



# RIO

## DALI Rotary Dimmer 230VAC 100mA DT6

### Highlights

- Flush-mounted DALI Rotary Dimmer with built-in power supply
- Fits standard 70mm EU wall/surface boxes, fixing screws 60mm C-C
- DALI Group selector on the back to allow flexible and easy control
- Supports both Master (powered by AC mains) and Slave mode (powered by DALI-bus)
- Programmable Minimum Brightness Level
- Can control and power up to 50 DALI-devices from one dimmer
- Possible to extend installation with up to 4 dimmers and 100 DALI-devices
- Removeable knob and frame to support integration with other wiring devices
- Compatible with Exxact™ frames
- Wide input voltage 100-240VAC
- 5-year warranty

### Technical data

Rated supply voltage, AC	100 – 240 VAC
Mains frequency	50 / 60 Hz
Typ. current (at 230 V, 50 Hz, full load)	27 mA
Max input power	3,7 W
Typ. power input on stand-by ①	1,23 W
Typ. input current in no-load operation	7 mA
Mains surge capability (between L – N)	1 kV
THD (at 230 V, 50 Hz, full load)	10 %
Time to light (at 230 V, 50 Hz, full load)	< 242 ms
Turn off time (at 230 V, 50 Hz, full load)	< 205 ms
Output voltage tolerance	9-21 VDC
No of dimming channels	1
Max DALI Devices per dimmer	50
Dimming range ②	0,1 % – 100 %
DALI-mode	DT6
DALI Current Draw	5 mA
Ambient temperature, ta	0...+50 °C
Max. casing temperature, tc	75 °C
Screw Terminals	1 - 4 mm²
Type of protection	IP20
Humidity (RH non-condensing)	10 – 95 %
Storage temperature	-40...+85 °C
Weight	110 g
Dimensions LxWxH	81 x 81 x 53 mm

① Depending on the DALI traffic at the interface  
 ② Depending on the lowest dim-level supported by the DALI Device

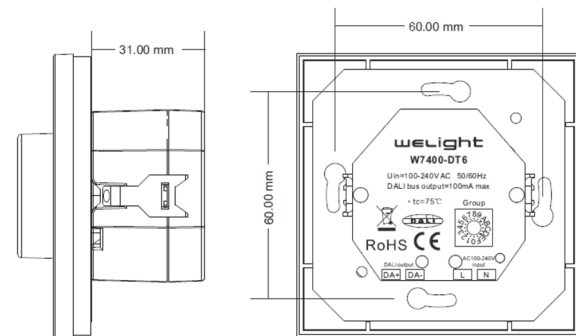
### Standards

- EN 55015
- EN 60669-2-1
- EN 61000-3-2
- EN 61000-3-3
- EN 61547
- EN 62386-101
- EN 62386-102
- EN 62386-207



### Dimensions

Including Polycarbonate frame	81 x 81 x 53 mm
Without frame	71 x 71 x 53 mm
Flush Depth	31 mm
Weight	110 g



### Ordering data

Type	Article code	Packaging Box	Packaging Pallet
DALI Rotary Dimmer 230VAC 100mA DT6	W7400-DT6	1	20
E-no SE	1360575		
E-no NO	1400221		
E-no DK	7350102530251		
E-no FI	2807300		
EAN	7350102530251		



Box size: 130 x 130 x 80 mm

### Manual & Installation Guidelines

➔ page 3

## Thermal behaviour

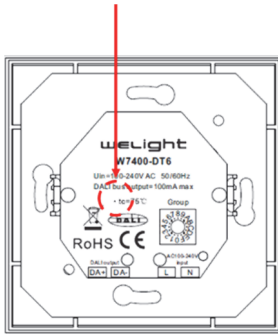
Storage Temperature	-40/+80 °C
Operating Temperature	-0/+50 °C
Tc max	75 °C

## Life-time

Ambient Temperature (Ta)	Reference Temperature (Tc)	Life-time
25 °C	55 °C	> 80,000 h
30 °C	60 °C	> 70,000 h
35 °C	65 °C	> 60,000 h
45 °C	75 °C	50,000 h

The Dimmer is designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %. The relation of tc to ta temperature depends on the installation conditions.

**⚠** The temperature on the reference point of the Dimmer (tc) may under no circumstances be higher than 75 °C if the expected lifetime is to be met.



Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

## DALI

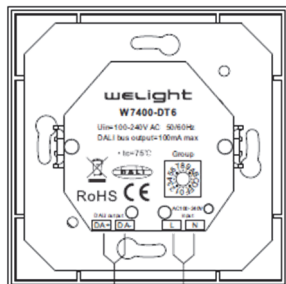
### COMPATIBLE DIMMABLE DEVICES

The devices connected to the output of the dimmer must support the DALI Standard DT6 (EN 62386-207).

