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The ABB i-bus® group-oriented DALI Gateway, DG/S 1.16.1 is a KNX modular installation device (MDRC) in ProM design for installation in the distribution board on 35 mm mounting rails. A DALI Gateway can integrate devices with DALI interfaces in a KNX building installation with the application program *Switch Dim Group 1f*. The connection to the ABB i-bus® is implemented via a bus connection terminal on the device shoulders.

Up to 64 DALI devices can be connected to the DALI output of the gateway. The 64 possible DALI devices can be divided into 16 lighting groups on the KNX with an ETS independent commissioning tool. With the tool it is possible, if required, to implement individual project-related DALI addressing whereby every individual one of the 64 devices can be flexibly addressed. The fault status (lamps and ballasts) of each individual DALI device can be sent via different KNX objects on the KNX. The control of the 64 devices is

implemented exclusively via the lighting groups. A device can be contained in several lighting groups. A staircase lighting and sequencer function is integrated into the DG/S 1.16.1. The 16 lighting groups can also be integrated into any scene and called or stored using a 1 bit or 8 bit scene telegram via the KNX. With the central commands (broadcast) all the DALI devices connected to the DALI output can be commonly controlled via the KNX. The DALI gateway DG/S 1.16.1 is a DALI control device (master) and requires an AC or DC auxiliary supply. No separate DALI voltage supply is required. The DALI power source for 64 DALI devices is integrated into the gateway. As soon as the auxiliary supply is connected, the gateway can commonly manually switch on or off all connected DALI devices independently of the KNX or DALI addressing.

Technical data

Supply	Operating voltage	85...265 V AC, 50/60 Hz 110...240 V DC
	Power consumption total via mains	Maximum 8 W, at 230 V AC and max. load
	Current consumption total via mains	Maximum 35 mA, at 230 V AC and max. load
	Leakage loss total for device	Maximum 3 W, at 230 V AC and max. load
	Current consumption KNX	Maximum 10 mA
	Power consumption via KNX	Maximum 210 mW
DALI outputs (channels)	Number of channels	1 conform to IEC 60929 / 62386 64 DALI devices can be individually addressed and are allocated to 16 groups on the KNX
	Number of DALI devices	Maximum 64
	Distance between gateway and DALI device	
	Cable cross-section	0.5 mm ² 100 m 0.75 mm ² 150 m 1.0 mm ² 200 m 1.5 mm ² 300 m
	Connections	KNX
	DALI outputs and mains voltage	Screw terminal 0.2...2.5 mm ² stranded 0.2... 4 mm ² solid
	Tightening torque	Maximum 0.6 Nm

Operating and display elements	Test push button LED red and KNX button LED green LED yellow	DALI output test For assignment of the physical address Display for operational readiness For displaying DALI faults, constant light Test mode indication, slow flash Initialisation indication, fast flash
Enclosure	IP 20	to DIN EN 60529
Safety class	II	to DIN EN 61140
Isolation category	Overvoltage category Pollution degree	III to DIN EN 60664-1 2 to DIN EN 60664-1
KNX safety extra low voltage	SELV 24 V DC	
DALI voltage	Typical 16 V DC (9.5...22.5 V DC) No-load voltage Lowest supply current (at 11.5 V) Largest supply current	to DIN IEC 60929 / 62386 15 V DC 160 mA 230 mA
Temperature range	Operation Storage Transport	-5 °C ... +45 °C -25°C ... +55 °C -25 °C ... +70 °C
Environmental conditions	Humidity	Maximum 93 %, moisture condensation should be excluded
Design	Modular installation device (MDRC) Dimensions Mounting width Mounting depth	Modular installation device, ProM 90 x 72 x 64.5 mm (H x W x D) 4 modules at 18 mm 68 mm
Installation	On 35 mm mounting rail	to DIN EN 60 715
Mounting position	as required	
Weight	0.160 kg	
Housing, colour	Plastic housing, grey	
Approvals	KNX to EN 50 090-1, -2	Certification
CE mark	in accordance with the EMC guideline and low voltage guideline	



Caution

The DALI Gateway is compliant with SELV properties to IEC 60 364-4-41 (DIN VDE 0100-410). The DALI does not need to feature SELV properties, and it is possible to route the DALI control lines together with the mains voltage on a multi-core cable.

The connection of a 230 V mains voltage supply to one of the DALI outputs leads to the destruction of the DALI end stage and the output.

Application programs	Number of communication objects	Max. number of group addresses	Max. number of associations
Switching Dim Groups 1f DALI/1	134	254	255

Note

For a detailed description of the application program see the “DALI-Gateway DG/S 1.16.1” product manual.

It is available free-of-charge at www.ABB.de/KNX.

