

SpaceLogic RP-C-EXT-DALI

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 controller through motion detection and light intensity measurement provided by the Multi-sensor or Insight-Sensor, or by SpaceLogic Sensors connected to the RP controller.

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.

SpaceLogic RP-C-EXT-DALI

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
- 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 and RP-C Pro Plus 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

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

- Maximum of one DALI light module
- Maximum of one SMI blind module
- Maximum of two 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 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.

Part Numbers

Product	Part number
RP-C-EXT-DALI	SXWREDALI110001
DIN-RAIL-CLIP, DIN-rail end clip package of 25 pieces	SXWDINEND10001
Mounting plate - RP controller expansion modules package of 5 pieces	SXWREMPK510001

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Specifications

SpaceLogic RP-C-EXT-DALI

Electrical

Nominal voltage	100 to 277 VAC
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

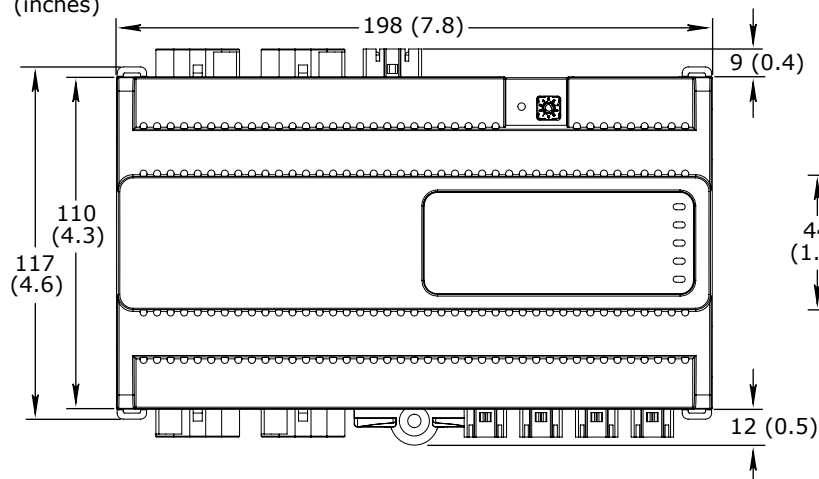
Material

Plastic flame rating	UL94 V-0
Ingress protection rating	IP 20

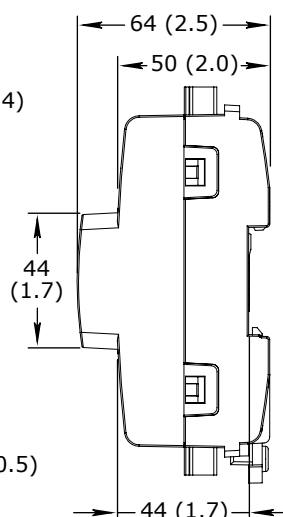
Mechanical

Dimensions

mm
(inches)



198 W x 110 H x 64 D mm (7.8 W x 4.3 H x 2.5 D in.)



Weight

0.352 kg (0.776 lb)

Recommended installation

a) It is recommended to install the device in an enclosure (cabinet), unless local regulations allow an exception.

DIN rail or flat surface in a cabinet[†]

SpaceLogic RP-C-EXT-DALI

Connectors

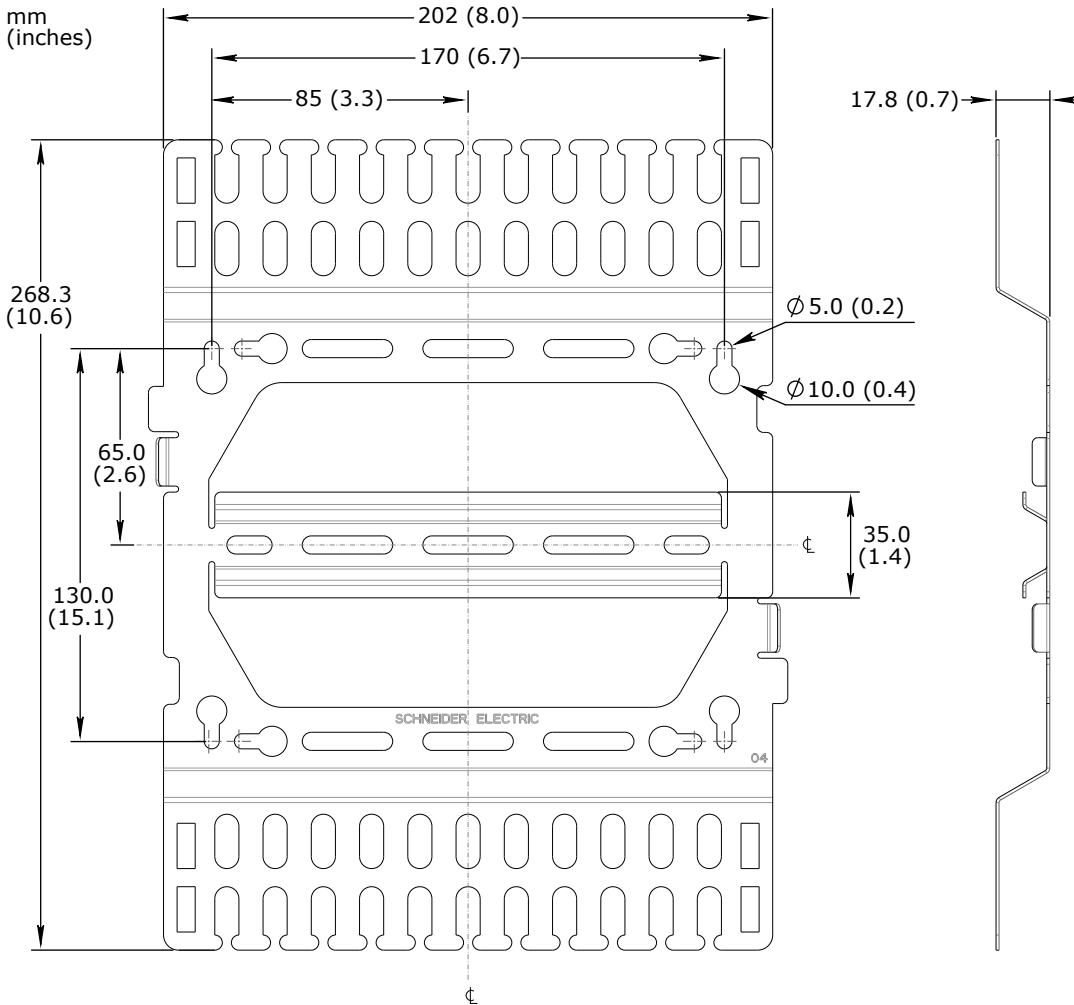
Power input: 1 x 3-pin Wieland GST15i3 connector
 DALI inputs/outputs: 4 x 2-pin Wieland GST15i2 connector
 Digital inputs: 4 x 2-pin Wieland GST15i2 connector

