TECHNICAL DATA

ABB i-bus® KNX
DG/S x.64.1.1
DALI-Gateway Basic

Description of product
The KNX ABB i-bus® DALI Gateway Basic DG/S x.64.1.1 is a KNX modular installation device (MDRC) in Pro M design for installation in the distribution board on a 35 mm mounting rail.

It is a DALI Single-Master controller to DALI standard EN 62386 Parts 101ed2 and 103ed1.

It supports type 0 and type 1 DALI operating devices with DALI interfaces to EN 62386 and these can be integrated into a KNX building installation. The gateway connects to the ABB i-bus® via a KNX connection terminal on the device shoulders.

The DALI Gateways differ in the number of DALI outputs. They are equivalent, and each of them has the same technical properties and functions.

Up to 64 DALI devices can be connected to each DALI output. Both „normal“ lamps (DALI type 0) and battery operated emergency lighting (DALI type 1) can be connected to the DALI output in a mixed configuration.

The lamps are variably controlled via KNX per DALI output via
- Broadcast (all lamps jointly)
- 16 lighting groups
- 64 individual lamps
- 16 scenes
- 64 self-contained emergency lights

The fault status (lamps, ballasts or emergency lighting converters) of each DALI device or of the lighting group is sent on the KNX by a variety of KNX group objects.

In addition to the standard functions, e.g. switching, dimming and brightness value setting with the corresponding feedback, the DALI gateway has Staircase lighting, Scene, Slave, Forced operation and Block functions. The lighting groups or individual lamps can be integrated into an energy-efficient building automation system via a KNX presence detector or light controller.

Function, duration and partial duration tests and battery tests for emergency lighting systems with individual batteries to EN 62386-202 can be triggered and stopped via KNX. The results are provided on the KNX.

The DALI gateway has a wide-range power supply input. No separate DALI power supply is required. The DALI power supply for 64 DALI devices per output is integrated into the DALI gateway.

The ABB i-bus® Tool permits commissioning (DALI) and diagnostics without the ETS.

Technical data			
KNX DALI gateway	DALI Single-Master Controller	EN 62386 Parts 101ed2 and 103ed1	
Supply	Gateway supply voltage	100 – 240 V AC	
	Voltage range	85…265 V AC, 50/60 Hz 110…240 V DC	
		DG/S 1.64.1.1	DG/S 2.64.1.1
	Power consumption total via mains*)	maximum 6 W	maximum 11 W
	Current consumption total via mains*)	maximum 25 mA	maximum 48 mA
	Leakage loss total for device*)	maximum 2 W	maximum 4 W
	KNX current consumption	maximum 10 mA	
	Power consumption via KNX	maximum 210 mW	
DALI outputs (channels)		DG/S 1.64.1.1	DG/S 2.64.1.1
	Number of outputs	1	2
	Voltage proof, short circuit proof	230 V AC	
	Number of DALI devices	Maximum 64 per output to EN 62386; DALI devices for emergency lighting with individual battery to EN 62386-202 are supported.[1)]	
	Distance between gateway and last DALI device		
	Cable cross-section 0,5 mm²	100 m[2)]	
	Cable cross-section 0,75 mm²	150 m[2)]	
	Cable cross-section 1,0 mm²	200 m[2)]	
	Cable cross-section 1,5 mm²	300 m[2)]	
Connections	KNX	KNX connection terminal, 0.8 mm Ø, single core	
	DALI outputs and Mains voltage	Screw terminal, universal head 0.2…4 mm² fine stranded 0.2…6 mm² single core	
	Tightening torque	Max. 0.6 Nm	
Operating and display elements	Button	DALI output test	
	Push button/LED (red)	For allocation of the physical KNX address	
	LED (green)	Operation readiness indicator	
	LED (yellow)	Display of DALI fault	
Protection degree	IP 20	To EN 60529	
Protection class	II	To EN 61140	
Isolation category	Overvoltage category	III according to EN 60664-1	
	Pollution degree	2 to EN 60664-1	
KNX safety extra low voltage	SELV 24 V DC		
DALI voltage	Typical 16 V DC (12…20.5 V DC)	To EN 60929 and EN 62386	
	No-load voltage	18 V DC	
	Lowest supply current at 12 V DC	160 mA	
	Highest supply current	250 mA	
Temperature range	Operation	- 5 °C…+45 °C	
	Storage	-25 °C…+55 °C	
	Transport	-25 °C…+70 °C	