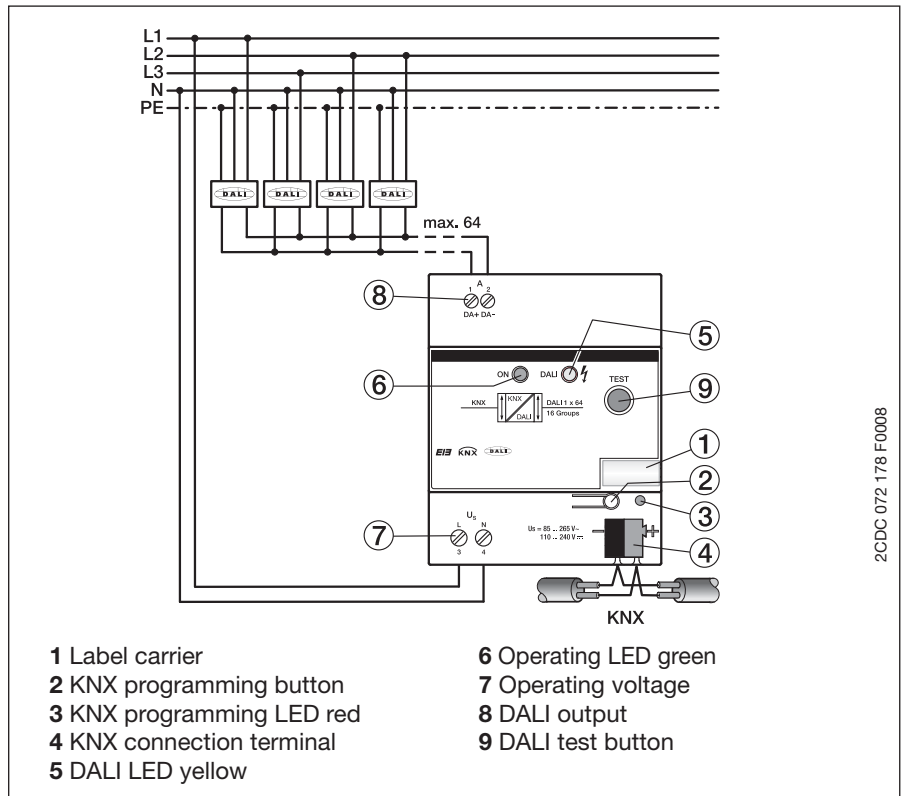
The programming requires EIB Software Tool ETS2 V1.3 or higher.

If ETS3 is used a *.VD3 or higher type file must be imported.

The application program for the ETS2/ETS3 can be found at *ABB/Illumination/DALI/Switching Dim Group 1f DALI/1*.

The devices do not support the closing function of a project or the KNX devices in the ETS. If you inhibit access to all devices of the project with a *BA password* (ETS2) or a *BCU code* (ETS3), it has no effect on this device. Data can still be read and programmed.

Circuit diagram

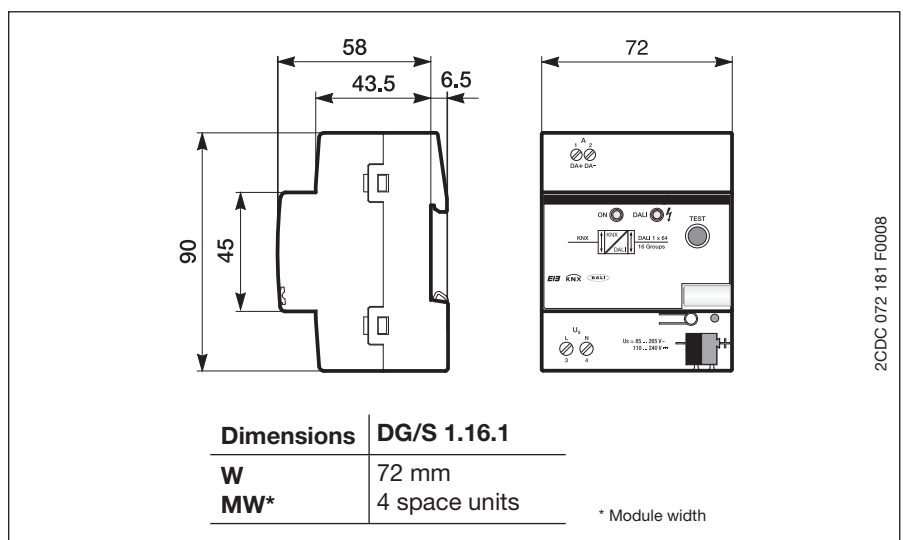


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⚡ Caution
All-pole disconnection must be observed in order to avoid dangerous touch voltages which originate from feedback of differing phase conductors.

Note
In the supplied state, the equipment with DALI interfaces generally behaves so that the luminaries light to maximum brightness the first time the operating voltage is applied or after voltage recovery. This “Power On Level” is defined by the ballast manufacturer. With the DG/S 1.16.1 it is possible to modify this value.

Dimension drawing



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