Features

DALI Converter

- Built-in relay to turn ON/OFF drive completely (zero standby current)
- IEC-62386 part 206 compliant
- Over voltage and short circuit protection
- Selectable output for PWM / DC 0-10V / DC 1-10
- Screw-less connectors, easy to install

RECOM
AC/DC Converter

RELI-DA01/R

1.6W DALI Converter

Description

The RELI-DA01/R is a DALI to analog control signal interface which is compliant with the DALI IEC62386 standard. 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 Range [VAC]	typ. Power Consumption [W]	max. DALI Bus Power Consumption [mA]	Dimming Output	DALI Standard IEC62386
RELI-DA01/R	90-290	1.6	2	PWM [1] DC 0-10V DC 1-10V	Part-206

Notes:

Note1: PWM is not included in the IEC62386 standard

EN61547 certified
EN61347-1 certified
EN61347-2-11 certified
IEC62386-206 compliant
EN55015 compliant

Specifications (measured @ ta= 25°C and nominal input voltage)

BASIC CHARACTERISTICS

Parameter	Condition	Min.	Typ.	Max.
Input Voltage Range		90VAC	230VAC	290VAC
Input Frequency Range		50Hz		60Hz
Power Consumption			1.6W	3W
Dali Bus Current Consumption				2mA
Relay Switch	1 Channel	2A cont.		70A inrush

REGULATIONS

Parameter	Value
DC 0/1-10V Output Accuracy	±3% max.

PROTECTION

Parameter	Condition	Value
Short Circuit Protection (SCP)	Dimming output	continuous, current limited to 240mA
Over Voltage Protection (OVP)	Dali connector, Zener Diode clamp	24VDC

Specifications (measured @ Ta= 25°C and nominal input voltage)

ENVIRONMENTAL

Parameter	Condition	Value
Operating Temperature Range	free air convection	-20°C to +40°C
Maximum Case Temperature		+46°C
Operating Humidity	non-condensing	20% to 90% RH
IP Rating		IP20
MTBF	MIL-HDBK-217F, G.B.	200 x 10³ hours

Derating Graph
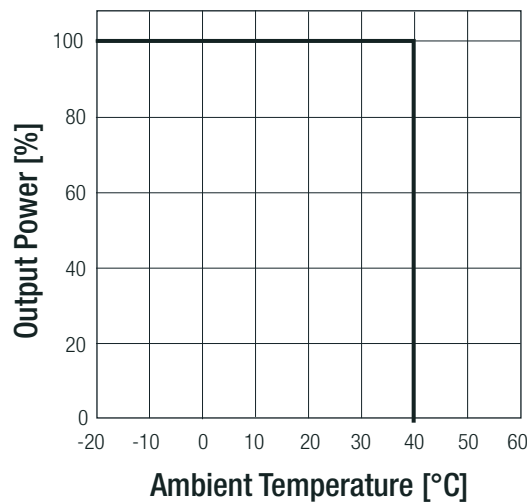
SAFETY AND CERTIFICATIONS

| Certificate Type (Safety)	File Number	Standard
Lamp Controlgear - Part 1: General and safety requirements		EN61347-1:2015
Lamp Controlgear - Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires		IEC61347-2-11:2001, 1st Edition EN61347-2-11:2001
Digital addressable lighting interface - Part 206: Particular requirements for control gear		IEC62386-206:2009
RoHS 2+		RoHS 2011/65/EU + AM2015/863

EMC Compliance	Conditions	Standard / Criterion
Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment		EN55015:2013 + A1:2015
Equipment for general Lighting Purpose EMC Immunity Requirements		EN61547:2009
ESD Electrostatic discharge immunity test	Air ±2, ±4, ±8kV, Contact ±2, ±4kV	IEC61000-4-2:2008, Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m (80-1000MHz)	IEC61000-4-3:2006, Criteria A
Fast Transient and Burst Immunity	AC Power Port: ±1.0kV	IEC61000-4-4:2012, Criteria A
Surge Immunity	AC Power Port: L-N ±0.5kV	IEC61000-4-5:2005, Criteria A
Immunity to conducted disturbances, induced by radio-frequency fields	AC Power Port: 3V	IEC61000-4-6:2008, Criteria A
Power Magnetic Field Immunity	50Hz, 3A/m	IEC61000-4-8:2009, Criteria A
Voltage Dips and Interruptions	Voltage Dips 30%	IEC61000-4-11:2004, Criteria B
Voltage Dips and Interruptions	Voltage Interruptions >95%	IEC61000-4-11:2004, Criteria B
Limits of Harmonic Current Emissions		EN61000-3-2:2014
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013

Specifications (measured @ Ta= 25°C and nominal input voltage)

DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	PCB	plastic resin with fibreglass, (UL94 V-0)
	case	plastic, (UL94 V-2)
Dimension (LxWxH)		150.0 x 40.0 x 28.0mm
Weight		100g ±10%

Dimension Drawing (mm)
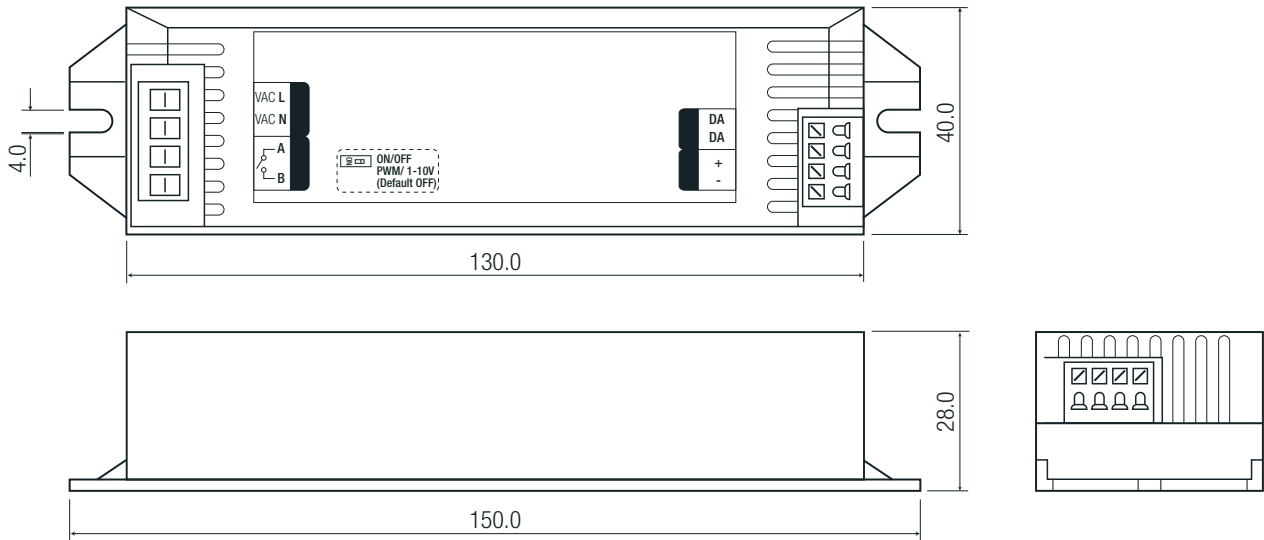
Connection via Screw Terminal

#	Function	Solid Wire	Stranded Wire	AWG
1	VAC in (N)	0.75-1.5mm²	0.75-1.5mm²	18-16
2	VAC in (L)	0.75-1.5mm²	0.75-1.5mm²	18-16
3	A	0.75-1.5mm²	0.75-1.5mm²	18-16
4	B	0.75-1.5mm²	0.75-1.5mm²	18-16
5	DA+	0.75-1.5mm²	0.5-1.5mm²	21-16
6	DA-	0.75-1.5mm²	0.5-1.5mm²	21-16
7	+	0.75-1.5mm²	0.5-1.5mm²	21-16
8	-	0.75-1.5mm²	0.5-1.5mm²	21-16

