DALI Gateway, 16 Groups, MDRC DG/S 1.16.1, 2CDG 110 103 R0011



DG/S 1.16.1

The ABB i-bus[®] group-oriented DALI Gateway, DG/S 1.16.1 is a KNX modular installation device (MDRC) in Pro*M* 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	85265 V AC, 50/60 Hz 110240 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	Bus connection terminal, 0.8 mm Ø, single core
	DALI outputs and	Screw terminal
	mains voltage	0.22.5 mm ² stranded
		0.2 4 mm ² solid
	Tightening torque	Maximum 0.6 Nm

DALI Gateway, 16 Groups, MDRC DG/S 1.16.1, 2CDG 110 103 R0011

Operating and display elements Test push button DALI output test LED red and KNX button For assignment of the physical address LED green Display for operational readiness LED yellow For displaying DALI faults, constant light Test push button to DIN EN 60529 Safety class II to DIN EN 60529 Safety class II to DIN EN 60664-1 Pollution degree 2 to DIN EN 60664-1 Pollution degree 2 to DIN EN 60664-1 Vervoltage category III to DIN EN 60664-1 Pollution degree 2 to DIN EN 60664-1 Vorlage SELV 24 V DC DALI voltage Typical 16 V DC (9.522.5 V DC) to DIN EN 60664-1 No-load voltage Tay poly current (at 11.5 V) 160 mA Largest supply current 230 mA Temperature range Operation -5 °C +45 °C Transport -25 °C +55 °C Transport -25 °C +70 °C Environmental conditions Humidity Maximum 93 %, moisture condensa-tion should be excluded Design Modular installation device (MDRC) Modular installation device, ProM Dim				
addressLED greenDisplay for operational readinessLED yellowFor displaying DALI faults, constant light Test mode indication, slow flash Initialisation indication, fast flashEnclosureIP 20to DIN EN 60529Safety classIIto DIN EN 60529Safety classIIto DIN EN 60529Safety classVervoltage categoryIII to DIN EN 60664-1Pollution degree2 to DIN EN 60664-1Pollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLargest supply current (at 11.5 V)160 mALargest supply current (at 11.5 V)230 mATemperature rangeOperation-5 °C +45 °CStorage Transport-25 °C +55 °CTransport-25 °C +70 °CEnvironmental conditionsModular installation device (MDRC)Modular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting depth68 mmInstallationOn 35 mm mounting railInstallation0.160 kgHousing, colourPlatic housing, greyApprovalsKNX to EN 50 090-1, -2CertificationCertification	Operating and display elements	Test push button	DALI output test	
LED yellowFor displaying DALI faults, constant light Test mode indication, slow flash initialisation indication, fast flash intialisation indication, fast flash intialisation indication is v DIN EN 60664-1KNX safety extra low voltage SELV 24 V DCV DC V DCV DIN EN 60664-1KNX safety extra low voltage SELV 24 V DCTo DIN EN 60664-1DALI voltage VoltageTypical 16 V DC (9.522.5 V DC) No-load voltage Largest supply current (at 11.5 V) Largest supply current (at 11.5 V) Collar installation device, ProM Dimensions Mounting with installation device, ProM Dimensions Mounting with Mounting depthDesignModular installation dev		LED red and KNX button		
constant light Test mode indication, slow flash Initialisation indication, slow flash Initialisation indication, fast flash Initialisation degree Initialisation degree Initialisation degree Initialisation degree Initialisation Initialisation device (MDRC)Constrat flight to DIN IEC 60929 / 62386 Initialisation device (MDRC) Initialisation fast flash Initialisation device (MDRC)Temperature range DesignModular installation device (MDRC) Mounting width Mounting depth Mounting depth Mount		LED green	Display for operational readiness	
Test mode indication, slow flash Initialisation indication, fast flashEnclosureIP 20to DIN EN 60529Safety classIIto DIN EN 61140Isolation categoryOvervoltage category Pollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLargest supply current (at 11.5 V)160 mALargest supply current (at 11.5 V)230 mATemperature rangeOperationOperation-5 °C +45 °CStorage Transport-25 °C +70 °CEnvironmental conditionsHumidityMaximum 39 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC)Modular installation device, ProMMounting width Mounting width Mounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		LED yellow		
Initialisation indication, fast flashEnclosureIP 20to DIN EN 60529Safety classIIto DIN EN 6064-1Isolation categoryOvervoltage categoryIII to DIN EN 60664-1Pollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLargest supply current (at 11.5 V)160 mALargest supply current (at 11.5 V)230 mATemperature rangeOperationOperation-55 °CTransport-25 °C +75 °CTransport-25 °C +70 °CEnvironmental conditionsModular installation device (MDRC)Modular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railInstallation0n 35 mm mounting railMounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2CertificationCertification			0	
EnclosureIP 20to DIN EN 60529Safety classIIto DIN EN 61140Isolation categoryOvervoltage categoryIII to DIN EN 60664-1Pollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLargest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperationOperation-5 °C +45 °CStorage-25° C +70 °CEnvironmental conditionsModular installation device (MDRC)Modular installation device, ProMDesignModular installation device (MDRC)Modular installation device, ProMInstallationOn 35 mm mounting railto DIN EN 60715Mounting width Mounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification			· · · · · · · · · · · · · · · · · · ·	
