

DSL DALI Digital Input/Output

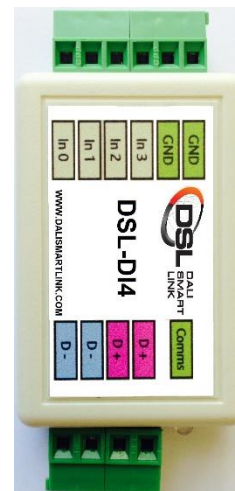
Standard switch interface control modules (such as DALI MC) broadcast pre-configured commands directly to the lights on the same DALI network as themselves, so their functions are limited to lighting and do not vary with time or context. Their scope of control is also limited to devices on the same network. The DSL Digital Input module communicates over DALI to the BMS so that it can be used to control lighting on any DALI network, or uniquely, any building service on any other network such as HVAC.

Because the BMS interprets the module's inputs and issues commands, the DSL DALI Digital Input/Output module can perform all the functions which normally require specially customised DALI MCs such as sequencers, rotary switch interfaces, stairwell buttons, dimmer switches, and scene recall switches.

The BMS can also moderate or modify the user input based on the status of other building services, or control other building services based on its awareness of lighting status.

Additionally, the module is available with 2 or 4 digital outputs which the BMS can use to drive LEDs in the light switch to give user feedback, to operate contactors, or other devices such as digital potentiometers.

The module can fit in a standard single pattress box behind existing switches, converting conventional light switches or momentary buttons into BMS-enabled controls. Only the DALI network connection is required for power.



Key Features

- Fits inside a standard single BS 4662 pattress box.
- Fully powered by DALI, no mains required.
- Operates as a scene selector, sequencer, brightness control, a flexible BMS control, or for controlling and monitoring contacts in any building service unrelated to DALI, provided a nearby DALI circuit is available.
- Converts existing momentary or latching switches, push buttons or other sensors with volt-free outputs to DALI lighting or general BMS controls. Preserve your existing hardware and user experience.
- BMS-controlled digital outputs can be used to provide feedback or to switch equipment local to the module.

The DaliSmartLink Difference

- DALI bus consumption is much lower than DALI MC (2 mA compared to 7 mA) so 64 devices on one DALI network is possible.
- Unlike other DALI user interfaces which control only the attached DALI network, the DSL-IO series is able to control any building service on any DALI or other BMS network such as HVAC.
- The BMS can change the function of each input based on time and context – for example, outside working hours, a light switch could turn only a subset of the normal lights on and they can return to off more quickly.
- Because the BMS is aware of the lighting state and user inputs, decisions about other building services can be made. For example, once all lights are out in a room, air conditioning can be reduced, and windows closed.

Technical Data

Electrical

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| Digital Inputs | 0, 2 or 4 inputs via screw terminal blocks for 0.5 mm ² – 1.5 mm ² cable. Inputs are not isolated from DALI so must be treated as mains. |
| Digital Outputs | 0, 2 or 4 outputs, * Output sink current 100 mA maximum. Saturation voltage 1.2 V maximum (forward voltage at 100 mA). Open circuit voltage maximum 100 V DC. Polarity must be observed; AC not permitted. Isolation of outputs from DALI bus >1 kV. Outputs are in two pairs each with a common ground; isolation between outputs which are not paired is 100 V. |

DALI

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| Cabling | 0.5 mm ² – 1.5 mm ² (DALI cables must be mains rated) |
| Bus power | 16 VDC – 22.5 VDC (DALI standard). Maximum current 3 mA at all bus voltages |
| Addressing | Only 1 DALI address required |

Mechanical

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| Dimensions | Screw-terminal option: 67 mm x 31 mm x 13 mm With soldered leads: 48 mm x 31 mm x 13 mm |
| Housing | ABS Plastic (UL 94HB) |

Ordering Options

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|----------------------|-------------------------------------|
| DSL-IO-4DI | 4 digital inputs, 0 digital outputs |
| DSL-IO-4DO | 0 digital inputs, 4 digital outputs |
| DSL-IO-2DI2DO | 2 digital inputs, 2 digital outputs |

Environmental

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| Operating | 0 °C to 50 °C, non-condensing humidity |
| Storage | -20 °C to 85 °C, non-condensing humidity |

Standards

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| EMC | EN 61326 (Electromagnetic Compatibility) EN 55024 (Information Technology Immunity) |
| Environmental | WEEE, RoHS, Conflict Minerals |