

Features

DALI Converter

- Compliant with DALI Standard (IEC62386 Part 102 & Part 206)
- Screw-less Connectors, Easy to Install
- Selectable Output for DC 0-10V / DC 1-10 / PWM
- Built-in Relay to Turn ON/OFF Driver Completely (Zero Standby Current)
- Over Voltage and Short Circuit Protection

Description

The RELI-DA01/R is a DALI to analog control signal interface which is compliant with the DALI IEC62386 standard and listed on the agDALI website.. The output is selectable between 0-10V and 1-10V or PWM ⁽¹⁾ and is compatible with all RECOM dimmable LED drivers as well as other manufacturer's products. The output can control several LED drivers, allowing the lighting in a whole room or office to be dimmed with just one DALI address. A built-in relay can be used to switch off the LED drivers under software control to give zero no-load consumption. The interface is universal AC powered (110VAC, 230VAC or 277VAC).

Selection Guide

| Part Number | Input Voltage (VAC) | Power Consumption (W) | DALI Bus Power Consumption (mA) | DALI Standard IEC62386 | Dimming Output |
|-------------|---------------------|-----------------------|---------------------------------|------------------------|---|
| RELI-DA01/R | 90-290 | 1.6 typ. | 2 max. | Part-102 Part-206 | DC 0-10V DC 1-10V or PWM ⁽¹⁾ |

Note1: PWM output is not included in the IEC62386 standard

Specifications (measured at T_A = 25°C and nominal input voltage)

| | | |
|---|---|---|
| Input Voltage Range | 90-290VAC, 50/60Hz | |
| Power Consumption | 1.6W typ. / 3W max. | |
| DALI Bus Current Consumption | 2mA max. | |
| Suitable Electric Wire | 22 AWG - 16 AWG | |
| PWM Frequency | 500Hz typ. | |
| PWM High Level Voltage | 9.5VDC min. / 10VDC typ. / 10.5VDC max. | |
| PWM Low Level Voltage | 0VDC typ. | |
| PWM Output Current Sourcing (mA) | -60mA min. / 60mA max. | |
| DC 0/1-10V Output Accuracy | ±3% | |
| DC Output Current Sourcing (mA) | -5mA min. / 60mA max. | |
| DALI Standard | IEC62386 Part-102 & Part-206 | |
| Short Circuit Protection | (Dimming Output) | cont., current limited to 240mA |
| Over Voltage Protection | (DALI connector) | 24V Zener Diode clamp |
| Operating Temperature Range (free air convection) | Ambient Temperature | -20 to +40°C |
| | Case Temperature | 46°C |
| Relay Switch | 1 Channel, 2A cont. / 70A inrush handling | |
| IP Rating | IP20 | |
| Dimensions | 150 x 40 x 28mm | |
| Weight | 100g ±10% | |
| Safety Standards (100-240VAC) | Report: P201311017 | EN61347-1, 2nd Edition EN61347-2-11, 1st Edition |
| | | |
| EMC Emission | Report: HA140050 | IEC61000-3-2, 3 EN55015 |
| EMC Immunity | | IEC61000-4-2,3,4,5,6, 8, 11; Class A EN61547 |
| MTBF (+25°C) | using MIL-HDBK 217F | 200 x 10 ³ hours min. |

LIGHTLINE
DALI-Converter AC/DC
with 5 year Warranty

RECOM

1.6 Watt DALI- Converter



IEC 62386-102 Compliant
IEC 62386-206 Compliant
EN55015 Certified
EN61347 Certified
EN61547 Certified

