



Push-button dimmer control unit DALI with integrated power supply

TDS 1 DALI (rail-mounted version)

TDS U1 DALI (flush-mounted version)

Compact, easy-to-install DALI-2 certified control unit with integrated power supply, for the conversion of tactile commands into DALI protocols (broadcast mode). Short press = switch ON/OFF, longer press = dim UP/DOWN. Suitable for lamps with dimmable DALI ballast.

Special features

- ▶ DALI-2 certified single-master control device
- ▶ dims suitable DALI control gear units
- ▶ integrated DALI power supply (maximum 70mA) for powering up to 35 DALI control gear units
- ▶ can be used independently of the installed switch series
- ▶ for broadcast operation (central telegram)
- ▶ no DALI programming tool required
- ▶ mode after power restoration adjustable
- ▶ ZE/ZA galvanically isolated (only for TDS 1 DALI)

General information

Suitable DALI lamps can be easily dimmed with the push-button dimmer control unit.

The settings for soft on/off, minimum brightness and start brightness make programming superfluous. The behaviour after mains interruption can be set ("OFF" or "ON with start brightness"). Thanks to the compact housing dimensions, the TDS U1 DALI can be mounted directly in the installation boxes behind a push-button of any switch series.

Functional description

TDS U1 DALI: Briefly pressing control input B1 or Z1 switches the lighting on or off, while pressing and holding dims the lighting up or down. The dimming direction changes automatically with each long press.

There are two functionally identical control inputs: B1 (230V AC, N reference) is suitable for longer cables. Z1 (potential-free against Z) is only recommended for short cable lengths (max. 30cm).

TDS 1 DALI: Briefly pressing button B1 (230V AC) switches the lighting on or off, while pressing and holding the button dims the lighting up or down. The dimming direction changes automatically with each long press of the button. Any number of TDS 1 devices can be switched on or off simultaneously via the group inputs ZE (central ON) and ZA (central OFF),



regardless of their current status. Both inputs, ZE and ZA, respond to positive edges and can therefore be overridden during the entire switching period.

Additional functions

Function "discrete dim-on"

When the button is pressed and held while the device is switched off, the dimmer switches on and dims up from minimum brightness.

Function "Behaviour after mains interruption"

In the factory setting, the light source illuminates at 100% after power is restored (in accordance with the DALI standard). This behavior can be customized with a simple programming process:

- ▶ Mode 1: Switch on with set start brightness.
- ▶ Mode 2: Lighting remains off. (For settings, see "Programming").

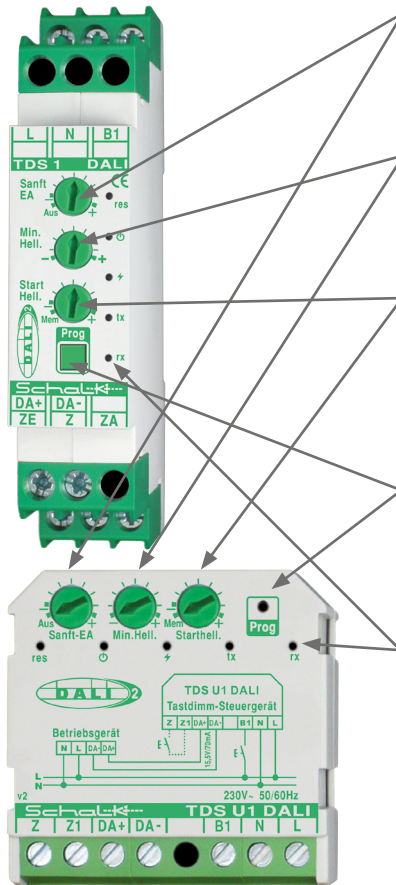
Function „Reset after mains interruption“

If the light briefly flashes at 100% brightness after power is restored, this effect can be eliminated by sending a reset command to the light. (For settings, see "Programming").

Function "Factory Reset"

Allows the device and any connected lights to be reset to factory settings. (For settings, see "Programming").

Controls and indicators



Adjuster for soft on/off ("Sanft-EA"):

Setting range 0 - 8s

Setting the switch-on and switch-off speed ("ramp slope"). In the "Off" (AUS) position, the "Soft On/Off" function is deactivated.

Adjuster for minimum brightness ("Min.Hell"):

Adjustment range 1% - 70%

As soon as the adjuster is pressed, the lighting is activated and the minimum brightness can be set as desired.

Adjusts the start brightness ("Start Hell."):

Adjustment range 1% - 100%

As soon as the adjuster is pressed, the lighting is activated and the minimum brightness can be set as desired.

In the "Mem" mode, the device always switches on with the brightness last set (except for in function "discrete dim-on").

Programming button ("Prog"):

Setting "Behavior after mains interruption", "Reset after mains interruption", "Factory Reset" (see "Programming")

LED's:

Reset-LED („res“):

LED green (=factory setting, no reset after power restoration) or LED red (=Reset after power restoration).

Operation-LED („φ“):

Indicates the operating status of the device.

Status-LED („⚡“):

Indicates an error condition.

Transmit-LED („tx“):

The LED is lit while the device is sending DALI protocols on the DALI bus.

