

## GAMMA

# KNX/DALI Gateway N 141/02

### Description

The KNX/DALI Gateway N 141/02 is a KNX device with one DALI interface to which up to 64 DALI actuators (for example, DALI ballasts) can be connected. DALI sensors may not be connected to the DALI interface of the N 141/02.

DALI (Digital Addressable Lighting Interface) is a bi-directional communications interface in accordance with IEC 60929, whose specification has been defined by manufacturers of electronic ballasts. It not only enables the receipt of switching and dimming commands, but also sends status information, such as a lamp failure or a detected error in the electronic ballast. According to IEC 60929, up to 64 DALI devices can be connected to a DALI line; each device can be assigned an individual device address.

The KNX/DALI Gateway N 141/02 enables communication with up to 64 DALI devices over KNX. DALI actuators can be switched and dimmed either individually or in groups, with up to 16 groups supported. It also enables the detection and transmission of DALI status and failure information. If a DALI actuator is assigned to one of the 16 groups it can no longer be controlled individually. An individual name, a group, parameters and scenes (see the Application Program Description) are assigned to the individual DALI electronic ballasts and groups during commissioning with ETS (Engineering Tool Software).

The power supply unit integrated in the N 141/02 supplies the gateway electronics and generates the DALI voltage. Manual switching of all lamps controlled by the DALI Gateway is enabled even if the N 141/02 is not yet commissioned or if KNX bus communication is interrupted. The N 141/02 has a push button located on its front plate for switching between manual mode and bus operation. The yellow LED indicates when the device is in manual mode (ON) or bus operation (OFF).



In manual mode, all lamps controlled over the DALI bus can be switched ON or OFF as a group by using the two push buttons on the front of the device.

The upper push button switches the channel ON, and the lower push button switches the channel OFF. A red LED integrated in the upper push button indicates the state of the lamps. In manual mode, the LED is ON when the lamps are ON. In bus operation, the LED flashes to indicate a DALI bus error.

The KNX/DALI Gateway N 141/02 can be used to control DALI actuators in emergency luminaires. A maximum of 32 self-contained emergency luminaires containing two DALI actuators (both a ballast and an inverter, each with a DALI interface) may be connected to an N 141/02. The KNX/DALI Gateway automatically detects if a self-contained emergency luminaire contains two or only one DALI actuators. A mix of self-contained emergency luminaires with two DALI actuators and "normal" luminaires with only one DALI interface may be connected to the N 141/02, but the total number of 64 DALI devices may not be exceeded.

Self-test of self-contained emergency luminaire inverters can be executed and reported through the bus. A test result will be automatically reported at the end of a test or it can be queried.

All luminaires controlled by an N 141/02 can be dimmed to the setting “Dimming value on emergency” even when they are not affected by a line voltage or DALI power failure. This allows you to maintain all luminaires and self-contained emergency luminaires at the same brightness level.

During “Emergency Operation”, luminaires will not respond to any on/off or dim commands and they cannot be commissioned.

## Application Programs

07 B0 KNX/DALI Gateway 981C0C

## Specifications

Power Supply	<ul style="list-style-type: none"> <li>• Bus voltage: 21 to 30 Vdc (Class 2) provided through the bus line</li> <li>• Bus current: 5 mA</li> <li>• Electronics and DALI output: <ul style="list-style-type: none"> <li>– Integrated power supply for AC/DC 110-240V, 50-60 Hz (Do not connect to voltages greater than 240V – use a separate 110-240V source.)</li> <li>– Power consumption: max. 7 W</li> </ul> </li> </ul>
Inputs/Outputs	<ul style="list-style-type: none"> <li>• Bus communication on N-system data rails or KNX bus terminal</li> <li>• Line voltage connection: 3-pole (PE(earth ground), N, L)</li> <li>• DALI output (according to IEC 60929): <ul style="list-style-type: none"> <li>– Max. 64 DALI devices with <math>\geq 8k</math> ohm input impedance</li> <li>– DALI bus voltage: approx. 19 Vdc, floating, short-circuit-proof</li> </ul> </li> </ul>
Control Elements	<ul style="list-style-type: none"> <li>• One mode button for use during commissioning only: for toggling between normal mode/addressing mode</li> <li>• One push button for use during commissioning or manual operation: for toggling between bus operation/manual mode</li> <li>• Two push buttons for use during commissioning or manual operation: for switching all electronic ballasts ON/OFF</li> </ul>
Display Elements	<ul style="list-style-type: none"> <li>• One red LED: for displaying the mode that was selected with the mode button.</li> <li>• One green LED: for displaying the presence of operating voltage</li> <li>• One yellow LED: for displaying bus operation/manual mode</li> <li>• One red LED: <ul style="list-style-type: none"> <li>– For indicating ON/OFF status when in manual mode</li> <li>– Blinking to indicate communication or lamp failure</li> </ul> </li> </ul>
Connections	<ul style="list-style-type: none"> <li>• Line voltage and DALI interface: plug-in terminals, insulation strip length 3/8“ (10 to 11 mm)</li> <li>• The following conductor cross-sections are permitted: <ul style="list-style-type: none"> <li>– 20 to 12 AWG solid (0.5 to 3.3 mm<sup>2</sup> single-core)</li> <li>– 20 to 12 AWG stranded (0.5 to 3.3 mm<sup>2</sup> multi-core)</li> <li>– 20 to 12 AWG (0.5 to 3.3 mm<sup>2</sup> ) finely stranded, untreated</li> <li>– 20 to 16 AWG (0.5 to 1.5 mm<sup>2</sup>) finely stranded, with connector sleeve</li> </ul> </li> <li>• Bus line: <ul style="list-style-type: none"> <li>– Pressure contacts on data rail</li> <li>– Bus Terminal, 18 to 20 AWG solid copper (<math>\varnothing</math> 0.6 to 0.8 mm single core)</li> </ul> </li> </ul>

Physical Specifications	Housing: plastic Width in N-system dimensions: 4 Module Widths (MW) (2.8" (72 mm)) 1 MW = 0.71" (18 mm) Weight: Approximately 5.3 oz (150 g) Installation: snap onto 1 mm thick DIN rail that complies with EN 60715-TH35-7.5
Electromagnetic Compatibility	Complies with EN 50090-2-2 and EN 60669-2-1
Environmental Conditions	Ambient operating temperature: 23°F to 113°F (-5°C to 45°C) Storage temperature: -13°F to 158°F (-25°C to 70°C) Relative humidity (non-condensing): 5% to 93%
Certification	KNX/EIB UL listed PAZX UL 916 cUL listed PAZX7 C22.2 No. 205
CE marking	Complies with the EMC regulations (residential and commercial/industrial buildings), and low voltage regulations

## Ordering Information

Part Number	Description
5WG11411AB02	KNX/DALI Gateway, DIN-Rail Mount

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