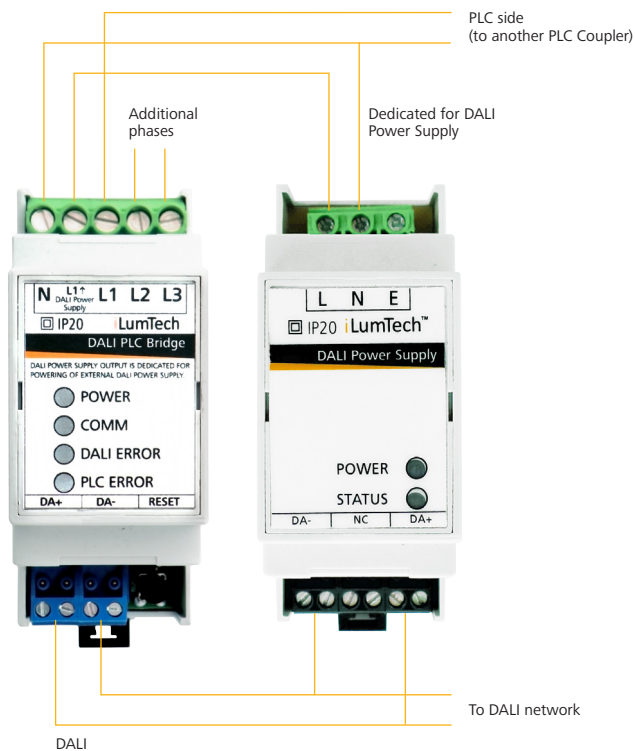


User guide

DALI PLC Bridge

1 Introduction

Simplified connection schematic



The DALI PLC Bridge (hereinafter referred to as "Bridge") is intended for use as a Master device in a DALI PLC network. It can communicate with DALI PLC-IN devices as well as other Bridge devices. The Master device manages all communication on the PLC side of the network. The number of DALI devices connected within the whole network, including DALI PLC devices, is 64 according to the DALI standard.

Features

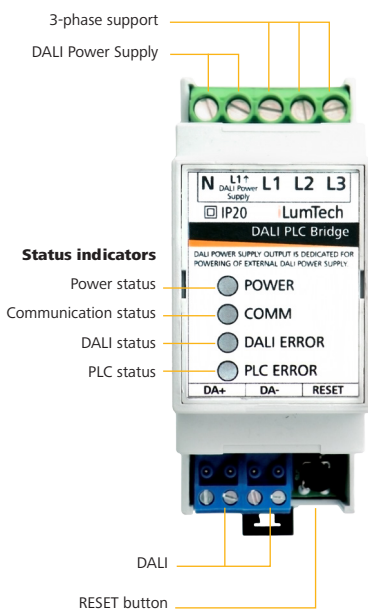
- DALI powered
- DALI commissioning
- Duplicate DALI address recognition
- DALI network mapping
- Three phase support

The Bridge supports creation of a network on a single phase; a single network across three phases where a maximum of 64 DALI control gears connected to all three phases can be controlled at the same time; and creation of three independent networks including a maximum of 64 devices, each on one of three phases and where each phase/network must be electrically isolated from the others.

The Bridge manages mapping of device type 6 control gears and all available parameters across the whole DALI network. The Bridge also provides commissioning of the DALI bus. Automatic duplicate address recognition is also implemented. When a duplicate address is found on the DALI bus, the Bridge resets the appropriate addresses before continuing with commissioning.

2 DALI PLC Bridge properties

Overview of the DALI PLC Bridge



Connectors

The mains connector is found on the top of the Bridge. Mains voltage is connected to the N and L1 inputs. In the case of using three phase connection, L2 and L3 are also connected as needed. L1↑ is the output designated for powering the DALI Power Supply. This output is always powered by the L1 input, which must be connected as a priority over L2 and L3.

The DALI connector is located on the bottom of the Bridge. Connection of the DALI bus is not polarity sensitive.

Status LED

Four LEDs located on the front of the Bridge provide status notification.

- 'POWER' – If this LED is on, it indicates that voltage is present on the DALI bus and the Bridge is turned on.
- 'COMM' – Blinking of this LED indicates the presence of some kind of communication, including in the DALI-PLC direction or PLC-DALI direction, and the receipt and transmission of communication frames.
- 'DALI ERROR' – Blinking of this LED indicates an incorrect DALI frame. Possible sources of this error include incorrect DALI frame timing, incomplete DALI frames, or insufficient DALI voltage for proper DALI communication.
- 'PLC ERROR' – Blinking of this LED indicates receipt of an incorrect DALI frame. Possible sources of this error include expiration of the timeout for an acknowledged frame or an incorrect checksum for a received frame.

Reset button

A 'Reset' button is located on the bottom of the Bridge next to the DALI connector. This button has two features related to the mapping of DALI control gears connected to the DALI PLC network.

Hard reset

Press and hold the button for a period of 10 seconds. This causes the Bridge to automatically become the Master device and to address all available PLC nodes (DALI PLC Bridge devices and DALI PLC-IN devices). After addressing of PLC nodes, all DALI addresses on the DALI network are reset and subsequently re-commissioned. After re-commissioning, each DALI control gear is mapped and its parameters stored in the memory of the Master device. The final step in mapping of the network is sharing the information stored in the memory of the Master device with all PLC nodes. This means that every PLC node holds information about every DALI device on the PLC network and DALI query commands can be sent to and replied to by any PLC node. The commissioning process can take up to 5 minutes depending on the number of connected DALI control gears.

Soft reset

Press the button briefly. This causes the Bridge to refresh the network map, meaning that the PLC node addressing process is skipped and the Bridge will search only for changes in DALI control gear connection. This is useful for the case that DALI control gears are removed or additional ones connected, and negates the need for full network mapping.

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