### WIRE TYPE AND LENGTH

The DALI signal should be wired on the terminals DA+ and DA-. The connection is non-polar. Note that the DALI standard is not SELV. Control cable must be installed in accordance to the requirements of low voltage installations.

**⚠** AC Power input should only be connected if the dimmer is used as a Master.

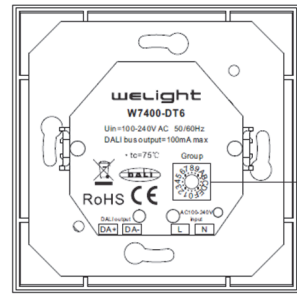


DALI signal output AC Power input

Stranded wire or solid wire up to 4 mm<sup>2</sup> may be used for wiring. Strip 6-7 mm of insulation from the cables to ensure perfect operation of the screw terminals. Use one wire for each terminal connector only. DALI-wiring should have an area of at least 1.5 mm<sup>2</sup> and the total length must not exceed 300 m.

## DALI GROUP ASSIGNMENT

With appropriate DALI-software and a programming interface the DALI Devices can be assigned to a certain DALI group. The dimmer can then be set to dim a DALI group. If several dimmers are connected to the same DALI line, each dimmer can be set to dim a different DALI Group, creating a lot of flexibility in the installation.



Rotary switch to select a DALI Group (Total 16 Groups)

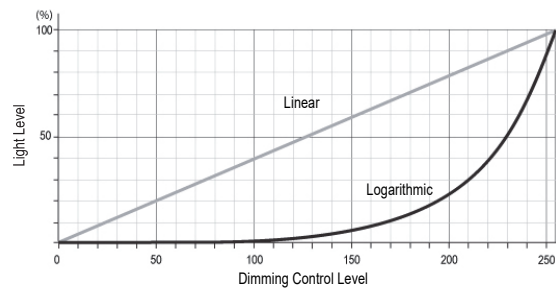
The DALI Group setting (dim target) is controlled by a rotary switch on the back of the dimmer that selects between 16 Groups (0-15) according to the following table:

Rotary Switch Position	DALI Target
0	Broadcast (All)
1	Group 0
2	Group 1
3	Group 2
4	Group 3
5	Group 4
6	Group 5
7	Group 6
8	Group 7
9	Group 8
A	Group 9
B	Group 10
C	Group 11
D	Group 12
E	Group 13
F	Group 14

**⚠** Before setting the rotary switch to any position other than 0, make sure the DALI devices on the circuit have been grouped accordingly via DALI software first.

## DIMMING CURVE

In DALI the default dimming curve is adapted to the eye sensitiveness (logarithmic dimming). Note that some advanced drivers, like the Welight W7101-series, allow for the dimming curve to be changed from logarithmic to linear. Please refer to driver documentation for details.



**⚠** To utilize the lowest possible dim level (0,1%) please make sure that the drivers used in the installation support dimming down to 0,1%.

## SETTING THE MINIMUM BRIGHTNESS LEVEL

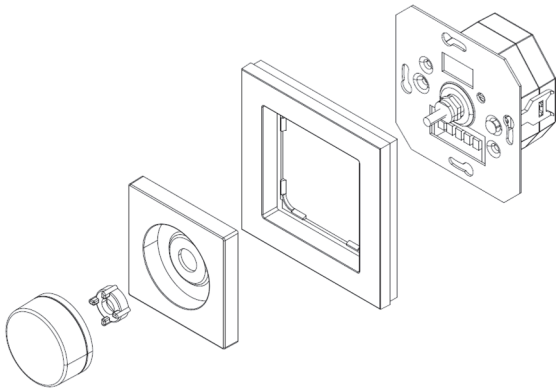
If needed, you can change the minimum brightness level of the dimmer. Dim the lights to the required minimum dim-level and then press and hold down the knob over 10 seconds until the light flashes.

## DELETE THE MINIMUM BRIGHTNESS VALUE SETTING

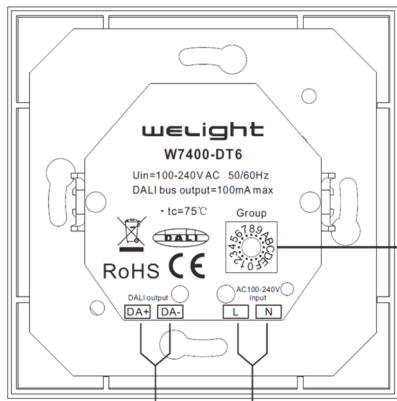
Click the knob to switch off the light, then press and hold down the knob over 10 seconds until the light flashes.