Receive-LED („rx“):

The LED is lit while the device is receiving DALI protocols on the DALI bus.

LED status indicator



Legend:

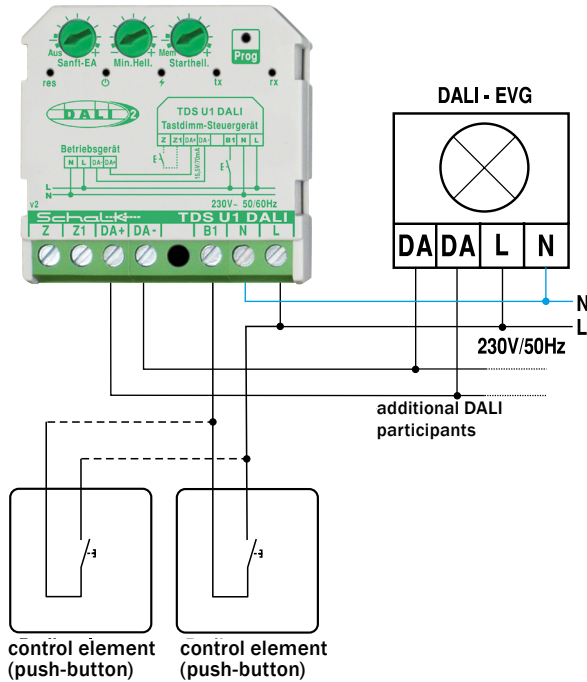
- LED off
- LED lights up red
- ⊕ LED flashes red
- LED lights up green
- ⊕ LED flashes green
- ⊕ LED flashes alternately red/green

LED Status Indicator					Description
res	φ	⚡	rx	tx	
○	○	●	○	○	DALI bus overloaded (<12V) - no operation possible! (additional power supply necessary)
○	●	●	○	○	Overvoltage on the DALI-BUS (>22V) - no operation possible!
●	○	○	●	○	Mode 1: when voltage returns: Device switches on with start brightness
●	○	○	○	●	Mode 2: when voltage returns: Device remains switched off
●	●	○	○	●	DALI protocol received
●	●	○	●	○	DALI protocol sent
●	●	○	○	○	General operating status (standby) without reset function
●	●	○	○	○	General operating status (standby) with reset function
●	●	●	○	●	Received DALI protocol undefined (lights up 5s after)
●	●	●	●	○	DALI bus occupied (lights up 5s after)
●	⊕	○	○	○	Optical detent (adjuster has been used)

Connection examples

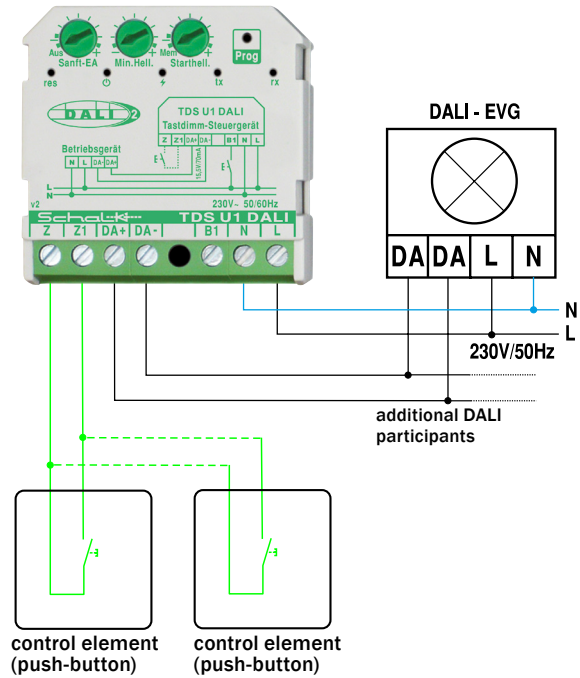
Standard connection TDS U1 DALI

The DALI control unit is operated via pushbutton input B1. This input is advantageous for longer probe cables and multiple control points.



