

**FEATURES**

- CONVERTER+BUS
- DC Input: 12-24-48 Vdc
- BUS Command: DMX o DALI
- Converter from DALI protocol to DMX protocol
- Converter from DMX protocol to DALI protocol
- Possibility to control device with protocol DALI by protocol DMX and viceversa
- Extended temperature range
- 100% Functional Test – 5 Years warranty

→ For the whole and update **Device Manual** refer to producer's website: <http://www.dalcnet.com>

➤ **PRODUCT CODE**

| CODE | Input Voltage | Channel | Input command | Output command | |
|---------------------------|---------------|---------|---------------|----------------|-----------|
| DGD-DMX-DALI ¹ | 12-48V DC | 1 | DMX | DALI | CONVERTER |
| DGD-DALI-DMX | 12-48V DC | 1 | DALI | DMX | CONVERTER |

➤ **PROTECTIONS**

| | | | |
|------------|--|--|---|
| OVP | Over voltage protection ² | | ✓ |
| UVP | Under voltage protection ² | | ✓ |
| RVP | Reverse polarity protection ² | | ✓ |
| IFP | Input fuse protection ² | | ✓ |

¹ It requires power supply in the DALI bus

² Only control logic protection



Device Manual

➤ REFERENCE STANDARDS

| | |
|------------|---|
| EN 61347-1 | Lamp controlgear – Part 1: General and safety requirements |
| EN 55015 | Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment |
| EN 61547 | Equipment for general lighting purpose – EMC immunity requirements |

➤ TECHNICAL SPECIFICATION

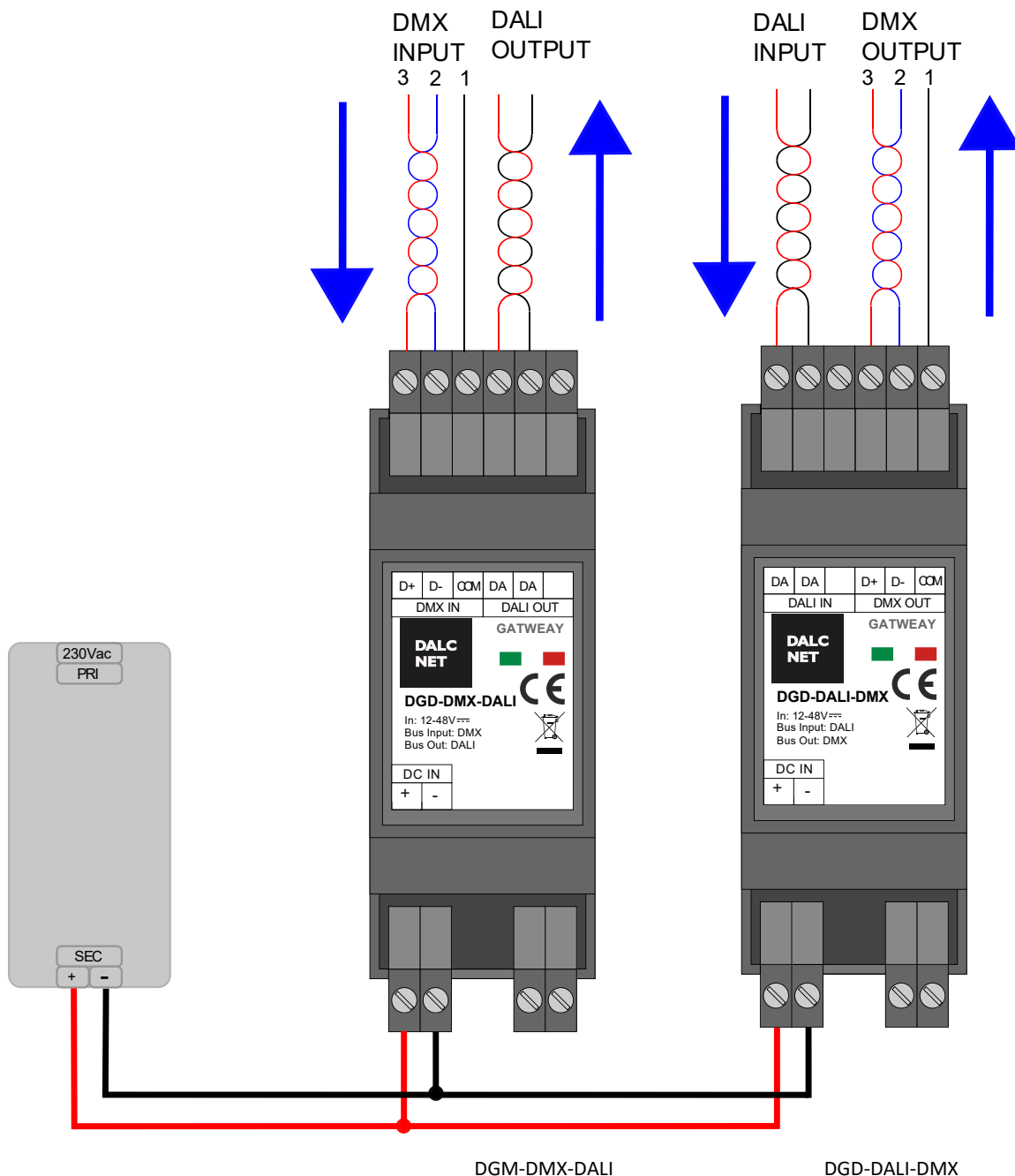
| | | Constant Voltage | |
|----------------------------------|------|--|--|
| Supply Voltage | | min: 10,8 Vdc .. max: 52,8 Vdc | |
| Nominal Power ³ | | DMX-DALI Variant Typ | DALI-DMX Variant Min Max |
| | @12V | 101 mW | 100 mW 184 mW |
| | @24V | 161 mW | 156 mW 248 mW |
| | @48V | 274 mW | 279 mW 380 mW |
| Power loss in stand by mode | | <500mW | |
| Storage Temperature | | min: -40 max: +60 °C | |
| Ambient Temperature ³ | | min: -10 max: +40 °C | |
| Protection grade | | IP10 | |
| Wiring | | 2.5mm ² solid – 2.5mm ² stranded – 30/12 AWG | |
| Wire preparation length | | 5,5 – 6,5 mm | |
| Mechanical dimensions | | 92 x 36 x 62 mm DIN RAIL 2M | |
| Package dimension | | 124 x 71 x 48 mm | |
| Casing material | | Plastic | |
| Weight | | 90g | |