Safety classIIto DIN EN 61140Isolation categoryOvervoltage categoryIII to DIN EN 60664-1Isolation categoryPollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLowest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperationOperation-5 °C +45 °CStorage-25° C +70 °CEnvironmental conditionsHumidityModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallation0n 35 mm mounting railInstallation0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2CertificationCertification	Enclosure	IP 20		
Isolation categoryOvervoltage categoryIII to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLargest supply current (at 11.5 V)160 mALargest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperationOperation-5 °C +45 °CTransport-25 °C +70 °CEnvironmental conditionsHumidityModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationon 35 mm mounting railMounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2CertificationCertification				
Pollution degree2 to DIN EN 60664-1KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLowest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperationStorage-25 °C +45 °CTransport-25 °C +70 °CEnvironmental conditionsHumidityModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	•			
KNX safety extra low voltageSELV 24 V DCDALI voltageTypical 16 V DC (9.522.5 V DC)to DIN IEC 60929 / 62386No-load voltage15 V DCLowest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperationOperation-5 °C +45 °CStorage-25°C +55 °CTransport-25 °C +70 °CEnvironmental conditionsHumidityModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	lociation outegory			
DALI voltageTypical 16 V DC (9.522.5 V DC) No-load voltageto DIN IEC 60929 / 62386 15 V DC Lowest supply current (at 11.5 V) 160 mA 230 mATemperature rangeOperation Storage Transport-5 °C +45 °C -25 °C +75 °C TransportEnvironmental conditionsHumidity Maximum 93 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC) Dimensions Mounting width Mounting depthModular installation device, ProM 90 x 72 x 64.5 mm (H x W x D) 68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting position Weightas requiredWeight0.160 kgHousing, colourPlastic housing, grey KNX to EN 50 090-1, -2ApprovalsKNX to EN 50 090-1, -2Certification	KNX safety extra low voltage	-		
No-load voltage15 V DCLowest supply current (at 11.5 V)160 mALargest supply current230 mATemperature rangeOperation-5 °C +45 °CStorage-25° C +55 °CTransport-25 °C +70 °CEnvironmental conditionsHumidityMaximum 93 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification			to DIN IEC 60929 / 62386	
Lowest supply current (at 11.5 V) Largest supply current160 mA 230 mATemperature rangeOperation Storage Transport-5 °C +45 °C -25 °C +55 °C TransportEnvironmental conditionsHumidityMaximum 93 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC) DimensionsModular installation device, ProM 90 x 72 x 64.5 mm (H x W x D) Mounting width Mounting depth4 modules at 18 mm 68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification				
Largest supply current230 mATemperature rangeOperation Storage Transport-5 °C +45 °C -25 °C +55 °C -25 °C +70 °CEnvironmental conditionsHumidityMaximum 93 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC) DimensionsModular installation device, ProM 90 x 72 x 64.5 mm (H x W x D) Mounting width Mounting depth90 x 72 x 64.5 mm (H x W x D) 68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		5		
Temperature rangeOperation Storage Transport-5 °C +45 °C -25 °C +55 °C TransportEnvironmental conditionsHumidityMaximum 93 %, moisture condensa- tion should be excludedDesignModular installation device (MDRC) DimensionsModular installation device, ProM 90 x 72 x 64.5 mm (H x W x D) Mounting width Mounting depthInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification			230 mA	
Transport-25 °C +70 °CEnvironmental conditionsHumidityMaximum 93 %, moisture condensation should be excludedDesignModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	Temperature range		-5 °C +45 °C	
Environmental conditionsHumidityMaximum 93 %, moisture condensation should be excludedDesignModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		Storage	-25°C +55 °C	
DesignModular installation device (MDRC)Modular installation device, ProMDimensions90 x 72 x 64.5 mm (H x W x D)Dimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railMounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		Transport	-25 °C +70 °C	
Dimensions90 x 72 x 64.5 mm (H x W x D)Mounting width4 modules at 18 mmMounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	Environmental conditions	Humidity	,	
Mounting width Mounting depth4 modules at 18 mm 68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	Design	Modular installation device (MDRC)	Modular installation device, ProM	
Mounting depth68 mmInstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		Dimensions	90 x 72 x 64.5 mm (H x W x D)	
InstallationOn 35 mm mounting railto DIN EN 60 715Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification		Mounting width	4 modules at 18 mm	
Mounting positionas requiredWeight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2		Mounting depth	68 mm	
Weight0.160 kgHousing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	Installation	On 35 mm mounting rail	to DIN EN 60 715	
Housing, colourPlastic housing, greyApprovalsKNX to EN 50 090-1, -2Certification	Mounting position	as required		
Approvals KNX to EN 50 090-1, -2 Certification		-		
••				
CE mark in accordance with the EMC guideline and low voltage guideline			Certification	
	CE mark	in accordance with the EMC guideline and	l low voltage guideline	

