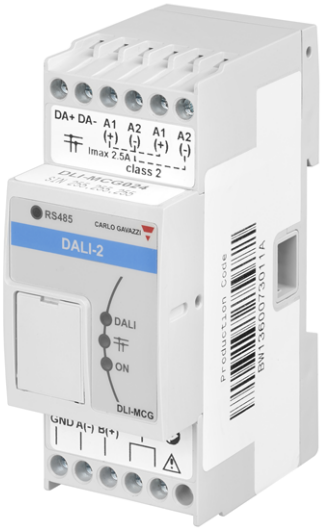
DLI-MCG024

DALI-2 Sub master



Description

DLI-MCG024 is a DALI-2 Sub-Master, meant to be combined with the UWP 4.0 controller, so to manage a complete DALI-2 network, including input devices (switches, dimmers, presence sensors and so on) and output devices (ballasts, drivers and so on).

Up to 20* DLI-MCG024 units can be connected to a UWP 4.0 controller; each DLI-MCG024 unit can control up to 128 DALI-2 items (64 Control Gears and 64 input devices). Lighting control functions are performed by UWP 4.0, including switching, dimming, scenarios, calendars, constant light, white balance. UWP 4.0 allows to easily integrate the DALI-2 network into BEMS systems via BACnet or Modbus/TCP or to manage the whole lighting control system by means of its powerful web interface.

**Note: Up to 4 DLI- MCG024 units can be connected to UWP 4.0 if each of them is connected to 64 DALI-2 control gears and 64 DALI-2 input devices.*

Benefits

- DALI-2 sub-master for managing both DALI-2 input and output devices.
- **Energy and cost saving**. Dimming and constant light control optimise the use and save energy.
- **Simple**. DALI devices can work straight out of the box for the simplest systems.
- **Flexible**. DALI devices can be reconfigured without changing the wiring.
- **Scalable**. DALI can function on small and large systems, with subnets in large buildings.
- **Robust**. The huge DALI ecosystem is a future proof warranty for deploying and maintaining systems.
- **Recognised standard**. DALI is a recognised, widely-used standard and is therefore compatible with a large range of ballasts with a large range of input and/or output devices in a single-vendor or multi-vendor context.
- **Well-being and productivity**. The tunable white management helps you to mix warm and cool white light and light intensity so that you can mimic outdoor lighting conditions.

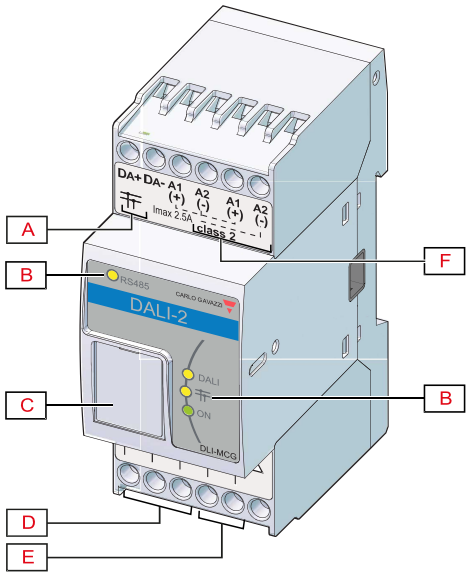
Applications

- Lighting control in buildings
- Energy saving and optimization

Main features

- DALI-2 certified solution
- Compatible with UWP 4.0 Controller
- Integration in BEMS systems, via UWP 4.0
- Comprehensive lighting control, via UWP 4.0
- Easy set up via UWP 4.0 and UWP IDE

