July 2019

DG558MA04D1A01

Technical reference manual

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Technology Partner
SILVAIR

QUALIFIED
BLUETOOTH®
MESH

DG LIGHT

www.dglight.eu

Table of Contents

1. Product description

DG558MA04D1A01 is a Qualified Bluetooth Mesh® control unit for lighting drivers with DALI® dimming interface.

DG558MA04D1A01 provides internal DALI bus power supply (10VDC) with a maximum current of 20mA (i.e. up to 10 connected DALI devices).

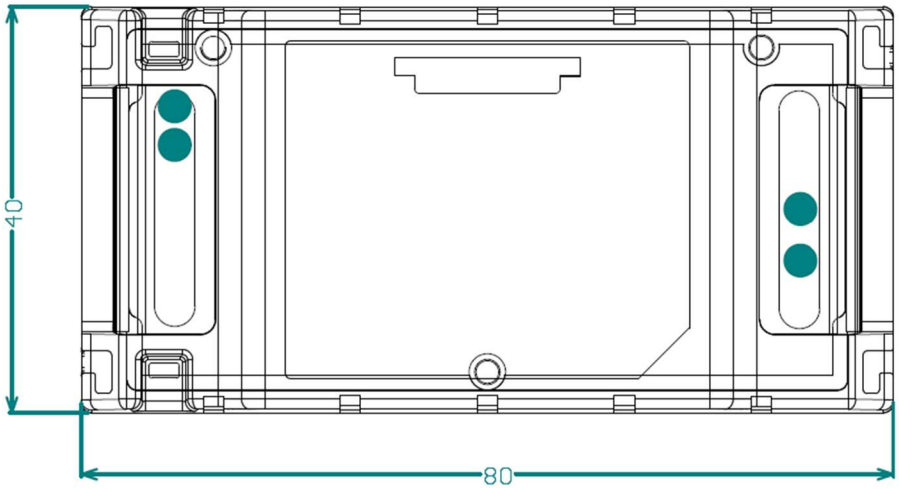
DG558MA04D1A01 is an easy and smart way to provide Bluetooth Mesh® network capabilities to standard DALI control gears.

It allows to communicate with DALI Control Gear over the DALI protocol by converting Standard Bluetooth Mesh commands to DALI Commands.

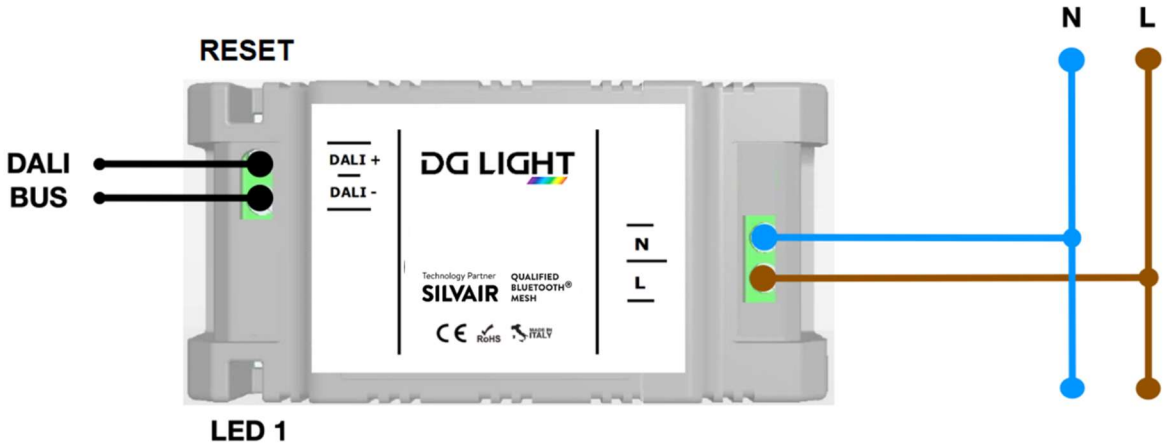
Supported features are:

- Broadcasting DAPC (direct arc power control) message to DALI Control Gears
- Reading status information from DALI Control Gear to report failures.
- Fast Fade Time support (default set to 50ms)
- Supported failures include:
    - DALI Control Gear Failure
    - DALI Light Source Failure
    - DALI Limit Error
    - DALI No Response Warning
    - DALI No Response Error
    - DALI Bus Short Error