wire stripping length: 5mm
FC= fixing centers
Tolerance: xx.x=   ±1.0mm
             xx.xx= ±0.5mm
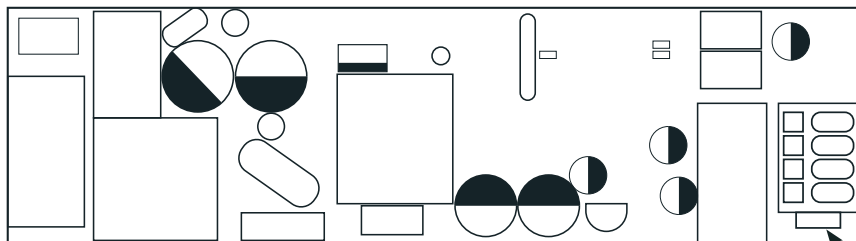
ON: PWM 10V (Default active high)
OFF: DC 1-10V (Default DC)
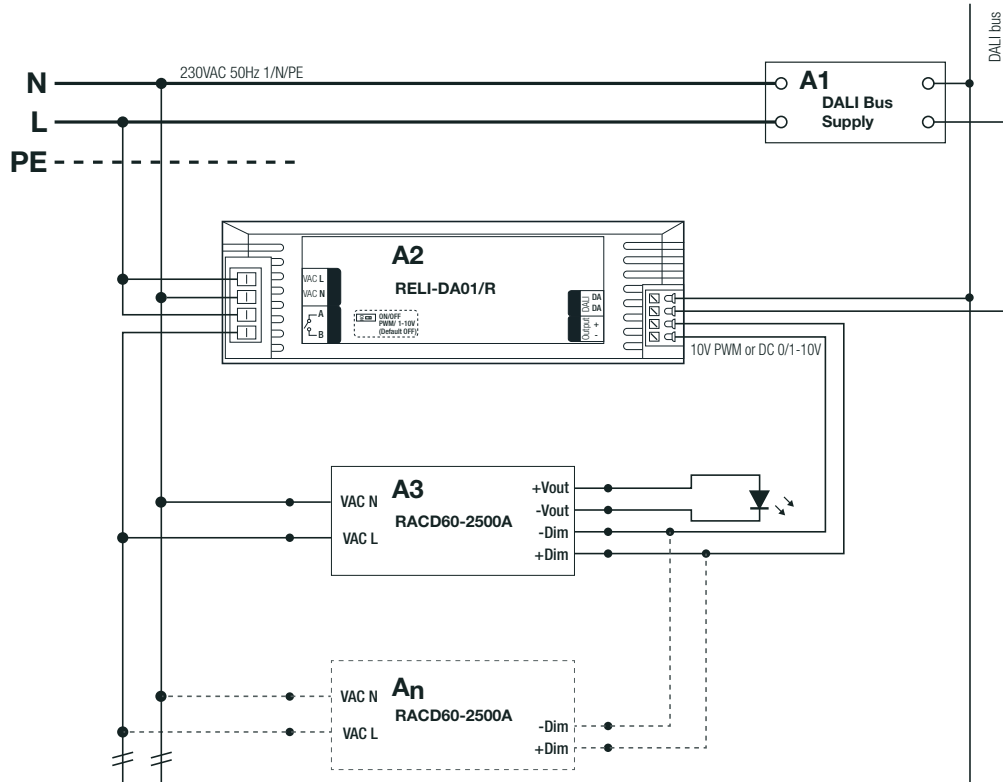   DC0-10V (software control)

Delivery setting:
Output Signal: DC 1-10V
Dimming Curve: Logarithmic PWM active high

Indicator LED
flashes with DALI
Signal

INSTALLATION and APPLICATION

DALI Connection

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 dissabled; a = 1 Relay function enabled

DALI Command Set

The RELI-DA01/R has been accepted by agDALI as conforming to the DALI standard for 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).

continued on nex page

Specifications (measured @ Ta= 25°C and nominal input voltage)

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

AC/DC LED Driver	DC/DC LED Driver	DALI Master
RACD20-xxxD	RCD24-xxx	custom commands tested with DALI-USB
RACD60-xxxxA	RCD48-xxx	Tridonic Osram (IEC62386 compatibility
RACD45-xxxxA	RBD12-xxx	confirmed by DIAL ag using Prohibit Tester)
RACD100-xxxxA		
RACD150-xxxxA		

*Software masterCONFIGURATOR V2.6.8.1005 Tridonic

Notes:

Note2: For one DALI Converter (RELI-DA01/R) up to 6pcs of RECOM AC/DC LED-Drivers with 3in1 dimming can be connected

DIMMING

Parameter	Condition	Min.	Typ.	Max.
PWM Frequency			500Hz	
PWM Level	High Voltage	9.5VDC	10VDC	10.5VDC
	Low Voltage		0VDC	
PWM and DC Output Current Sourcing		-5mA		60mA

Default-Setting Log. 1-10V Dimming
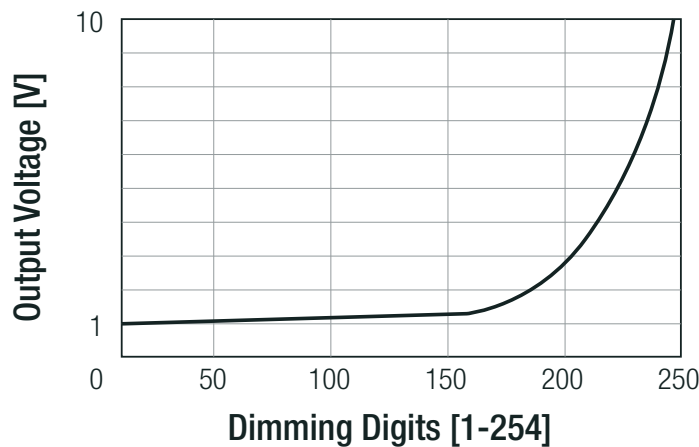
DALI-Command
Logarithmic Dimming: 1-10V

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

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	cardboard Box	248.0 x 161.0 x 88.0mm
Packaging Quantity		10pcs
Storage Temperature Range		-40°C to +80°C
Storage Humidity	non-condensing	10% - 90% RH