## Manual & Installation

### Replacing the frame



### Setting the DALI Group

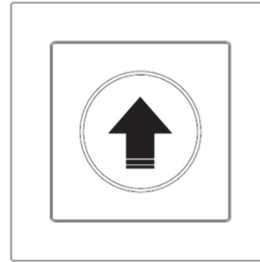


Rotary switch to select a DALI Group (Total 16 Groups)

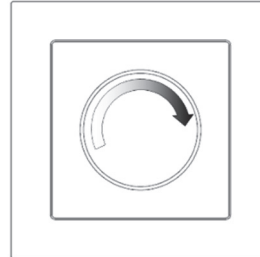
DALI signal output — AC Power input

Rotary Switch Position	DALI Target
0	Broadcast (All)
1	Group 0
2	Group 1
3	Group 2
4	Group 3
5	Group 4
6	Group 5
7	Group 6
8	Group 7
9	Group 8
A	Group 9
B	Group 10
C	Group 11
D	Group 12
E	Group 13
F	Group 14

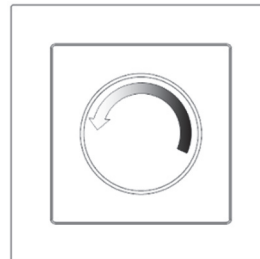
### Controlling the dimmer



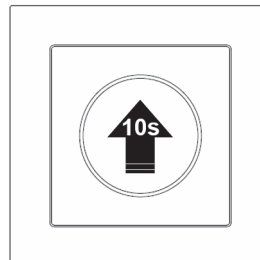
**ON | OFF**  
<SHORT PUSH>



**DIM UP**  
<TURN CLOCKWISE>

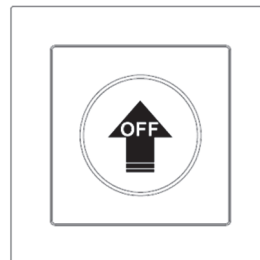


**DIM DOWN**  
<TURN COUNTER-CLOCKWISE>



**SET MIN DIM LEVEL**  
<LONG PUSH 10s>

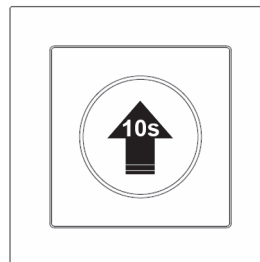
Sets the current dim level as minimum. Light will flash to confirm.



**DELETE MIN DIM LEVEL**  
<SWITCH OFF>  
+  
<LONG PUSH 10s>

Light will flash to confirm.