Structure

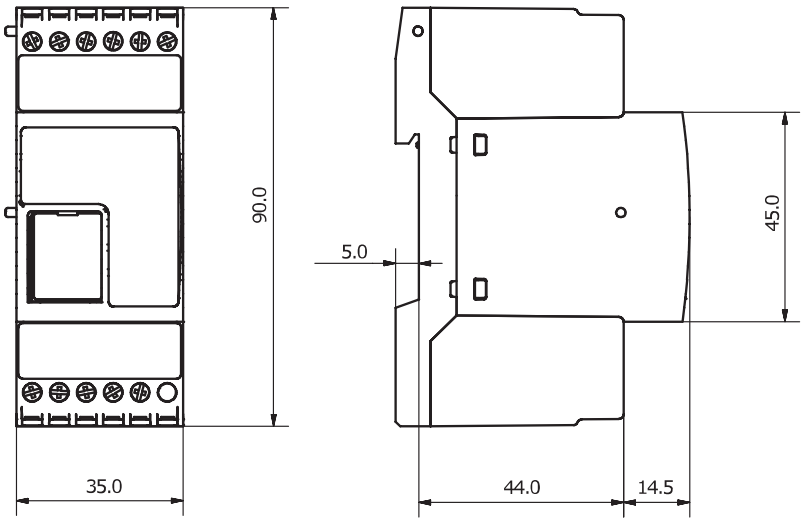


Area	Description		
A	Connection to DALI-2 bus		
B	Indication LEDs:		
	Green (ON)	ON	Power ON
		OFF	Power OFF
		One blink	DALI-2 bus overvoltage (> 19 V)
		Two blinks	DALI-2 bus overcurrent (> 230 mA)
	Yellow (DALI-2 bus)	ON	Communication OK on the DALI-2 bus
		OFF	DALI-2 bus is short circuited
		Slow flashing	Some missing responses on the DALI-2 bus
		Fast flashing	No communication is present on the DALI-2 bus
	Yellow (RS485)	ON	Communication OK on the RS485 bus
		OFF	No communication is present on the RS485 bus (Timeout)
		Flashing	Communication error or wrong address
C	Micro-USB port		
D	RS485 port terminals for communication to UWP 4.0 controller		
E	RS485 bus termination		
F	Power supply connection block		

Features

General

Material	Noryl PX9406	
Dimensions	2-DIN module	
Weight	150 g	
Protection degree	Front: IP50; Screw terminal: IP20	
Terminal	Two terminals for DALI bus (DA+, DA-)	• 1.5 mm^2 max • Tightening torque 0.4 Nm/0.8 Nm
	Two terminals for external power supply connection at 24 V DC (A1+, A2-) *Note: DA- and A2- are internally connected.*	
	Two terminal blocks for RS485 termination	
	Three terminal blocks for RS485 bus (GND, A, B)	



Environmental

Operating temperature	-20 °C to +50 °C (-4 °F to 122 °F)
Storage temperature	-50 °C to +85 °C (-58 °F to +185 °F)
Humidity (non-condensing)	20 to 90% R.H.
Pollution degree	2 (IEC 60664)

Compatibility and conformity

Directives	• 2014/30/EU (EMC) • 2011/65/EU + 2015/863/EU (RoHS)
Standards	• Electromagnetic compatibility (EMC) - Immunity EN61000-6-2 • Electromagnetic compatibility (EMC) - Emission EN61000-6-3 • UL standard compliance: 62368-1 • EN 63000 • DALI-2 - IEC 62386
Approvals	CE c UL us LISTED DALI 2

Power supply

Supply voltage	24 V DC +/-20% (19.2 V DC…28.8 V DC)
Overvoltage category	III (IEC60664-1 par 4.3.3.2)
Power ON delay	2 s
Consumption	6.5 W (max. load)

RS485 bus

RS485	3 wires (A-, B+, GND)
Protocol	JBUS/Modbus compatible
Bit number	8
Stop bit	1
Parity bit	None
Address	1 to 255
Baud rate	115200 bit/s

Max. response time to request	200 ms
RS485 unit load	1/256
Termination	By means of jumper on terminals
Supported Modbus functions	3, 4, 6, 16, 24
Diagnostic	Number of frames received Number of error frames received (crc or incomplete data)

Note: only for connection to UWP 4.0.

DALI specifications

Note: for further details, please refer to the certification: www.dali-alliance.org/products/5431/dali-2-sub-master