³ Maximum value, dependent on ventilation conditions.

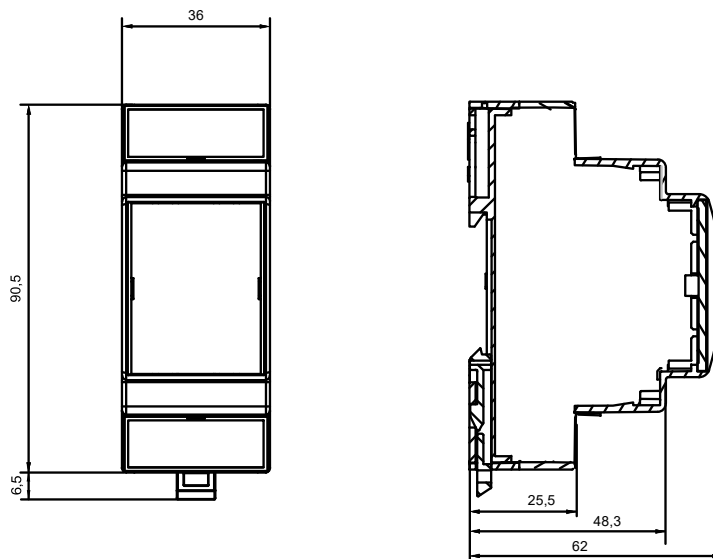
➤ INSTALLATION

Follow the drawing below to set the product:

- 1) Connect the BUS at terminal block of the device (depending on the DGD variant).
- 2) Connect the power supply (12-48Vdc) to the device terminal blocks "DC IN".



➤ **MECHANICAL DIMENSION**
(terminals excluded)



➤ **TECHNICAL NOTES**

Installation:

- Installation and maintenance must be performed only by qualified personnel in compliance with current regulations.
- The product must be installed inside an electrical panel protected against overvoltages.
- The product must be installed in a vertical or horizontal position with the cover / label upwards or vertically; Other positions are not permitted. It is not permitted to bottom-up position (with the cover / label down).
- Keep separated the circuits at 230V (LV) and the circuits not SELV from circuits to low voltage (SELV) and from any connection with this product. It is absolutely forbidden to connect, for any reason whatsoever, directly or indirectly, the 230V mains voltage to the bus or to other parts of the circuit.

