

RP-C-EXT-DALI

SpaceLogic™ RP Controller Expansion Modules

EcoStruxure™ Building



DALI light module without power distribution

Introduction

SpaceLogic* RP-C-EXT-DALI light module connects to the SpaceLogic RP room controllers and provides I/O expansion for lighting control with DALI (Digital Addressable Lighting Interface).

The DALI light module enables control of lights equipped with DALI ballasts (DALI control gear).

The DALI light module is a DALI-2 certified control device (application controller) with multi-master capability. DALI-2 compliance means benefits such as improved interoperability and easier installation and maintenance. The DALI light module

can be used with DALI version-1 products because DALI-2 is designed to be backward compatible with DALI version-1. The multi-master capability of the DALI light module allows the module to function as a DALI master in a DALI network and can thus work together with DALI-2 sensors and push-buttons.

Lighting can be controlled by the RP-C through motion detection and light intensity measurement provided by the Multi-sensor or by SpaceLogic Sensors connected to the RP-C.

The DALI light module is part of the RP controller expansion modules for connected room solution and can be combined with other modules from this product range.

RP-C-EXT-DALI

* Formerly known as SmartX.

Features

The DALI light module has the following features:

- Power and communications through the room bus
- DALI-2 certified control device (application controller)
- DALI multi-master function for communication with DALI sensors and push-buttons on the DALI bus, which minimizes wiring and installation costs
- Group and individual addressing of DALI control gear (lights)
- One DALI channel, which is split into four inputs/outputs, for DALI bus power supply and control of up to 32 lights and 16 input devices
- Up to 16 DALI groups for common control of lights
- Up to 16 DALI input devices in total. Each input device supports up to four sensors or buttons.
- Four digital inputs for connection of light switches and window contacts. The digital inputs are SELV (Safety Extra-Low Voltage).
- Suitable for mounting in ceilings
- Wieland connectors for quick and easy installation
- Engage mobile application for room comfort settings
- Status LED for the device
- Rotary switch for address configuration

DALI lighting control

The DALI-2 interface has the following features:

- DALI groups can combine lights regardless of which outputs the lights belong to.
- Lights that belong to the same DALI group are controlled simultaneously for switching on/off, dimming, and color temperature (tunable white) adjustment

Part Numbers

Product	Part number
RP-C-EXT-DALI	SXWREDALI110001
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001

Specifications

RP-C-EXT-DALI	
Electrical	
Nominal voltage	100 to 277 VAC

- Management of ballast and lamp alarms
- Automatic addressing of lights

Room bus

The RP controller room bus allows RP controller expansion modules to be connected to the controller for people counting, motion detection, luminosity and sound pressure level measurements, Bluetooth Low Energy based applications, and control of electric lights and window blinds.

The RP-C Pro controller room bus supports up to nine connected RP controller expansion modules with the following restrictions:

- Maximum of two DALI light modules
- Maximum of two SMI blind modules
- Maximum of seven Multi-sensor or Insight-Sensor devices

The RP-C Advanced controller room bus supports up to six connected RP controller expansion modules with the following restrictions:

- Maximum of two DALI light modules
- Maximum of two SMI blind modules
- Maximum of four Multi-sensor or Insight-Sensor devices

Maximum total length of the room bus is 72 m (236 ft).

Engage mobile application

The Engage mobile application enables control of room temperature, fan speed, lights, and blinds/shades directly from a smartphone. A user can manage these settings when the application is connected to the RP-C controller.

The Engage mobile application is free and available for download from Google Play and Apple App Store.

For more information, see the Engage Specification Sheet.

RP-C-EXT-DALI

Operating voltage range	+/-10 %
Frequency	50/60 Hz
Power consumption	10 VA
Room bus power consumption	0.3 W (24 VDC)
Overvoltage category	III
Environment	
Ambient temperature, operating	0 to 50 °C (32 to 122 °F)
Ambient temperature, storage	-20 to +70 °C (-4 to +158 °F)
Humidity	20 to 90 % RH non-condensing
Pollution degree	2
Material	
Plastic flame rating	UL94 V-0
Ingress protection rating	IP 20
Mechanical	
Dimensions	198 W x 110 H x 64 D mm (7.8 W x 4.3 H x 2.5 D in.)
<p>The technical drawing shows two views of the RP-C-EXT-DALI device. The front view (left) shows a rectangular device with a width of 198 mm (7.8 inches) and a total height of 117 mm (4.6 inches). The main body height is 110 mm (4.3 inches). The top and bottom terminal rows are 9 mm (0.4 inches) and 12 mm (0.5 inches) thick, respectively. The side view (right) shows a depth of 64 mm (2.5 inches) and a mounting bracket height of 44 mm (1.7 inches). The mounting bracket width is 50 mm (2.0 inches) and the base width is 44 mm (1.7 inches).</p>	
Weight	0.352 kg (0.776 lb)
Installation	DIN rail or flat surface
Connectors	Power input: 1 x 3-pin Wieland GST15i3 connector DALI inputs/outputs: 4 x 2-pin Wieland GST15i2 connector Digital inputs: 4 x 2-pin Wieland GST15i2 connector
Software compatibility	
EcoStruxure Building Operation software	version 4.0 and later
Agency compliances	
Emission	RCM; BS/EN 61000-6-3; BS/EN 50491-5-2; FCC Part 15, Sub-part B, Class B

