

DALI Repeater

Datasheet

Amplifier

Device to enhance the maximum
DALI cable length

Art. Nr. 86458401

Art. Nr. 86458401-PS

Art. Nr. 86458401-PS-HS



DALI Repeater Amplifier

Overview

- Device to enhance the maximum DALI cable length from 300m up to 600m.
- Enhancement and Transmission of the DALI-signals (bidirectional).
- Galvanic separation between DALI-circuits.
- Either radially arranged network layout or cascaded system mounting operated with single master.
- cascading (Series wiring) of up to 3 repeaters
- The maximum number of DALI-devices in the total network is limited to 64, the devices can be divided on the sub-circuits freely.
- For each subordinate DALI circuit, a separate bus power supply is needed. (DALI PS)
- Type with integrated power supply available
- Repeater PS: Test button for simple function check of all DALI bus ballasts.
- Repeater PS: Module for DIN rail mounting and for remote ceiling installation available.



Specification, Characteristics

type	DALI Repeater		DALI Repeater PS	
article number	86458401		86458401-PS	86458401-PS-HS
input: L, N				
input type	none		supply, mains- voltage	
marking terminals	-		L, N	
input voltage range	-		120Vac ... 240Vac +/- 15%	
max. input supply current	-		40mA (@120Vac), 20mA (@240Vac)	
input supply frequency	-		50Hz / 60Hz	
max. power consumption	-		5,3W	
startup time	-		250ms	
input: DA, DA				
input type	DALI control input			
marking terminals	DA, DA			
input voltage range	9,5V ... 22,5V			
current consumption DALI	6mA		2mA	
output: DA+, DA-				
output type	DALI		DALI / DALI supply	
marking terminals	DA, DA		DA+, DA-	
input voltage range	-		12Vdc ... 20,5Vdc	

guaranteed DALI supply current	-	200mA
open circuit proof	yes	yes
short circuit proof	yes	yes

insulation data:

impulse voltage category	II
pollution degree	2
rated insulation voltage	250V
insulation DALI-output (DA+,DA-) / supply (L,N) DALI-input / DALI output(DA+, DA-) DALI-input / supply (L,N)	reinforced isolation
insulation test voltage DALI-output/mains	3000Vac

environmental conditions:

storing and transportation temperature	-20°C ... +75°C	
operational ambient temperature	-20°C ... +75°C	-20°C ... +60°C
rel. humidity, none condensing	15% ... 90%	

general data:

dimensions (l x w x h)	98mm x 17,5mm x 56mm	120mm x 41mm x 22mm	98mm x 17,5mm x 56mm
mounting	DIN rail integration in class II devices	remote ceiling integration in class II devices	DIN rail integration in class II devices
rated max. temperature tc	75°C	70°C	75°C
expected life time @tc	50.000 h		
protection class	II in intended use		
protection degree housing	IP40		
protection degree terminals	IP20		

terminals:

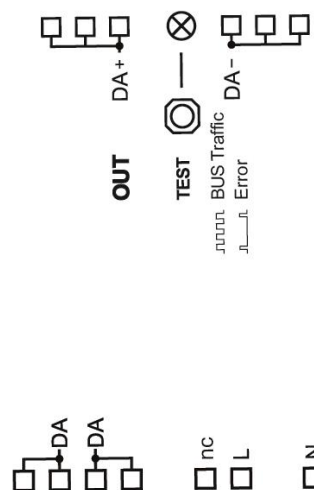
connection type	screw connector	spring terminal connector	screw connector
wire size solid core	0,5 ... 2,5 mm ² (AWG20 ... AWG14)	0,5 ... 1,5 mm ² (AWG20 ... AWG16)	0,5 ... 2,5 mm ² (AWG20 ... AWG14)
wire size stranded wired	0,5 ... 2,5 mm ² (AWG20 ... AWG14)	0,5 ... 1,5 mm ² (AWG20 ... AWG16)	0,5 ... 2,5 mm ² (AWG20 ... AWG14)
wire size using wire end ferrule	0,25 ... 1,5 mm ²	0,25 ... 1 mm ²	0,25 ... 1,5 mm ²
stripping length	7 mm / 0,27 inch	8,5 ... 9,5mm / 0,33 ... 0,37inch	7 mm / 0,27 inch
locking torque	0,5Nm	-	0,5Nm
release of wire	open screw	push button	open screw

standards:

