \pm 4, \pm 8\text{kV}$<br>Contact $\pm 2, \pm 4\text{kV}$ | IEC61000-4-2:2008, Criteria A  |
| Radiated, radio-frequency, electromagnetic field immunity test  | 3V/m (80-1000MHz)   | IEC61000-4-3:2006, Criteria A  |
| Fast Transient and Burst Immunity   | AC Power Port: $\pm 0.5\text{kV}$                                     | IEC61000-4-4:2012, Criteria A  |
| Surge Immunity  | AC Power Port: L-N $\pm 0.5\text{kV}, \pm 1\text{kV}$                 | IEC61000-4-5:2005, Criteria A  |
| Immunity to conducted disturbances, induced by radio-frequency fields   | AC Power Port: 3V   | IEC61000-4-6:2008, Criteria A  |
| Power Magnetic Field Immunity   | 50, 60Hz, 3A/m  | IEC61000-4-8:2009, Criteria A  |
| Voltage Dips and Interruptions  | Voltage Dips 30%  | IEC61000-4-11:2004, Criteria B |
| Voltage Dips and Interruptions  | Voltage Interruptions >95%  | IEC61000-4-11:2004, Criteria B |
| Limits of Harmonic Current Emissions  |   | EN61000-3-2:2014               |
| Limits of Voltage Fluctuations & Flicker  |   | EN61000-3-3:2013               |

### DIMENSION and PHYSICAL CHARACTERISTICS

| Parameter         | Type        | Value  |
|-------------------|-------------|--|
| Material          | PCB<br>case | plastic resin with fibreglass, (UL94 V-0)<br>plastic, (UL94 V-2) |
| Dimension (LxWxH) |             | 112.0 x 42.0 x 24.0mm  |
| Weight            |             | 80g typ.   |

Dimension Drawing (mm)



#### Screw Terminal Information

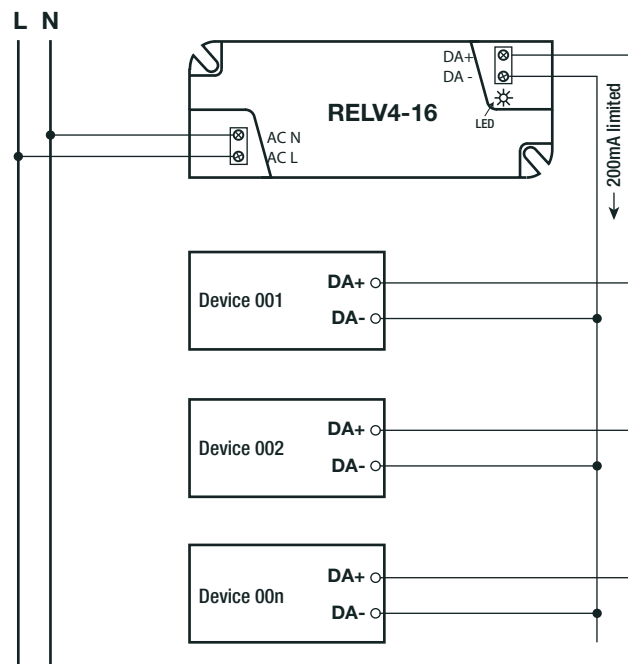
| Function | Wire Diameter          | AWG   |
|----------|------------------------|-------|
| AC N     | 0.5-1.5mm <sup>2</sup> | 14~26 |
| AC L     | 0.5-1.5mm <sup>2</sup> | 14~26 |
| DA+      | 0.5-1.5mm <sup>2</sup> | 14~26 |
| DA-      | 0.5-1.5mm <sup>2</sup> | 14~26 |

wire stripping length: 5~6mm  
tc= case temperature measuring point  
FC= fixing centers  
Tolerance: xx.x=  $\pm 0.5\text{mm}$   
xx.xx=  $\pm 0.35\text{mm}$   
2 mounting screws are included

Specifications (measured @ Ta= 25°C and 230VAC)

### INSTALLATION and APPLICATION

#### Connection



### PACKAGING INFORMATION

| Parameter                   | Type           | Value                  |
|-----------------------------|----------------|------------------------|
| Packaging Dimension (LxWxH) | cardboard box  | 256.0 x 124.0 x 84.0mm |
| Packaging Quantity          |                | 10 pcs                 |
| Storage Temperature Range   |                | -40°C to +80°C         |
| Storage Humidity            | non-condensing | 10% - 90% RH           |

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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