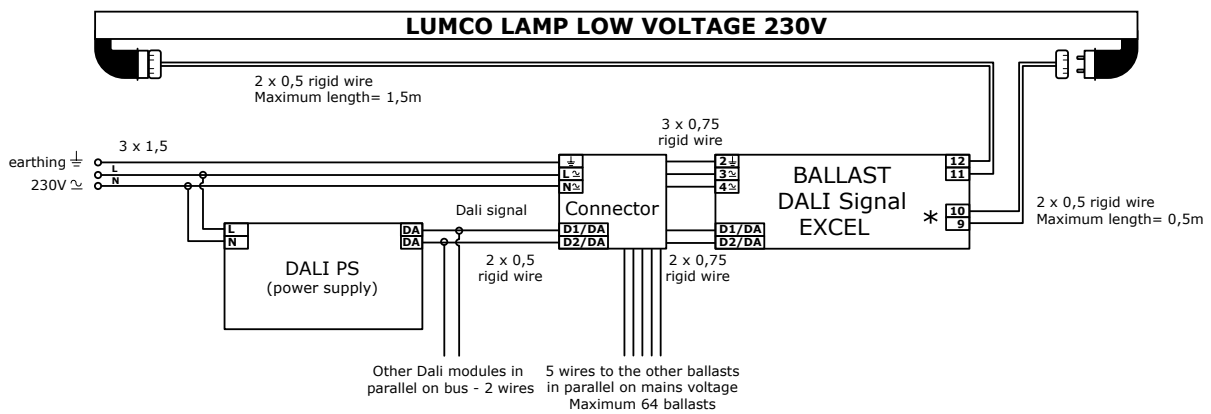# DALI (DIGITAL ADDRESSABLE LIGHTING INTERFACE)

DALI uses cables that enable a digital signal to be sent to both sides between all of the units in the system. Ballasts, operating panels, sensors and programming units that are linked to one another all communicate internal. The "intelligence" is distributed through the various parts of the system. This produces a higher level of safety and reliability, because the system is not dependent on a central unit.

The DALI system is highly flexible, both now and in the future, because any changes in the shape of the space or other use of the room can be accommodated by the easy-to-reprogramme settings. The cables do not usually have to be replaced.

In the DALI system, the transfer of information between components takes place via an addressable digital signal. And because the signal is digital, all of the fittings are controlled in exactly the same way, regardless of the distance between the operating unit and the fitting.
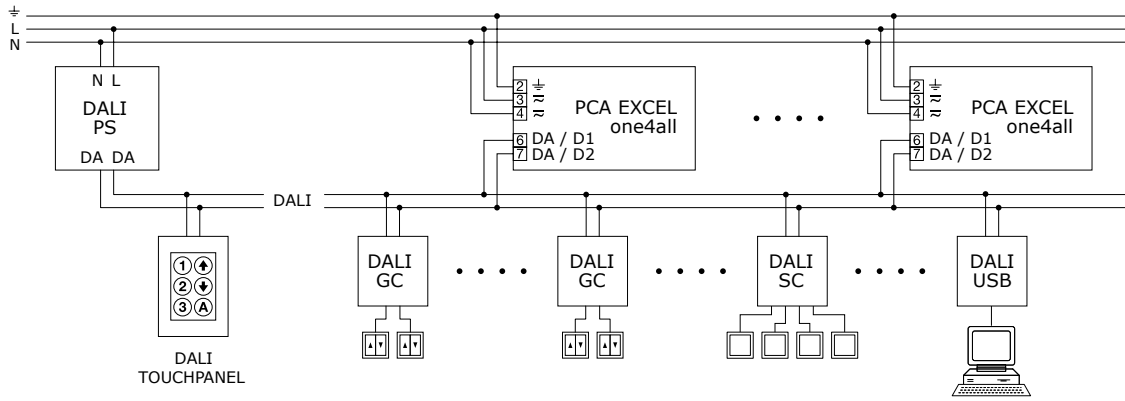
Properties and advantages

– Dali is a uniform digital protocol for controlling lighting systems
– Dali systems can control up to 64 ballasts via 2 wires. Up to 16 different lighting scenes can be programmed in using a maximum of 16 lighting groups
– The polarities of D1 and D2 may be alternated
– Each ballast or groups of ballasts can be addressed individually
– No separate dimmer is required
– Dali systems can operate different sorts of light sources at the same time, as well as other systems such as heating, curtains, roller blinds, sound and security systems, etc
– All Dali components are connected on the bus with 2 wires in parallel
– With a Dali operating system, Excel ballasts must be used. If an existing installation uses Eco ballasts, an additional module is required that converts the DSI signal into a Dali signal

DALI

LUMCO LAMP LOW VOLTAGE 230V

2 x 0,5 rigid wire
Maximum length= 1,5m

3 x 1,5

earthing
230V

3 x 0,75 rigid wire

Connector

BALLAST
DALI Signal
EXCEL

12
11

10
9

2 x 0,5 rigid wire
Maximum length= 0,5m

Dali signal

D1/DA
D2/DA

D1/DA
D2/DA

DALI PS
(power supply)