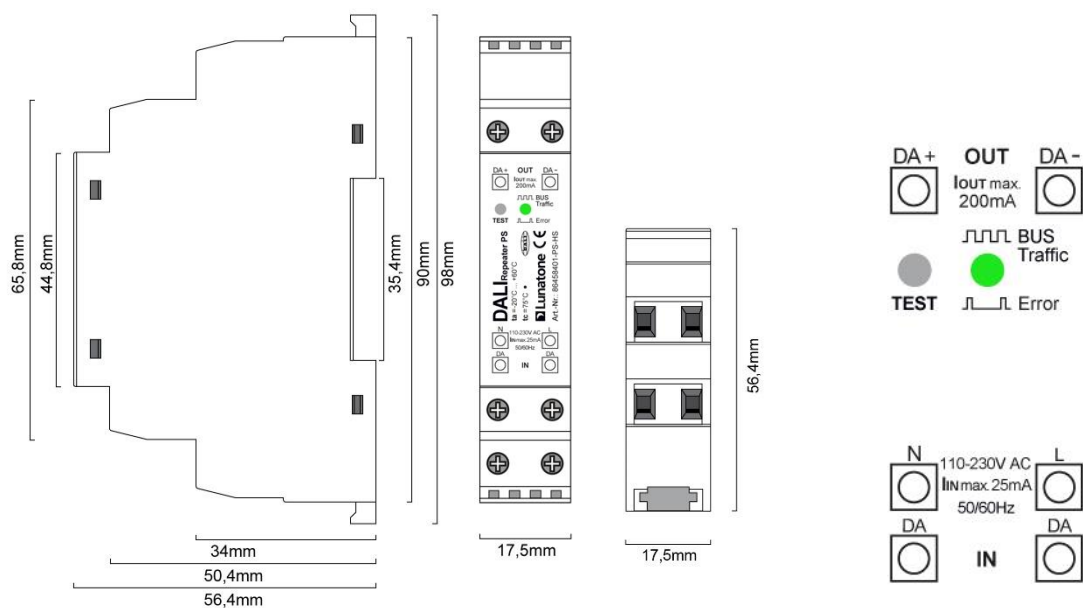
DALI	EN 62386-101
EMC	EN 61547 EN 50015 / IEC CISPR15
safety	EN 61347-2-11 EN 61347-1
markings	CE



DALI Repeater
connection terminals DIN rail module
Art. Nr. 86458401



DALI Repeater PS HS
 Connection terminals
 DIN rail module
 Art. Nr. 86458401-PS



DALI Repeater PS HS
dimensions DIN rail module
Art. Nr. 86458401-PS-HS

Geometrie Flutschiene
Art. Nr. 86458401-PS-HS

Function

Figure 1 shows a typical application to increase the load on the DALI line: Dali commands from any control are transmitted in all DALI-lines, on the output of a DALI Repeater with integrated PS no DALI PS is needed.

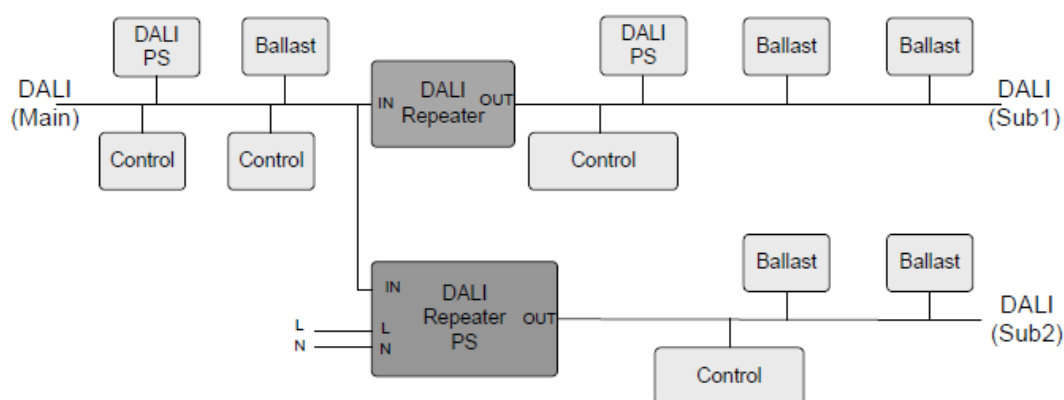


Figure. 1 application example: increase load on the DALI line

Figure 2 shows a typical application to extend the wiring length of the DALI installation. Cascading of up to 3 repeaters is possible (multi-master operation over several sections possibly restricted). The wiring must be carried out in the corresponding cable cross-section.