RELI-DA01/R

Refer to Application Notes

Typical Characteristics

DALI Declaration for Factory Variables (for Part 102)

| Variable | Default Value | Reset Value | Range of Validity |
|----------------------|----------------------|----------------------|--------------------------------|
| Actual Dim Level | 254 | 254 | 0, Min Level - Max Level |
| Power on Level | 254 | 254 | 0 - 255 (Mask) |
| System Failure Level | 254 | 254 | 0 - 255 (Mask) |
| Min Level | Physical Min Level | Physical Min Level | Physical Min Level - Max Level |
| Max Level | 254 | 254 | Min Level - 254 |
| Fade Rate | 7 (45 steps/s) | 7 (45 steps/s) | 1-15 |
| Fade Time | 0 (no fade) | 0 (no fade) | 0-15 |
| Short Address | 255 (Mask) | no change | 0-63 255 (Mask) |
| Search Address | FF FF FF | FF FF FF | 00 00 00 - FF FF FF |
| Random Address | FF FF FF | FF FF FF | 00 00 00 - FF FF FF |
| Group 0-7 | 0000 0000 (no group) | 0000 0000 (no group) | 0 - 255 |
| Group 8-15 | 0000 0000 (no group) | 0000 0000 (no group) | 0 - 255 |
| Group 0-15 | 255 (Mask) | 255 (Mask) | 0 - 255 (Mask) |
| Status Information | 1xx0 xxxx | 0x10 0xxx | 0 - 255 |
| Version Number | 1 | no change | Factory-defined |

x = actual value depend on the operation status

DALI Declaration for Factory Variables (for Part 206)

| Variable | Default Value | Reset Value | Received Command | Range of Validity |
|-------------------------|---------------|-------------|------------------|-------------------------|
| Dimming Curve | 0 | No change | 0 | 0-1; (2 - 255 reserved) |
| Converter Features | 0011 a101 | No change | 0011 a101 | 53; 61 |
| Failure Status | 0000 0000 | No change | 0000 0000 | 0 - 255 |
| Converter Status | 0000 0000 | No change | 0000 0000 | 0 - 255 |
| Extended Version Number | 1 | No change | 1 | Factory-defined |
| Device Type | 5 | No change | 5 | Factory-defined |
| Physical min Level | 1 | No change | 1 | 1-253 |

a = 0 Relay Function disabled; a = 1 Relay Function enabled

DALI Command Set

The RELI-DA01/R has been accepted by agDALI as conforming to the DALI standard for Control Gear (IEC 62386-102) and Device Type 5 (IEC 62386-206). It supports all relevant commands of the defined command set.

| Command Number | Command Name | Function |
|----------------|------------------|--------------------------------|
| - | DIRECT ARC POWER | set directly the light level |
| 0 | OFF | switch off the light |
| 1 | UP | dim up the light |
| 2 | DOWN | dim down the light |
| 5 | RECALL MAX | recall the maximum light level |
| 6 | RECALL MIN | recall the minimum light level |

Not supported commands include the "QUERY LAMP FAILURE" and the "QUERY LAMP POWER ON". Additionally the features to disable the Relay Switch, set the output to PWM, change the PWM from active-high to active-low are additional and not tested by DALI (refer to the RELI-DA01/R instruction manual).

Recommended LED Drivers, DALI-Bus Power Supplies and DALI Master

AC/DC LED Driver

RACD20-xxxD
RACD60-xxxxA
RACD45-xxxxA
RACD100-xxxxA
RACD150-xxxxA

DC/DC LED Driver

RCD24-xxx
RCD48-xxx
RBD12-xxx

DALI Master

custom commands tested with DALI-USB
Tridonic Osram (IEC62386 compatibility confirmed by DIAL ag using Prohibit Tester)

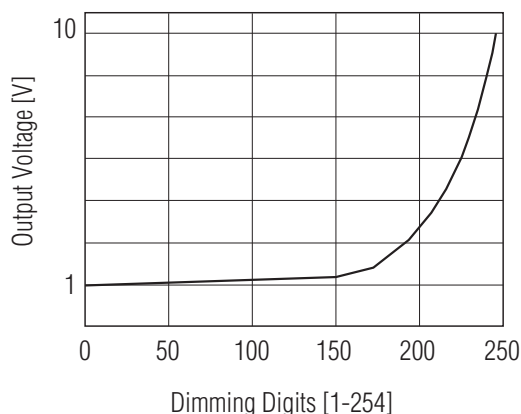
*Software masterCONFIGURATOR V2.6.8.1005 Tridonic

Note:

For one DALI Converter (RELI-DA01/R) up to 6pcs of RECOM AC/DC LED-Drivers with 3in1 dimming can be connected.