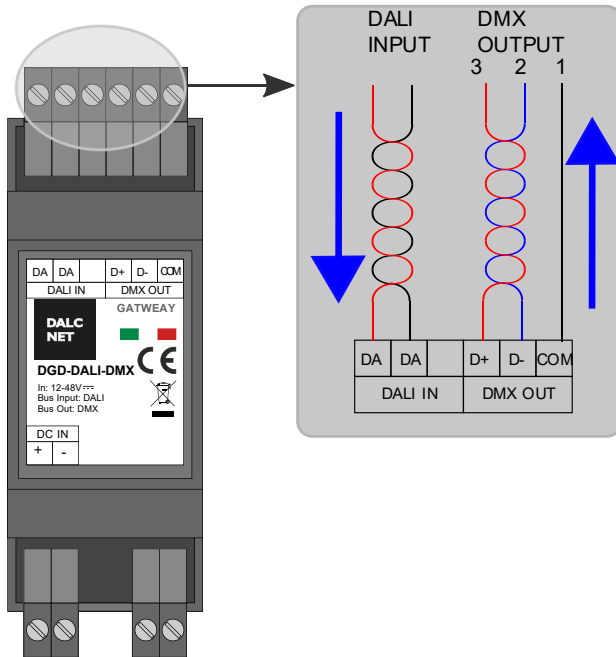
Power Supply:

- For the power supply use only a SELV power supplies with limited current, short circuit protection and the power must be dimensioned correctly. In case of using power supply with ground terminals, all points of the protective earth (PE = Protection Earth) must be connected to a valid and certified protection earth.
- The connection cables between the power source "low voltage" and the product must be dimensioned correctly and they should be isolated from every wiring or parts at voltage not SELV. Use double insulated cables.
- Dimension the power supply for the load connected to the device. If the power supply is oversized compared with the maximum absorbed current, insert a protection against over-current between the power supply and the device.

Command:

- The length of the connection cables between the local commands (N.O. Push button or other) and the product must be less than 10m; the cables must be dimensioned correctly and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.
- The length and type of the connection cables at the BUS (DMX512, DALI or other) use cables as per specification of the respective protocols and regulations and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.
- All the product and the control signal connect at the bus (DMX512, DALI or other) and at the local command (N.O. Push Button or other) must be SELV (the devices connected must be SELV or supply a SELV signal)

➤ **DGD-DALI-DMX SETUP – CONVERSION FROM DALI PROTOCOL TO DMX PROTOCOL**



Signal LED:

- In the case of no bus power detected, or bus error, the led blinks fast (2 pulsed per second).
- In the case of bus power but no data, led blinks slow (1 pulse per second).
- In the case of data link active, the led stands on.

Conversion

The DGD-DMX-DALI convert all 64 DALI addresses in 64 DMX Channels.

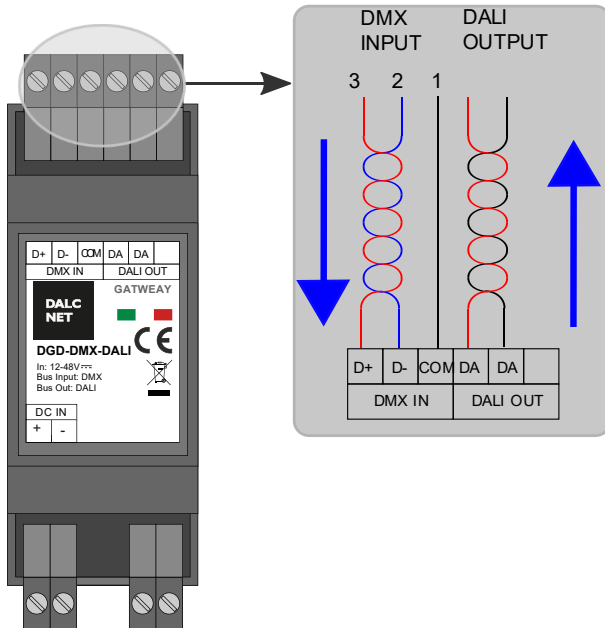
The DGD-DMX-DALI convert from DALI protocol to DMX protocol and not viceversa.

The device does not manage the addressing of DALI bus. The addresses DALI from 0 to 63 is fixed and it is sent to DMX channel from 1 to 64. The commands implemented are: OFF, UP, DOWN, STEP UP, STEP DOWN, DIRECT ARC POWER, CALL MIN LEVEL, CALL MAX LEVEL, GOTO LAST ACTIVE LEVEL. The values of the commands are not stored in the absence of the supply voltage.

Conversion Table from DALI Addresses to DMX Channels:

| Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | | | | | | |
|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----|---|----|-----|---|----|
| +0 | ⇒ | 1 | +11 | ⇒ | 12 | +22 | ⇒ | 23 | +33 | ⇒ | 34 | +44 | ⇒ | 45 | +55 | ⇒ | 56 |
| +1 | ⇒ | 2 | +12 | ⇒ | 13 | +23 | ⇒ | 24 | +34 | ⇒ | 35 | +45 | ⇒ | 46 | +56 | ⇒ | 57 |
| +2 | ⇒ | 3 | +13 | ⇒ | 14 | +24 | ⇒ | 25 | +35 | ⇒ | 36 | +46 | ⇒ | 47 | +57 | ⇒ | 58 |
| +3 | ⇒ | 4 | +14 | ⇒ | 15 | +25 | ⇒ | 26 | +36 | ⇒ | 37 | +47 | ⇒ | 48 | +58 | ⇒ | 59 |
| +4 | ⇒ | 5 | +15 | ⇒ | 16 | +26 | ⇒ | 27 | +37 | ⇒ | 38 | +48 | ⇒ | 49 | +59 | ⇒ | 60 |
| +5 | ⇒ | 6 | +16 | ⇒ | 17 | +27 | ⇒ | 28 | +38 | ⇒ | 39 | +49 | ⇒ | 50 | +60 | ⇒ | 61 |
| +6 | ⇒ | 7 | +17 | ⇒ | 18 | +28 | ⇒ | 29 | +39 | ⇒ | 40 | +50 | ⇒ | 51 | +61 | ⇒ | 62 |
| +7 | ⇒ | 8 | +18 | ⇒ | 19 | +29 | ⇒ | 30 | +40 | ⇒ | 41 | +51 | ⇒ | 52 | +62 | ⇒ | 63 |
| +8 | ⇒ | 9 | +19 | ⇒ | 20 | +30 | ⇒ | 31 | +41 | ⇒ | 42 | +52 | ⇒ | 53 | +63 | ⇒ | 64 |
| +9 | ⇒ | 10 | +20 | ⇒ | 21 | +31 | ⇒ | 32 | +42 | ⇒ | 43 | +53 | ⇒ | 54 | | | |
| +10 | ⇒ | 11 | +21 | ⇒ | 22 | +32 | ⇒ | 33 | +43 | ⇒ | 44 | +54 | ⇒ | 55 | | | |

➤ DGD-DMX-DALI SETUP – CONVERSION FROM DMX PROTOCOL TO DALI PROTOCOL



Signal LED:

- In the case of bus error, the led blinks fast (2 pulsed per second).
- In the case of no bus detected, led blinks slow (1 pulse per second).
- In the case of data link active, the led stands on.

Conversion

- The DGD-DMX-DALI convert only the first 64 DMX Channels in 64 DALI addresses.
- The DGD-DMX-DALI converter from DMX protocol to DALI protocol and not viceversa.
- The DMX channels from 1 to 64 is fixed and it is sent to DALI addresses from 0 to 63 by DIRECT ARC POWER command.

NOTE: The DGD-DMX-DALI requires power supply in the DALI bus. The devices DALI must be addressed through DALI programmer (for example with cod. DGM01-1248).

Conversion Table from DMX Channels to DALI Addresses

| Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI | Channel DMX | Addr DALI |
|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|
| 1 | ⇒ +0 | 12 | ⇒ +11 | 23 | ⇒ +22 | 34 | ⇒ +33 | 45 | ⇒ +44 | 56 | ⇒ +55 |
| 2 | ⇒ +1 | 13 | ⇒ +12 | 24 | ⇒ +23 | 35 | ⇒ +34 | 46 | ⇒ +45 | 57 | ⇒ +56 |
| 3 | ⇒ +2 | 14 | ⇒ +13 | 25 | ⇒ +24 | 36 | ⇒ +35 | 47 | ⇒ +46 | 58 | ⇒ +57 |
| 4 | ⇒ +3 | 15 | ⇒ +14 | 26 | ⇒ +25 | 37 | ⇒ +36 | 48 | ⇒ +47 | 59 | ⇒ +58 |
| 5 | ⇒ +4 | 16 | ⇒ +15 | 27 | ⇒ +26 | 38 | ⇒ +37 | 49 | ⇒ +48 | 60 | ⇒ +59 |
| 6 | ⇒ +5 | 17 | ⇒ +16 | 28 | ⇒ +27 | 39 | ⇒ +38 | 50 | ⇒ +49 | 61 | ⇒ +60 |
| 7 | ⇒ +6 | 18 | ⇒ +17 | 29 | ⇒ +28 | 40 | ⇒ +39 | 51 | ⇒ +50 | 62 | ⇒ +61 |
| 8 | ⇒ +7 | 19 | ⇒ +18 | 30 | ⇒ +29 | 41 | ⇒ +40 | 52 | ⇒ +51 | 63 | ⇒ +62 |
| 9 | ⇒ +8 | 20 | ⇒ +19 | 31 | ⇒ +30 | 42 | ⇒ +41 | 53 | ⇒ +52 | 64 | ⇒ +63 |
| 10 | ⇒ +9 | 21 | ⇒ +20 | 32 | ⇒ +31 | 43 | ⇒ +42 | 54 | ⇒ +53 | | |
| 11 | ⇒ +10 | 22 | ⇒ +21 | 33 | ⇒ +32 | 44 | ⇒ +43 | 55 | ⇒ +54 | | |