RP-C-EXT-DALI

Immunity	BS/EN 61000-6-2; BS/EN 50491-5-3
Safety standards	BS/EN 60730-1; BS/EN 60730-2-11; BS/EN 50491-3; UL 916 C-UL US Listed
Fire performance in air-handling spaces ^a a) The RP-C-EXT-DALI light module is approved for plenum applications.	UL 2043
Digital addressable lighting interface	IEC 62386-101; IEC 62386-103
Communication ports	
Room bus	RS-485 Dual RJ45 ports for daisy-chain configurations Use a Cat 5 (or higher) cable Maximum total length of the room bus: 72 m (236 ft)
Room bus protection	Transient voltage suppressors on communication and power signals
Hardware	
Main microcontroller	
CPU type	ARM Cortex-M4 single-core
Frequency	80 MHz
SRAM (embedded)	320 KB
Flash memory (embedded)	1024 KB
Memory	
NOR flash memory	16 MB
DALI microcontroller	
CPU type	ARM Cortex-M0 single-core
Frequency	32 MHz
SRAM (embedded)	8 KB
Flash memory (embedded)	64 KB
Additional hardware	
Status indicator	LED (green and red) that shows the status of the device
Address switch	Rotary switch 0 to 9
Set button	Push-button switch
DALI inputs/outputs	
Inputs/outputs The four inputs/outputs share one DALI channel.	4, Light 1 to Light 4
Input/output terminals	DA+ and DA-
DALI bus voltage	18 VDC
Maximum supply current	250 mA
Guaranteed supply current	64 mA
Maximum cable length	See the SpaceLogic Hardware Reference Guide

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DALI devices

Supported control gear See table below.

Device type number	Type of control gear	Supported
Device Type 0 (DT0)	Fluorescent lamp control gear	Yes
Device Type 1 (DT1)	Control gear for self-contained emergency lighting	Yes
Device Type 3 (DT3)	Low-voltage halogen lamp control gear	Yes
Device Type 4 (DT4)	Incandescent lamp dimmers	Yes
Device Type 6 (DT6)	LED lamp control gear (LED modules)	Yes
Device Type 8 (DT8)	Color control gear	Yes ^a

a) Color type Tc (Color temperature) of Part 209 of the IEC 62386 standard is supported.

Supported input device types See table below.

Type/part number ^a	Type of input device	Supported ^{bc}
301	Push-buttons	Yes
302	Absolute input devices	Yes
303	Occupancy sensors	Yes
304	Light (luminosity) sensors	Yes

a) Parts of the IEC 62386 standard.

b) For a list of supported input devices, see the Product Database on the DiiA website, www.dali-alliance.org

c) It is recommended to always test an input device at an early stage in a project.