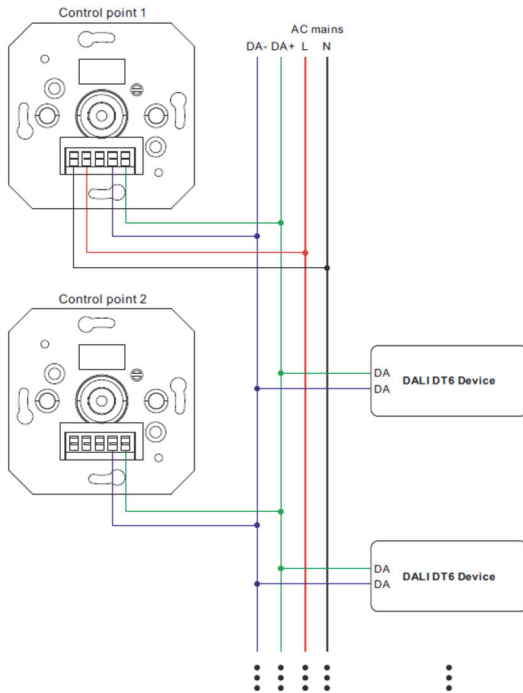
+



## Wiring Examples

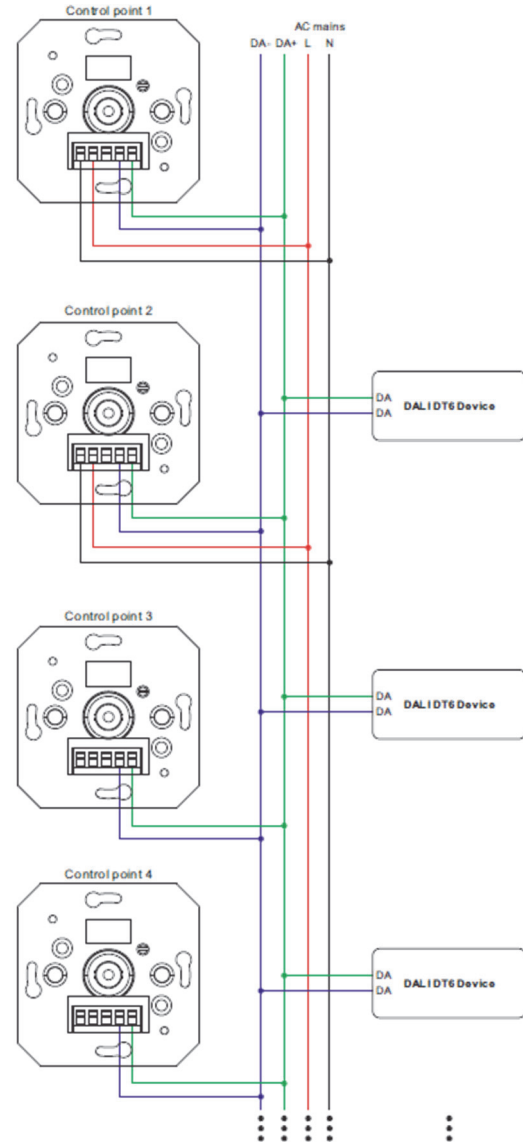
### Master Mode – Max 50 DALI Devices

One (1) master dimmer connected to AC and DALI (active power supply) and up to three (3) additional slave dimmers connected to DALI only (inactive power supply).



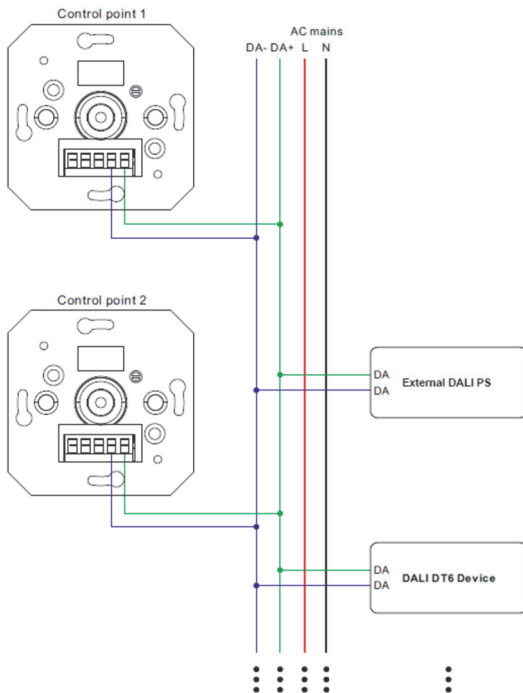
### Master Mode – Max 100 DALI Devices

Two (2) master dimmers connected to AC and DALI (active power supply) and up to two (2) additional slave dimmers connected to DALI only (inactive power supply).



### Slave Mode – using external DALI Power Supply

Slave dimmers connected to DALI only (inactive power supply). DALI-power supplied by external system. Number of DALI-devices depending on the limitation the external control system. Each connected dimmer draws 5 mA from the DALI-bus.



## SAFETY INSTRUCTIONS

- EN** Read these instructions carefully before starting the installation and save for future reference. All connections to the device must be made by a qualified electrician or person with the necessary expertise in electrical installation in accordance with relevant rules and standards. Make sure that the mains voltage is disconnected before installation or maintenance.
- SE** Läs dessa instruktioner innan installationen påbörjas och lämna dem vidare till brukaren av anläggningen. All anslutning till enheten får endast utföras av behörig elektriker eller person med kännedom om elektrisk installation i enlighet med gällande regler och standard. Se till att spänningen är frånslagen före installation eller underhåll.
- FI** Lue nämä ohjeet ennen asentamista ja luovuta ohjeet valaisimen seuraavalle käyttäjälle. Kytkenät ohjaimen saa tehdä ainoastaan pätevä sähköasentaja tai sähköasennukset hallitseva henkilö voimassa olevien määräysten ja standardien mukaisesti. Varmista, että jännite on kytketty päältä ennen asennusta ja huoltoa.
- NO** Les disse instruksjonene før du starter installeringen, og gi den deretter videre til anleggets bruker. All tilkobling til enheten skal utføres av godkjent elektriker eller person med nødvendig kunnskap om elektrisk installasjon i henhold til gjeldende forskrifter og standard. Sørg for at strømmen er koblet fra før installering og ved vedlikehold.
- DK** Læs disse anvisninger før du starter installationen og aflever vejledningen til anlæggets bruger. Alle tilslutninger på enheden skal udføres af en autoriseret elinstallatør i overensstemmelse med gældende regler og standarder. Afbryd spænding før installation og vedligeholdelse.