2 x 0,5 rigid wire

2 x 0,75 rigid wire

Other Dali modules in parallel on bus - 2 wires

5 wires to the other ballasts in parallel on mains voltage
Maximum 64 ballasts

Wiring diagram for operating with push buttons or touch panel

PARTS

DALI PS POWER SUPPLY

DALI GC DIGITAL CONTROL MODULE
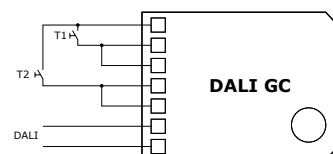

INPUT:
230V power supply

OUTPUT:
Dali signal that is sent to a maximum of 64 ballasts and to the various Dali components via 2 wires in parallel on the bus.

With this control module, 2 Dali groups can be dimmed via two independent inputs or switched On and Off. The module is connected to 2 push buttons. A maximum of 8 Dali GC modules can be used for 16 groups.

DALI SC DIGITAL CONTROL MODULE

DALI USB

Scene A
Scene B
Scene C
Scene D

DALI

DALI SC

DALI

DALI

DALI

DALI USB

USB
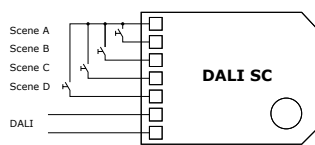
With this control module, 4 lighting scenes can be programmed for 1 or more Dali units. The module is connected to 4 push buttons. A maximum of 4 Dali SC modules can be used, enabling 16 lighting scenes to be programmed in.

The Dali network is controlled by the computer via the Dali USB interface module. Specially developed software enables the entire control function of the lighting system to be programmed.
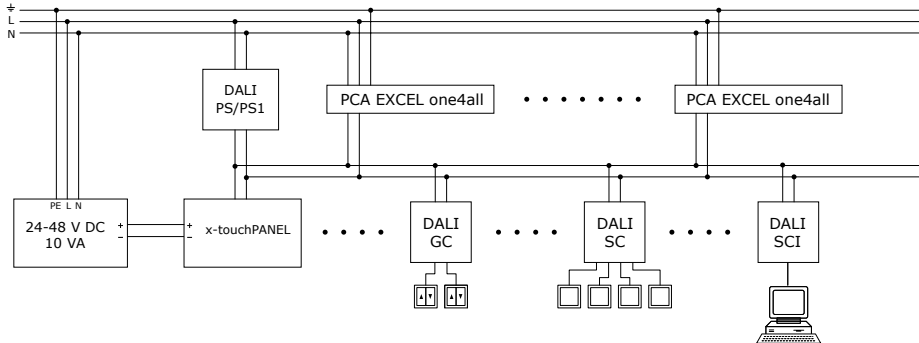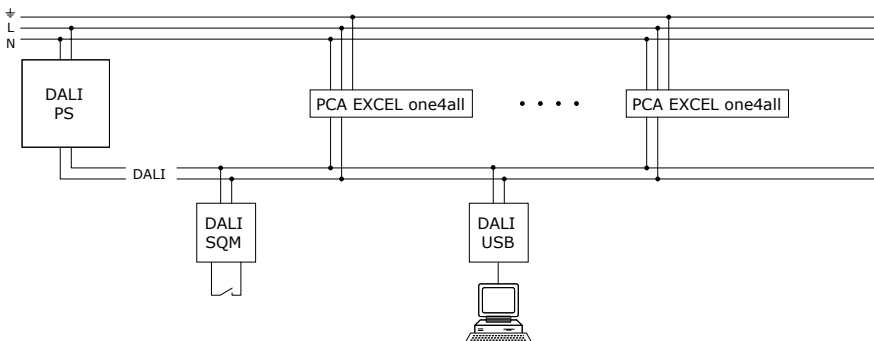
DALI TOUCHPANEL

DALI
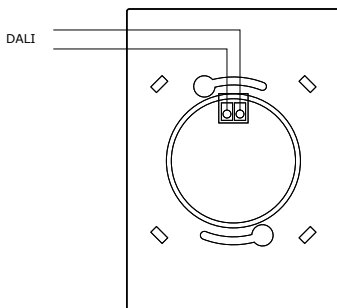
The system can be operated using a touch panel instead of push buttons. Various functions can easily be selected: for example, pre-programmed lighting scenes can be called up and various light systems can be controlled.

WIRING DIAGRAM FOR CONTROLLING WITH X-TOUCHPANEL

WIRING DIAGRAM FOR CONTROLLING WITH DALI SQM

Using the Dali SQM sequencer, various lighting scenes/colours can be faded in or over one another. The time between the scenes can be regulated, ranging from 1 second to 30 minutes.
DALI PS power supply and Dali USB PC connection are required for this.