

theben

Efficient lighting intelligence
Room and building solutions
with DALI-2 stand-alone, BMS and KNX



Building Automation since 1921.



Intelligent lighting control Using DALI-2 technology

DALI-2 solutions from Theben are valued by discerning customers for their outstanding detection quality, sophisticated functions and exceptionally simple start-up and programming. When combined with intelligent lighting management via DALI-2, they really come into their own. In this way, they create efficient, flexible and future-proof lighting management, which can be seamlessly integrated into building automation systems.

The lighting control dream team

Presence detectors and DALI-2

Theben offers you a wide range of DALI-2 presence detectors and presence sensors for nearly any need. DALI-2 broadcast presence detectors provide high-quality standard solutions with simple start-up, a lighting group with constant lighting control and orientation light. In addition, an external DALI-2 relay can be easily integrated, such as for HVAC applications.

Addressable DALI-2 presence detectors allow flexible assignment of up to three lighting groups on one DALI line with constant lighting control and orientation light. The devices offer 2- or 3-channel mixed light measurement. Moreover, the push buttons can be conveniently assigned to the individual lighting groups by remote control or push button.

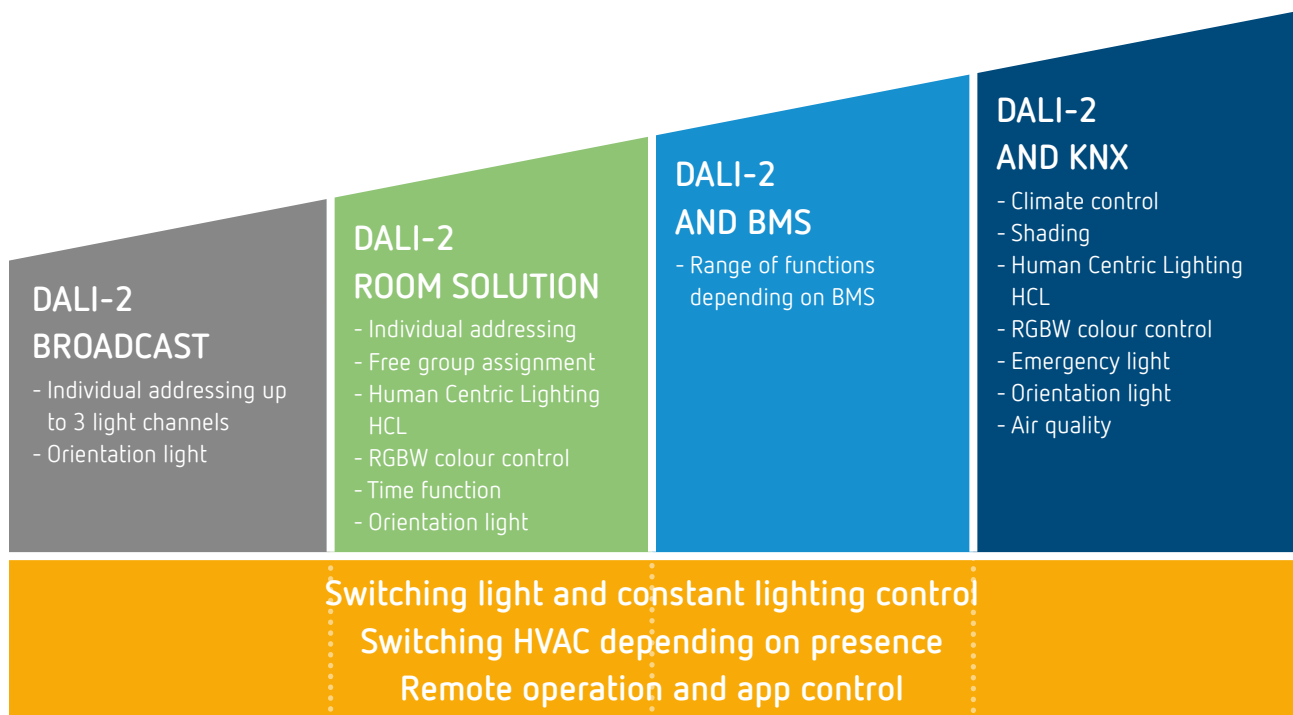
The DALI-2 Room Solution allows you to implement individual, DALI-2 based lighting controls with HCL functionality, RGBW light and time-controlled functions. As simple as with broadcast detectors. All DALI-2 presence sensors can also be integrated into the DALI-2 Room Solution.

Theben DALI-2 presence sensors can be operated with any multi-master application controller that complies with IEC 62386 parts 101/104. This way, you can also connect your DALI-2 lighting management system to the higher-level control of a building management system.

A large selection of KNX/DALI gateways provides a bridge into the KNX world and thus further functionality, such as shading and climate control.