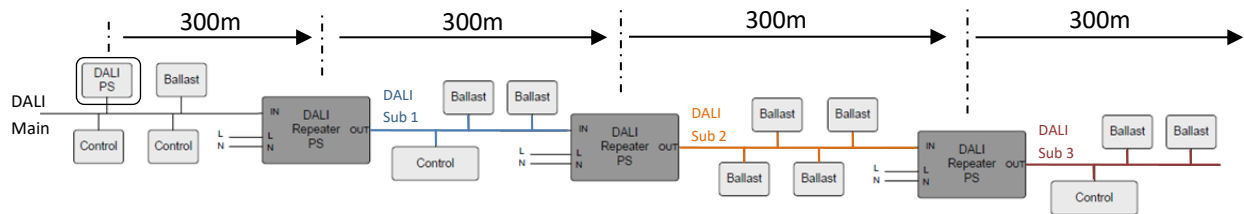


Figure. 2 application example: increase wiring length

Installation

- The DALI Repeater is intended for remote installation in the ceiling or in an enclosure, ensure proper cable relief for installation in protection class II devices.
- The DALI Repeater HS-type is suited for DIN rail mounting. Ensure protection against electric shock by an appropriate enclosure.
- Wiring as fixed installation in a dry and clean environment.
- Installation only by qualified personal and when no voltage is applied.
- Attend regulations regarding electrical installations of national authorities.
- Repeater PS: connect power supply terminals L and N to mains voltage.
- For Repeater PS please pay attention to the polarity of the output voltage marked on the housing (DA+, DA-).
- The DALI-line may be installed within the same cable or as single conductors within the same tube as mains supply.
- The DALI-line must not be connected to the mains or other SELV systems.
- DALI-line wiring with standard low voltage installation material.
- Wiring topology of the DALI-line: Line, Tree, Star
- Repeater PS (86458401-PS und 86458401-PS-HS): Wiring check by pressing the test button: the LED is flashing, and all luminaires connected to the DALI system will be controlled by a test sequence (on, off, dimming). To quit the test mode: press the test button again.
- Connect only one wire on each terminal if twin ferrules are used take care to the maximum wire size.



HINT: The DALI-signal is not classified as SELV circuit. Therefore, the standards for installation in low voltage system apply.



The voltage drop on the DALI line must not exceed 2V.



HINT: an improper DALI power supply can cause damage on DALI devices!

Commissioning

- After connection the DALI Repeater is ready for use.
- Make sure that the maximum power consumption of the DALI sub line does not exceed the guaranteed output current (200mA) of the Repeater PS.
- Status-LED:
 - flashing 5Hz, 50% on: test mode
 - flashing 2Hz, 5% on: error
 - flashing 2Hz, 90% on: activity

Purchase Information

Art. Nr. 86458401: DALI Repeater, DIN rail

Art. Nr. 86458401-PS: DALI Repeater, integrated power supply (200mA), remote ceiling

Art. Nr. 86458401-PS-HS: DALI Repeater, integrated power supply (200mA), DIN rail

Additional Information and Equipment

DALI-Cockpit – DALI system configuration tool, free when using a Lunatone interface device
<https://www.lunatone.com/en/product/dali-cockpit/>

Lunatone DALI products
<https://www.lunatone.com/en/>

Lunatone datasheets and manuals
<https://www.lunatone.com/en/downloads-a-z/>

Contact

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www.lunatone.com

Disclaimer

Subject to change. Information provided without guarantee.
The datasheet refers to the current delivery.

The compatibility with other devices must be tested in advance to the installation.