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 distri-
bution 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 gate-
way connects to the ABB i-bus® via a KNX connec-
tion terminal on the device shoulders.

The DALI Gateways differ in the number of DALI out-
puts. 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 con-
figuration.

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 light-
ing 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 cor-
responding feedback, the DALI gateway has Stair-
case 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 de-
tector 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 trig-
gered and stopped via KNX. The results are provided
on the KNX.

The DALI gateway has a wide-range power supply in-
put. 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
Reaction of DALI power supply in the DALI gateway in case of DALI short circuit: If a DALI short circuit is present for longer than 600 ms, the DALI output stage switches off for 7.5 seconds. The output stage then switches the DALI voltage on again. The process will repeat if the short circuit is still present.

—
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.
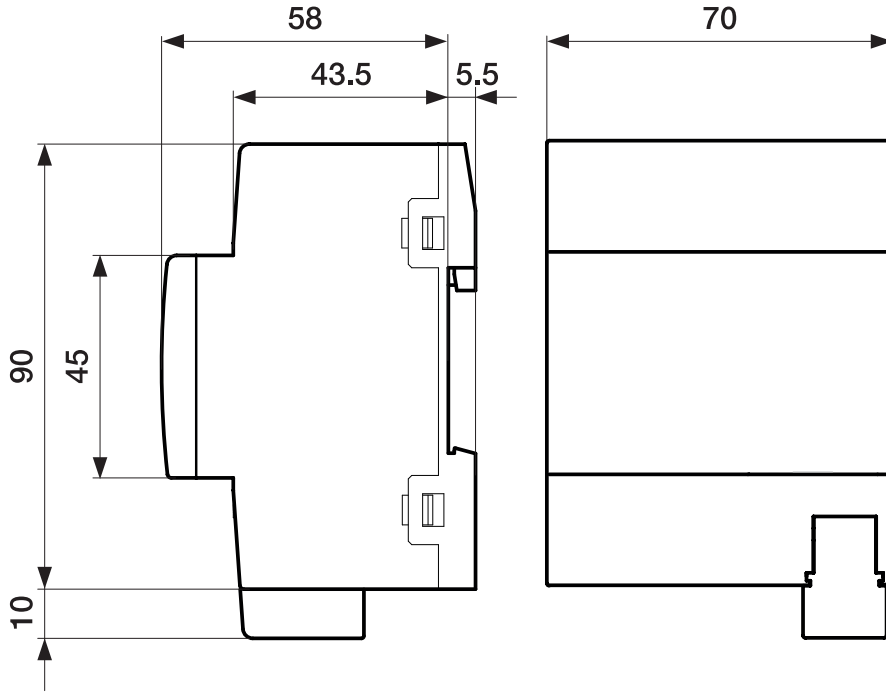
Connection

2CDC072042F0015
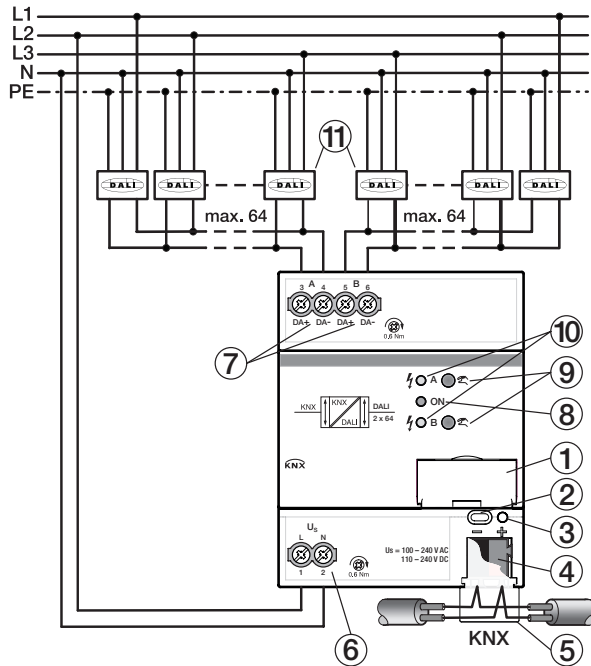
—
LEGEND

 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

58

43.5   5.5

70

90

45

10

2CDC072033F0015

ABB