Contents

Lighting control with DALI-2	2
DALI-2 Room Solution	4
The advantages	6
Human Centric Lighting	8
Room Solution applications	10
DALI-2 Room Solution app	12
Presence sensors	14
DALI and BMS	16
Colour control	18
DALI KNX gateways	20
Technical data	24



Complete. Open. As simple as broadcast DALI-2 Room Solution

Welcome to the DALI-2 Room Solution from Theben. This complete single-room solution includes all necessary DALI-2 core components, such as presence detectors and sensors, push button interfaces and actuators.

What if you could implement individual, DALI-2 based lighting controls with HCL functionality, RGBW light and time-controlled functions as easily as with broadcast detectors? If DALI-2 components from other manufacturers could also be integrated without any problem? And if programming could be carried out conveniently via app?





Solution

The advantages of the DALI-2 Room Solution at a glance

#01 Complete

Complete solution consisting of presence detectors, presence sensors, push button interfaces and switch actuators.

#02 Open

Investment security thanks to open DALI-2 system.

#03 Versatile

HCL functionality, RGBW light and time-controlled functions.

#04 Convenient

Start-up and control via DALI-2 RS Plug app. Available for iOS and Android, or Windows Download at www.theben.co.uk/dali2-en

#05 Intuitive

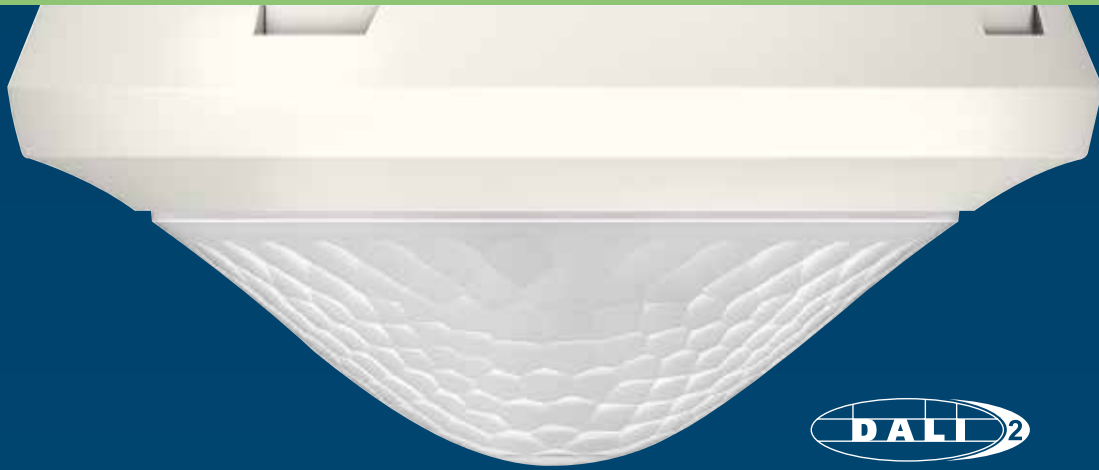
Simple start-up – individual addressing as easy as broadcast.



Download
iOS version

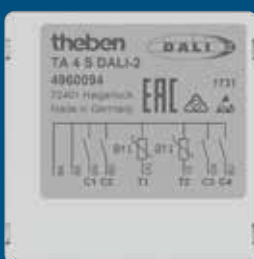


Download
Android version



theRonda P360 DALI-2 HCL UP WH

- Master DALI-2 presence detector (application controller, single master)
- IEC 62386: part 101/103 and supports 208, 209, 218, 301 and 303
- Ceiling installation (flush mounting) with accessories (surface mounting) and (ceiling installation)
- 360° circular detection area, Ø 24 m, (452 m²) at 3 m installation height. Installation height up to 15 m possible.
- Human Centric Lighting (HCL) colour temperature control
- RGBW functionality for atmospheric applications
- Integrated DALI-2 supply for other DALI-2 participants
- Integrated time switch for time-controlled actions
- 3-way mixed light measurement
- Protection rating IP 54
- Item no.: 2080095



TA 4 S DALI-2 push-button interface

- 4-way DALI-2 push button interface, flush-mounted, IEC 62386 part 202
- 4 inputs to connect potential-free push buttons
- Push buttons of contact type "NO contact" or "opening contact" can be used; the contact type can be set in the "DALI-2 RS Plug" app
- Item no.: 4960094

theRonda P360 DALI-2 S UP WH

- DALI-2 presence sensor (input device)
- IEC 62386: part 103 and supports 303 and 304
- Ceiling installation (flush mounting) with accessories (surface mounting) and (ceiling installation)
- 360° circular detection area, Ø 24 m, (452 m²) at 3 m installation height
- Extension of the detection area with DALI-2 presence sensor
- Protection rating IP 54
- Item no.: 2080090



SU 1 DALI-2 switch actuator

- 1-way DALI-2 flush-mounted switch actuator, IEC 62386 part 208
- To control loads with a mains voltage of 230 V AC, such as lamps, fans, pumps, etc.
- Also suitable for applications with low voltage or control of a higher-level control system (HVAC), etc.
- Item no.: 4940091

Light in its most natural form Human Centric Lighting

As the name suggests: Human Centric Lighting (HCL) places the focus on the individual and the natural, biodynamic effect of light on humans.