A 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.

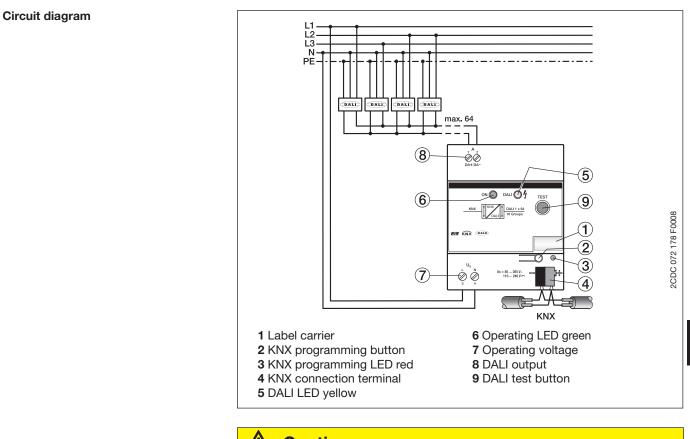
DALI Gateway, 16 Groups, MDRC DG/S 1.16.1, 2CDG 110 103 R0011

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 ETS2. 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.

DALI Gateway, 16 Groups, MDRC DG/S 1.16.1, 2CDG 110 103 R0011

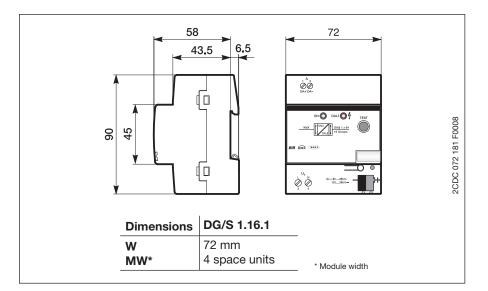


Caution

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