Typical Characteristics

Default-Setting Log. 1-10V Dimming



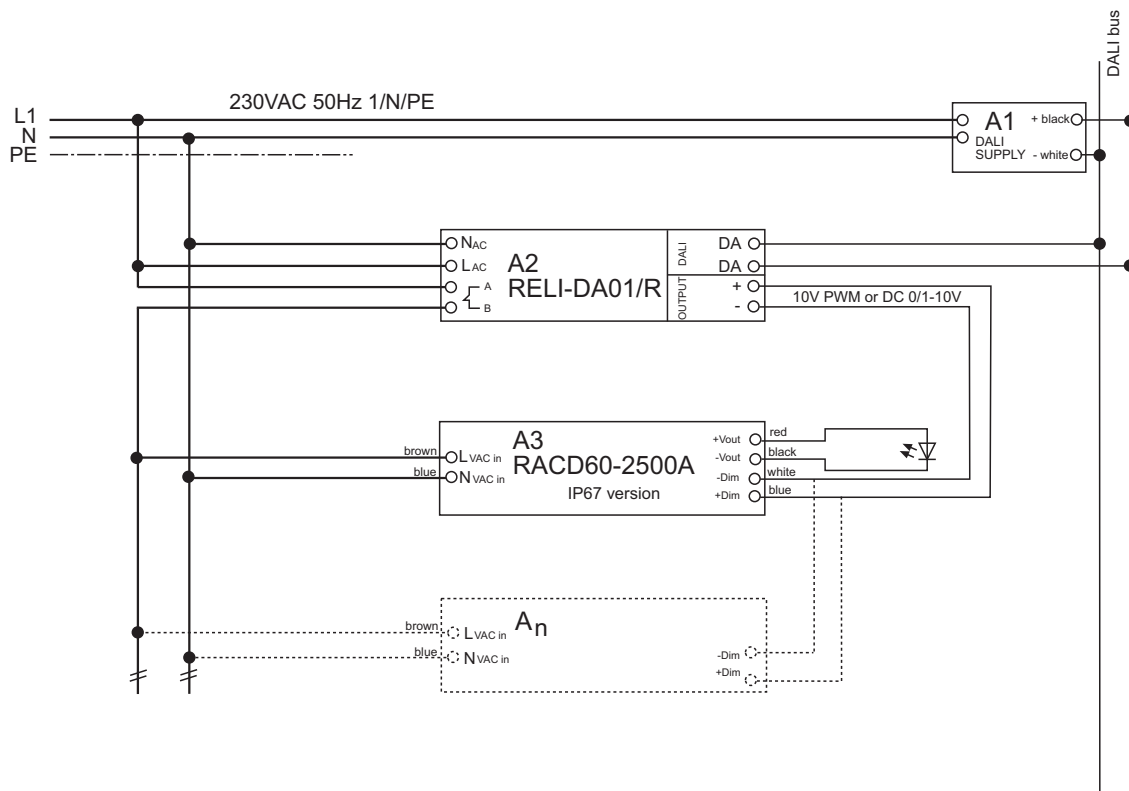
DALI-COMMAND

Logarithmic Dimming; 1-10V

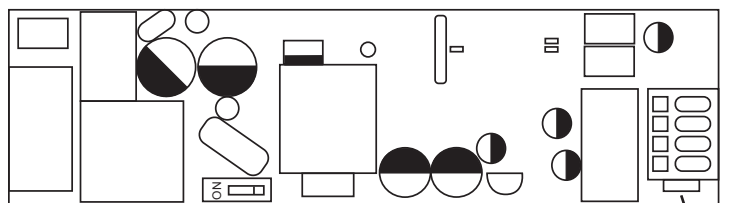
| | |
|-----|---|
| 6 | Recall MIN Level |
| 257 | DATA TRANSFER REGISTER (DTR) / Value: 0 dec |
| 272 | ENABLE DEVICE TYPE X / Value: 5 dec |
| 224 | QUERY APP EXT Cmd224 |
| 224 | QUERY APP EXT Cmd224 |
| 272 | ENABLE DEVICE TYPE X / Value: 5 dec |
| 229 | QUERY APP EXT Cmd229 |
| 229 | QUERY APP EXT Cmd229 |


Internal switch: OFF

DALI Connection