HCL lighting concepts provide the user with biologically-effective lighting for the home or the workplace round the clock.

This specifically helps to boost health and wellbeing, the ability to focus and productivity.

The DALI-2 Room Solution from Theben can be used to implement application-specific HCL concepts efficiently and flexibly. Customisable scenarios can specifically enhance and sustain desired states, such as relaxation or focus. The advantages of HCL concepts are particularly effective in offices and conference rooms, classrooms and lecture halls, as well as care homes and hospitals.

Just like the natural trend of daylight from the sun, the colour temperature changes throughout the day. In line with the diurnal rhythm, the lighting colour has a stimulating effect in the morning and a calming effect in the evening. This has a positive influence on the circadian rhythm.





5800 K

Tailor-made lighting concepts Versatile applications For every requirement

The DALI-2 Room Solution shows its advantages wherever individual lighting concepts need to be customised. The integrated timer allows an extremely flexible response to every application and achieves greater energy savings. What's more, thanks to the optional HCL function, human health, wellbeing, focus and productivity can be sustained or even improved. This means not only electrical planners and installers gain more flexibility, openness and convenience in lighting control. The users themselves benefit from customised feel-good lighting.

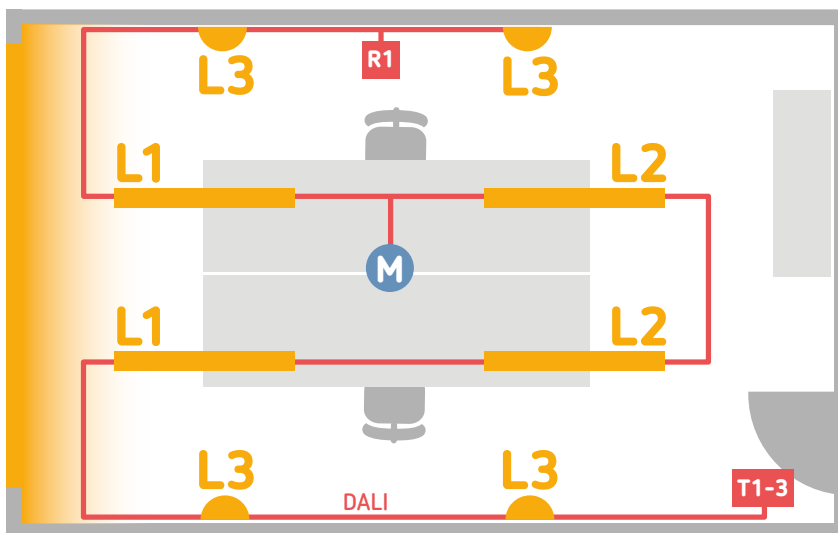


Learn more at
www.youtube.de/thethebenag



Greater productivity and satisfaction in the workplace – in offices and conference rooms

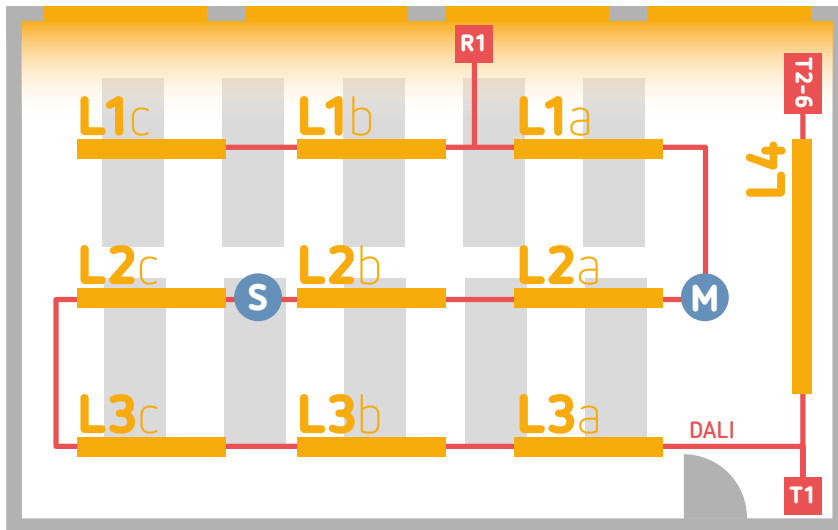
Use the HCL function of the DALI-2 Room Solution in individual offices, open-plan offices and conference rooms to imitate the natural trend of daylight and RGBW lighting for creative colour schemes. Create customised lighting scenarios to increase focus or to relax. Also, programme time-controlled functions to reduce energy consumption by using orientation lighting and decreasing target values. This enables you to create a pleasant working environment and increase employee productivity and satisfaction.