2. Technical data

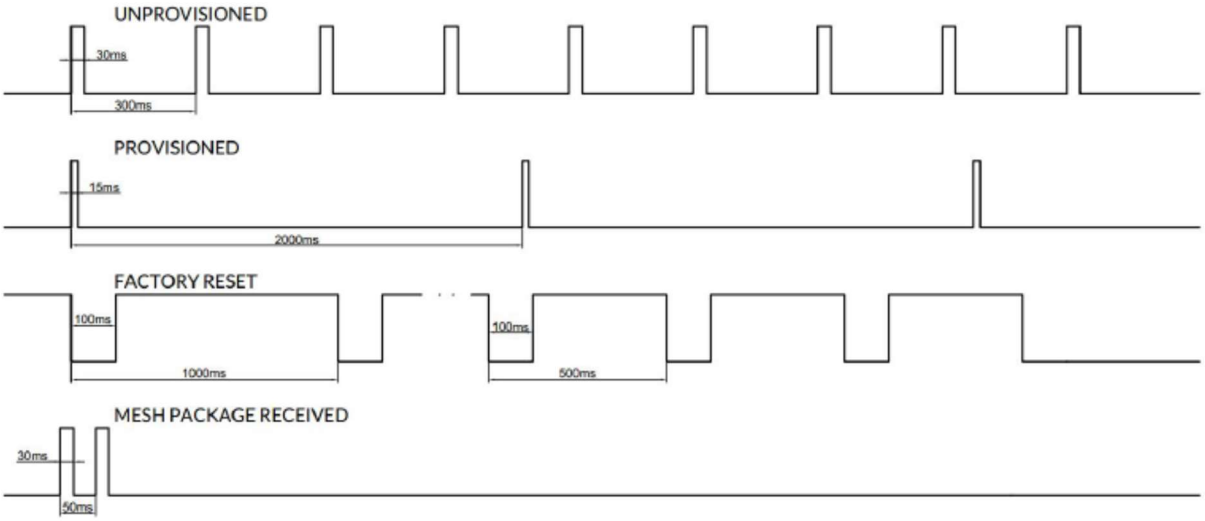
Supply Input	Voltage range: 90÷264 VAC Frequency: 50÷60 Hz No Load power consumption: 580mW@220VAC 50Hz
Dali Output	Voltage range: 0-10Vdc Max. load current :20mA (i.e. up to 10 connected DALI control gears)
Operating conditions	Ambient temperature, ta: -20...+50°C Max. case temperature, tc: +70 °C Storage temperature: -25...+70 °C Max. relative humidity: 0...80%, non-cond.
Connectors	L , N : Wire range, solid & stranded: 0,75-1,5 mm^2 (14-22 AWG) DALI +, DALI - : Wire range, solid & stranded: 0,75-1,0 mm^2 (14-22 AWG)
Mechanical dimensions	 40x80x24,5 mm (40X100X24.5mm with cable ties accessories)
Protection degree	IP20

3. Wiring diagram and description



N	Neutral line mains power supply connector
L	Load line mains power supply connector
LED1	Bluetooth mesh status LED (see **Note 1**)
RESET	To trigger factory reset, please place a magnet near RESET for at least 5 seconds until LED1 will start blinking as unprovisioned according to Note1
DALI +	DALI Bus interface and supply connector
DALI -	DALI Bus interface and supply connector

Note 1: LED1 provides an indication of the device state as reported below:



4. Installation and precautions

- Make sure that the mains voltage is switched off when making any connections
- Use 0,75- 1,5 mm^2 solid or stranded conductor electrical wires
- Connect wires as shown in **wiring diagram** paragraph and tighten the connector screw
- Make sure to connect the input and outputs correctly
- Mains input connector is marked with letters L and N
- Connect DALI output connectors to DALI control gear ensuring that no DALI power supply is present on the same bus.

Notes:

DG558MA04D1A01 is a built-in class II device. Use double insulated wires or an external mounting box if the device is not mounted inside another insulated device.

Make sure that the ambient temperature does not exceed the specified maximum value.

Due to the built-in DALI power supply (up to 20mA) the DG558MA04D1A01 DALI interface doesn't meet the requirements of IEC 60929 and must not be connected to an existing DALI network where DALI power supply is present.

This is particularly important if the DG558MA04D1A01 is connected to an Osram DEXAL® driver in order to gather measured energy consumption data as the Osram DEXAL® driver is set up to power the DALI bus by default and must be reprogrammed before connecting to the DG558MA04D1A01

5. Commissioning by Silvair

DG558 is based on Bluetooth Mesh Silvair commissioning platform

Silvair Commissioning is a set of software tools that allows commissioning agents, contractors, installers and facility managers to configure, control and manage commercial lighting infrastructures based on qualified Bluetooth mesh.

Silvair Commissioning consists of two elements:

- *Silvair web app*, which is used off site to manage lighting installation projects, plan commissioning along with mapping zones on a floor within a building, setting up control scenarios for zones and managing users collaborating on the project.

- *Silvair mobile app*, which is used on site to commission the devices with the commissioning plan set up earlier in Silvair web app. It has the basic features for managing a project so it can also be used to perform any fine-tuning or commissioning small projects.

Please contact SILVAIR at **business@silvair.com** for the Commissioning user manual

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