Technical data			
Environmental conditions	Humidity	Maximum 93%, moisture condensation should be excluded	
	Atmospheric pressure	Atmosphere up to 2,000 m	
Design	Modular installation device (MDRC)	Modular installation device, Pro M	
	Dimensions	90 x 70 x 63.5 mm (H x W x D)	
	Mounting width	4x 18 mm modules	
	Mounting depth	68 mm	
Installation	On 35 mm mounting rail	To EN 60715	
Mounting position	any		
Weight		DG/S 1.64.1.1	DG/S 2.64.1.1
		0.13 kg	0.15 kg
Housing, color	Plastic housing, gray	Halogen-free	
		Flammability V-0 as per UL94	
Approvals	KNX to EN 50 090-1, -2	Certification	
	EN 50 491-5-2		
CE mark	In accordance with the EMC directive and low voltage directive		

*) at 230 V AC and max. load

1) Both „normal“ lamps and battery operated emergency lighting can be connected in a mixed configuration to the DALI output. However, the maximum number of DALI devices may not exceed 64.

2) The length refers to the entire routed DALI control cable. The maximum values are rounded and refer to the resistance value. EMC influences are not taken into account and therefore the values should be considered as absolute maximum values.

Software				
Device type	**Application**	**Max. number of group objects**	**Max. number of group addresses**	**Max. number of associations**
DG/S 1.64.1.1	DALI Basic 1f /...*	1,119	2,000	2,000
DG/S 2.64.1.1	DALI Basic 2f/...*	2,233	4,000	4,000

* ... = Current version number of the application. **Please refer to the software information on our website for this purpose.**

Ordering details					
Device type	**Product Name**	**Order No.**	**bbn 40 16779 EAN**	**Weight 1 pcs. [kg]**	**Packaging [pcs.]**
DG/S 1.64.1.1	DALI Gateway, Basic, 1f, MDRC, MW4 [1)]	2CDG110198R0011	94266 9	0.18	1
DG/S 2.64.1.1	DALI Gateway, Basic, 2f, MDRC, MW4 [1)]	2CDG110199R0011	94285 0	0.18	1
Other DALI Gateways in the ABB i-bus® range					
DLR/S 8.16.1M	DALI Light Controller, MDRC, MW 6 [1)]	2CDG110101R0011	67656 4	0.26	1
DLR/A 4.8.1.1	DALI Light Controller, SM	2CDG110172R0011	88237 8	0.66	1
DG/S 8.1	DALI Gateway, 8-fold, MDRC, MW 6 [1)]	2CDG110025R0011	58582 8	0.31	1

1) MW = Module width

NOTE

The gateways are compliant with SELV properties to IEC 60364-4-41 (DIN VDE 0100-410).
DALI does not need to feature SELV properties, and it is possible to route the DALI control line together with the mains voltage in a multi-core cable.

NOTE

Please refer to the DG/S x.64.1.1 DALI-Gateway Basic product manual for a detailed description of the application. It is available free of charge at www.abb.com/knx.

ETS and the current version of the device application program are required for programming.