Package Style



 ON / OFF
PWM / DC
By internal switch

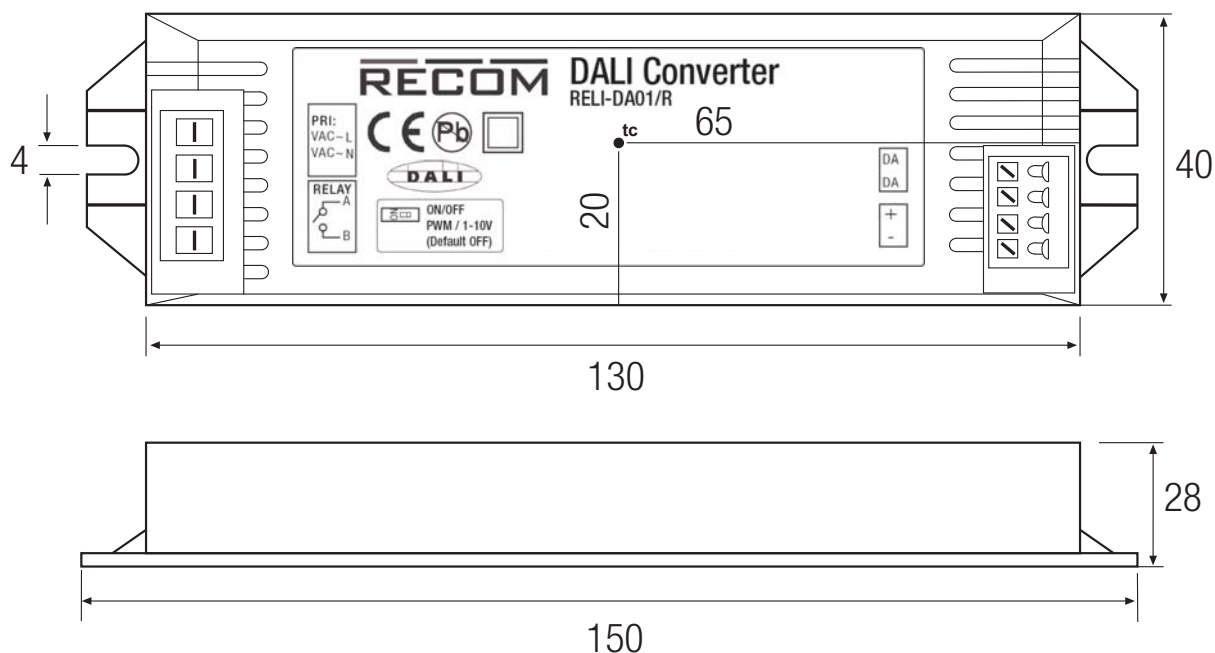
Indicator LED
flashes with
DALI signal

ON: PWM 10V (Default active high)
OFF: DC 1-10V (Default DC)
DC 0-10V (software control)

Delivery setting:
Output signal: DC 1-10V
Dimming curve: Logarithmic PWM active high

Refer to instruction sheet for DALI commands for alternate settings (linear dimming curve, DC 0-10V, PWM active low, Independent Relay control)

Dimensions



RELI-DA01/R

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