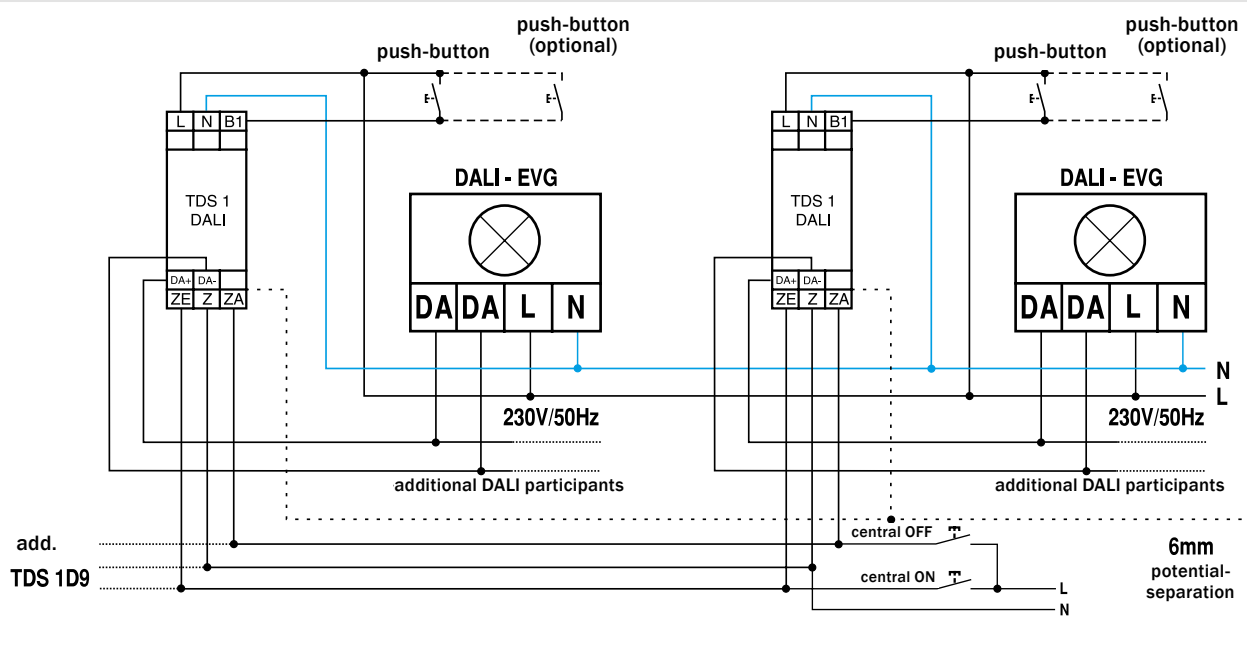
Connection optional (only TDS U1 DALI)

Input Z1 is galvanically isolated and is operated using a potential-free push button. Suitable for installation of the TDS U1 DALI behind the push button in the switch box (the maximum cable length to the push button is 30 cm).



Light timer switches,
dimmers

Standard connection TDS 1 DALI



Info

The TDS 1 DALI and TDS U1 DALI respectively is a single master application controller and cannot be combined with control units from other manufacturers! One device is able to supply up to 35 DALI devices (2mA each).

Programming

Programming „Behavior after mains interruption“:

By pressing the Prog button several times briefly, you can choose between two settings:

Mode 1 (LED „rx“ lights up red ●○○●): Lighting switches to the preset start brightness.

Mode 2 (LED „tx“ lights up red ●○○●○): Lighting remains off.

After selecting the desired mode, hold down the Prog button for >2 seconds to exit programming mode.

Info: None of these modes are active in the factory setting: the light switches on at 100% when the power returns!

Programming „Reset after mains interruption“:

Press the Prog button for >5s (until the „res“ LED changes color):

- LED „res“ lights up green (●●●●●): the reset signal is not sent after power is restored

- LED „res“ lights up red (●●●●●): the reset signal is sent after power is restored

The setting is applied immediately - you do not need to exit this programming mode explicitly.

Info: Reset signal is not sent in the factory setting!

Programming - Factory Reset:

Press Prog-Taste >10s:

After 5 seconds, the „res“ LED changes color; after 10 seconds, the „tx“ LED lights up briefly and the 'res' LED and operating LED („Φ“) lights up green (●●○○○). The following factory settings now apply:

- ▶ After power restoration, the connected light source illuminates at 100% brightness (DALI standard).
- ▶ No reset signal is sent after power restoration.
- ▶ Any light source connected during the factory reset has been reset to its DALI factory settings.

Technical Data

	TDS U1 DALI	TDS 1 DALI
Operating voltage	230 V 50/60 Hz 10 %	
DALI interface	15.5 V, 70 mA typ. (max 110 mA), DA+ / DA-	
Start-up	1s	
Current consumption	3 mA	
Inputs	B1 (230V AC = operating voltage, against N) Z1 (potential-free, against Z)	B1 (230V AC = operating voltage, against N) ZE and ZA potential separated, controllable with 230V
Number of possible DALI operating devices	max. 35	
Ambient temperature	-10°C to +45°C	
Insulation	Basic insulation 3mm according to IEC 60928	
Connection terminals	Socket terminals with captive screws M3	Socket terminals with captive screws M3.5
Clamping range	0.5 mm ² - 2.5 mm ²	0.5 mm ² - 4.0 mm ²
Strip length	6.5 mm - 7.0 mm	6.0 mm - 6.5 mm
Screwing torque	0.50 Nm	0.80 Nm
Mounting orientation	As wished	Click-mount on standard 35-mm rail (EN 60715)
External dimensions	43 x 43 x 18.5 mm ³	18 x 88 (45) x 58 mm ³
Weight	35 g	67g
RAL colour	grey 7035 / green 6029	

*) Functionality from serial number xx1624 onwards

Order data

Art.-Nr.	EAN	Type	Artikelbezeichnung
TDS1D9	4 046929 201148	TDS 1 DALI (230V AC)	Push-button dimmer control unit DALI (230V AC), integrated power supply
TDSU1D9	4 046929 201131	TDS U1 DALI (230V AC)	Push-button dimmer control unit DALI (230V AC, FMD), integrated power supply