Digital inputs

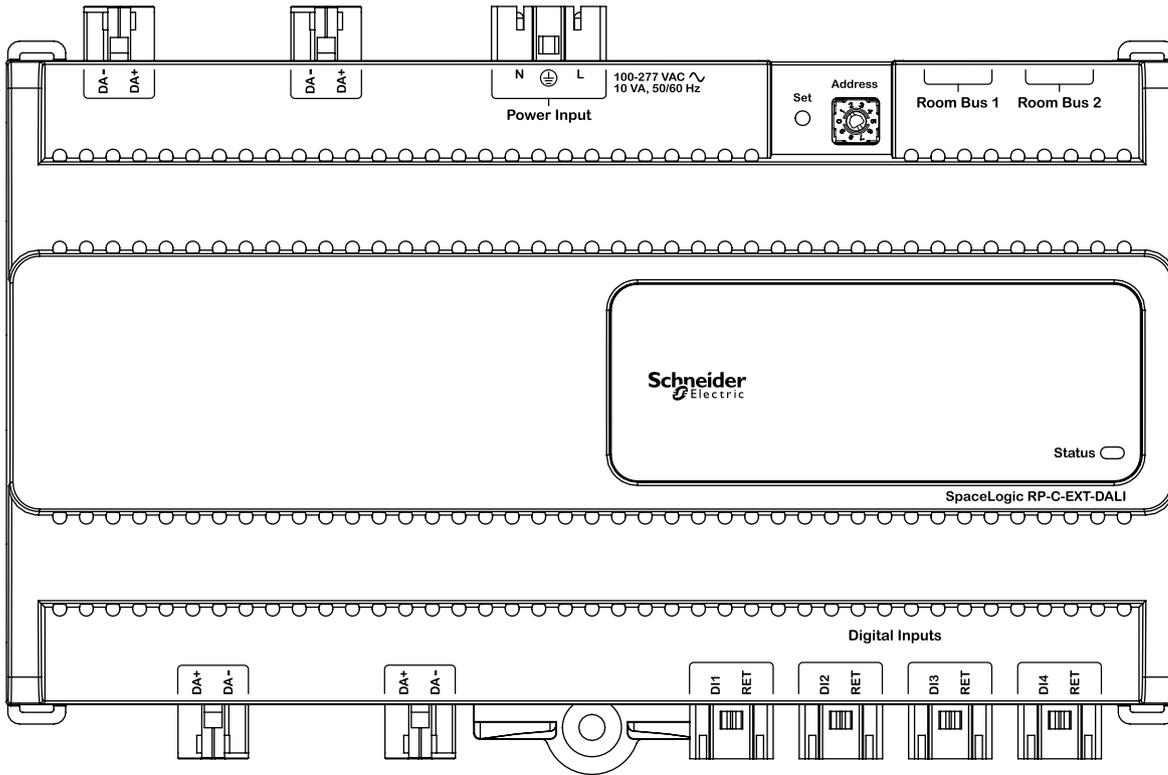
Inputs 4, DI1 to DI4

Range Dry contact, 0 to 5.0 VDC, 2.2 mA, SELV (Safety Extra-Low Voltage)

Connections

Follow proper installation wiring diagrams and instructions. For more information on wiring, see the SpaceLogic Hardware Reference Guide.

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Required External Connectors

Use	Part number	Reference	Connector type	Suitable for cable diametersmm (inches)	Marking	Color of coding / housing	Minimum order quantity
Power supply input	SXWRPCCON WWPOW	91.931.4053.1	Female	5.6–11 (0.22–0.43)	L, PE, N	Black /Black	100
DALI inputs/outputs	SXWRPCCON WWLIGHT	91.922.3453.0	Male	6–7.7 (0.24–0.30)	D2, D1 D2: DA+ D1: DA-	Pastel blue /White	100
Digital inputs	SXWRPCCON WDI	91.921.2353.0	Female	3.4–5.5 (0.14–0.21)	1, 2 1: DI1..4 2: RET	Light blue /White	100

The external connectors need to be ordered separately. The connectors can be ordered in quantities of 50 or 100 from Schneider Electric using the above part numbers. The

connectors can also be ordered directly from Wieland using the above reference numbers. For more information, see the Wieland Electric web site.

RP-C-EXT-DALI

Regulatory Notices



Federal Communications Commission

FCC Rules and Regulations CFR 47, Part 15, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.

Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



Regulatory Compliance Mark (RCM) - Australian Communications and Media Authority (ACMA)

This equipment complies with the requirements of the relevant ACMA standards made under the Radiocommunications Act 1992 and the Telecommunications Act 1997. These standards are referenced in notices made under section 182 of the Radiocommunications Act and 407 of the Telecommunications Act.



UL 916 Listed products for the United States and Canada, Energy Management Equipment Accessory. UL file E80146.



DALI-2 Certified Product.

This product is DALI-2 certified and conforms to Parts 101 and 103 of IEC 62386. All DALI-2 certified product are listed in the Product Database on the DiiA website www.digitalilluminationinterface.org.



CE - Compliance to European Union (EU)

2014/30/EU Electromagnetic Compatibility Directive

2014/35/EU Low Voltage Directive

2011/65/EU Restriction of Hazardous Substances (RoHS) Directive

2015/863/EU amending Annex II to Directive 2011/65/EU

This equipment complies with the rules, of the Official Journal of the European Union, for governing the Self Declaration of the CE Marking for the European Union as specified in the above directive(s).



WEEE - Directive of the European Union (EU)

This equipment and its packaging carry the waste of electrical and electronic equipment (WEEE) label, in compliance with European Union (EU) Directive 2012/19/EU, governing the disposal and recycling of electrical and electronic equipment in the European community.



UK Conformity Assessed

S.I. 2016/1091 - Electromagnetic Compatibility Regulations 2016

S.I. 2016/1101 - Electrical Equipment (Safety) Regulations 2016

S.I. 2012/3032 - Restriction of the Use of Certain Hazardous Substances in Electrical and

Electronic Equipment Regulations 2012

S.I. 2013/3113 - Waste Electrical and Electronic Equipment Regulations 2013

This equipment complies with the rules, of the UK regulations, for governing the UKCA Marking for the United Kingdom specified in the above directive(s).

www.se.com/buildings

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