DALI compatibility

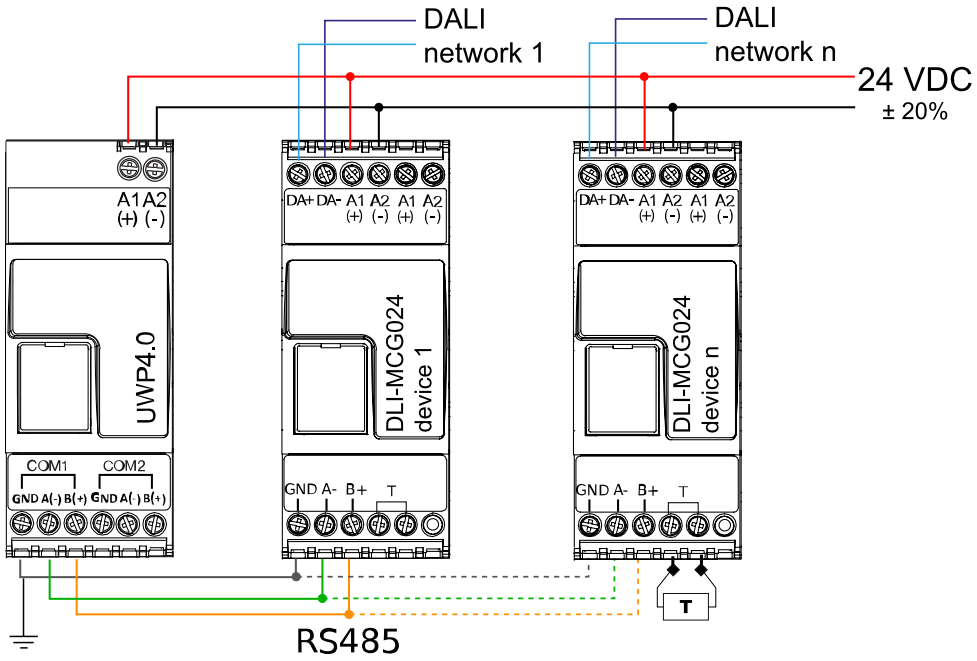
Product property	Supported by UWP 4.0	Standard
Supports DALI version-1 control gear	Yes	IEC 62386-102
Supports self-contained emergency (part 202)	Yes	IEC 62386-202
Supports discharged lamps (part 203)	Yes	IEC 62386-203
Supports low voltage halogen (part 204)	Yes	IEC 62386-204
Supports incandescent dimmer (part 205)	Yes	IEC 62386-205
Supports for Conversion to DC (1-10 V) interface (part 206)	Yes	IEC 62386-206
Supports LED (part 207)	Yes	IEC 62386-207
Supports switching (part 208)	Yes	IEC 62386-208
Supports colour control (part 209, DT8)	Yes	IEC62386-209
Supports TC	Yes	IEC62386-209
Supports RGBWAF colour	Yes , using the conversion table RGBWAF/Tc	IEC62386-209
Supports colour XY coordinates	No	IEC62386-209
Supports feedback from control (including lamp failure feedback)	Yes	IEC 62386-102
Supports addressing or grouping of control gear	Yes	IEC 62386-102
Supports DALI-2 control gear	Yes	IEC 62386-103
Supports event messages from input devices	Yes	IEC 62386-103
Supports generic input devices	Yes	IEC 62386-103

Product property	Supported by UWP 4.0	Standard
Supports push-buttons (part 301)	Yes	IEC 62386-301
Supports switches / sliders (part 302)	Yes	IEC 62386-302
Supports occupancy sensors (part 303)	Yes	IEC 62386-303
Supports light sensors (part 304)	Yes	IEC 62386-304
Supports features of connected control devices: feedback (part 332)	No	IEC 62386-332
Supports features of connected control devices: manual configuration (part 333)	No	IEC 62386-333

DALI bus

Bus type	Standard DALI-2
Network Topology	Free
Guaranteed DALI-2 bus supply current	200 mA
Maximum DALI-2 bus supply current	250mA (short-circuit)
Nominal voltage	18 V
Diagnostic	see DALI LED ("Structure" on page 3)

Connection diagrams



References

Further reading

Document	Where to find it
UWP IDE manual	www.gavazziautomation.com/UWPIDE_ENG.pdf
DLI-MCG024 DALI certification	www.dali-alliance.org/products/5431/dali-2-sub-master

How to order

DLI-MCG024

CARLO GAVAZZI compatible components

Purpose	Component name/code
Controller	UWP 4.0
DLI-P360L family	DLI-P360L24M
	DLI-P360L7M
	DLI-P360L24MF
	DLI-P360L24MFO
	DLI-P360L7MF
	DLI-P360L7MFO
BALLAST FOR T6 AND T8 TUNABLE WHITE	SBBADT8CCT
12 VDC 100W CV T8 BALLAST	SBBADT8CV12
24 V DC 100W CV T8 BALLAST	SBBADT8CV24

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