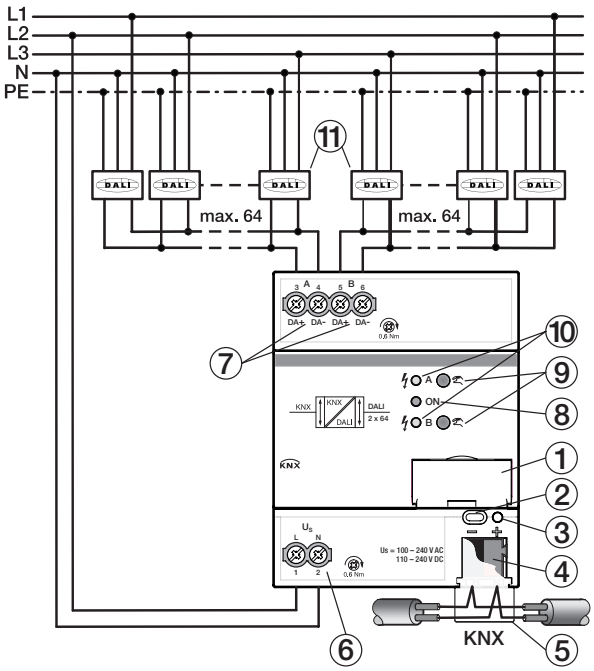
The current version of the application program is available for download at www.abb.com/knx. After import into ETS, it is available there under ABB/Illumination/DALI.

The device does not support the locking function of a KNX device in ETS. Using a BCU code to inhibit access to all the project devices has no effect on this device. Data can still be read and programmed.

NOTE

Together with the ETS 5, the Gateways support programming with long frames to permit rapid data transfer between the ETS and Gateway. The programming time is more than halved, particularly in case of a full download.

Connection



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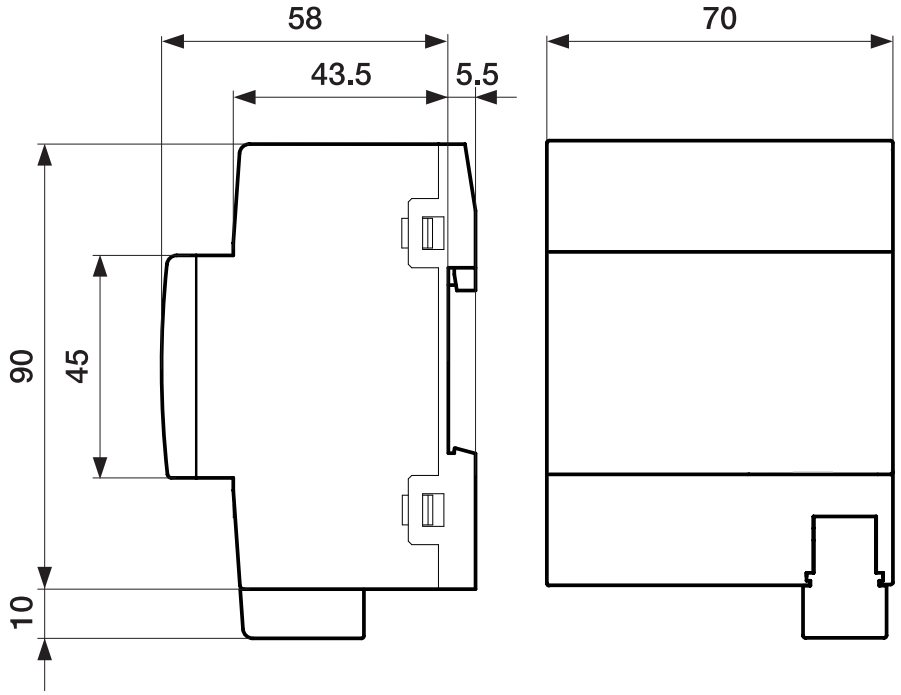
LEGEND

1 Label carrier
2 KNX programming push button
3 KNX programming LED (red)
4 KNX connection
5 Cover cap
6 Gateway supply voltage
7 DALI output
(1 x DG/S 1.64.1.1, 2 x DG/S 2.64.1.1)
8 Operation LED (green)
9 Manual operation A / B
10 DALI status LED A / B (yellow)
11 DALI devices (DALI device type 0 and 1)

Dimension drawing



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