Optional mounting plate

The mounting plate is used to facilitate mounting and cable management for the RP controller expansion module as well as to provide strain relief for the connectors.

Dimensions

202 W x 268.3 H x 17.8 D mm (8.0 W x 10.6 H x 0.7 D in.)



Weight

0.306 kg (0.675 lb)

Compatibility

EcoStruxure BMS server communication
 EcoStruxure Building Operation

version 3.2.1 and later

DALI multi-master support
 EcoStruxure Building Operation

version 4.0.1 and later

Agency compliances

Emission

RCM; BS/EN 61000-6-3; BS/EN IEC 63044-5-2; FCC Part 15, Sub-part B, Class B

Immunity

BS/EN 61000-6-2; BS/EN IEC 63044-5-3

SpaceLogic RP-C-EXT-DALI

Safety standards BS/EN 60730-1; BS/EN 60730-2-11; BS/EN IEC 63044-3; UL 916 C-UL US Listed

Fire performance in air-handling spaces^a UL 2043
 a) The RP-C-EXT-DALI light module is approved for plenum applications.

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 4, Light 1 to Light 4
 The four inputs/outputs share one DALI channel.

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 and EasyLogic - Hardware Installation System 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

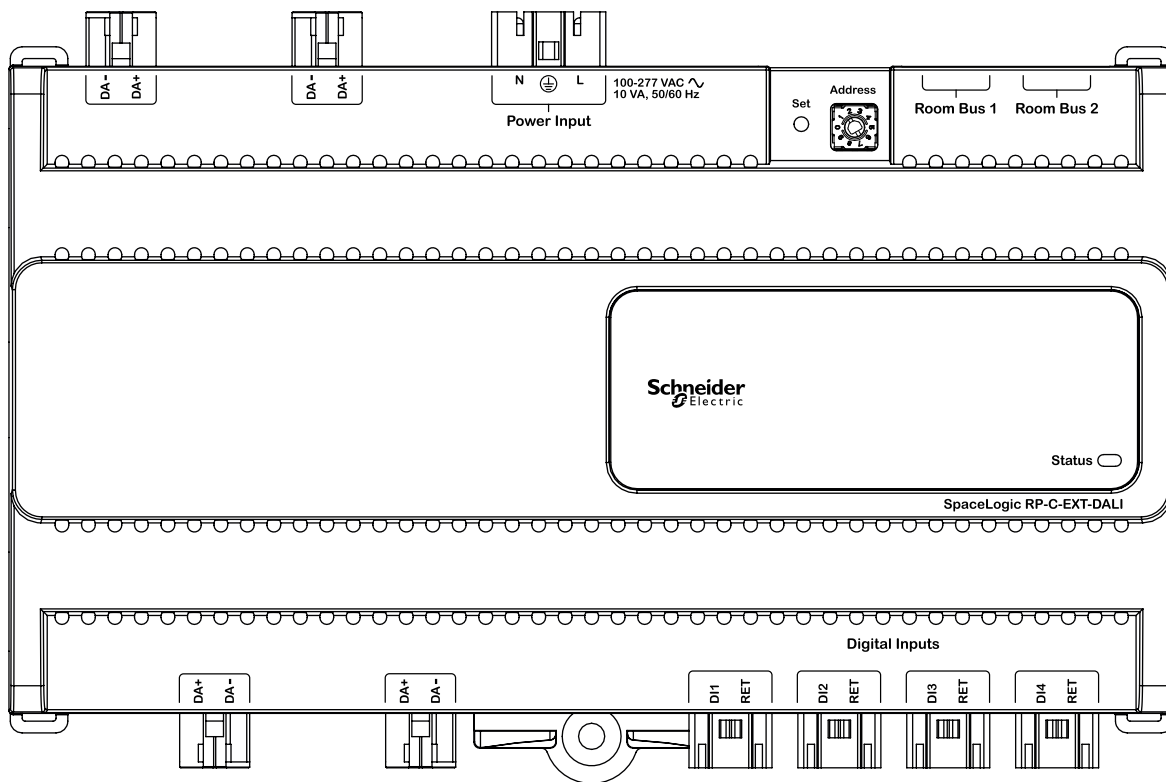
Inputs 4, DI1 to DI4

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 and EasyLogic - Hardware Installation System Guide.

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Required External Connectors

Use	Part number	Reference	Connector type	Suitable for cable diameters mm (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.

SpaceLogic 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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