- **Lighting group 1 and 2** with "office daylight trend" HCL function
- **Optional lighting group 3** wallwasher with "office daylight trend" HCL function or decorative RGBW lighting
- **Push buttons for lighting groups 1 and 2:**
 - Push button 1 on/off and dimming
 - Push button 2 "focus" scenario
 - Push button 3 "relaxed" scenario
 - Push button 4 "automatic daylight"
 - Optional separate push button for lighting group 3, RGBW colour setting
- **Presence group 1** with DALI-2 relay for HVAC control

Increased focus when teaching and learning – in classrooms and lecture halls

Use the HCL function and numerous lighting groups to adapt the lighting in lecture halls, classrooms and seminar rooms to different learning situations. Set up suitable lighting scenarios for classwork, presentations and group work. And control the whiteboard lighting via constant lighting control or push buttons. This enables teachers and pupils to fully focus and to teach and learn in a relaxed atmosphere.



→ Lighting group 1, 2 and 3

with "school daylight trend" HCL function

→ Push buttons for lighting groups 1, 2 and 3

- Push button 1 on/off and dimming
- Push button 2 "focus" scenario
- Push button 3 "relaxed" scenario
- Push button 4 "automatic daylight" scenario (electronic ballasts "a" 30%, electronic ballasts "b" 50%, electronic ballasts "c" 70%)

→ Lighting group 4

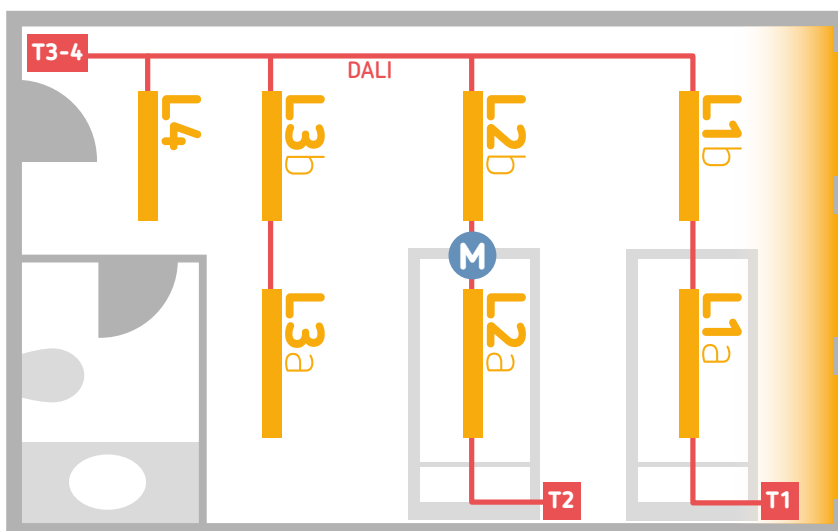
Whiteboard lighting with constant lighting control or switching mode, dimmable using push button 6

→ Presence group 1

with DALI-2 relay for HVAC control

Encourage recovery and increase wellbeing – in care homes and hospitals

Biodynamic lighting is proven to boost wellbeing. Use the HCL function together with customised lighting scenarios and RGBW colours in care homes and hospitals to stimulate and relax patients with a natural daylight trend. This will help to reduce restless nights and ensure that the patients' circadian rhythm returns to its usual daily routine following the administration of anaesthesia.



→ Lighting group 1, 2 and 3

with "natural daylight trend" HCL function

→ Lighting group 4

TW lighting for entrance halls

→ Push buttons for lighting groups 1, 2, 3 and 4

- Push button 1 on/off and dimming lighting group 1
- Push button 2 on/off and dimming lighting group 2
- Push button 3 on/off and dimming lighting groups 1, 2, 3 and 4
- Push button 4 on/off and dimming lighting group 4

→ Time switch function

L1a and L2a are off between 10 p.m. and 7 a.m. and the remaining lights are switched to 10% orientation lighting

Appsolutely convenient Start-up and control via DALI-2 RS Plug app

The DALI-2 Room Solution can be comprehensively and intuitively configured and operated using the DALI-2 RS Plug app for iOS, Android and Windows tablets.

Communication between tablet and presence detectors is bidirectional via Bluetooth. This means that all parameters can be quickly and easily read. Furthermore, you can install detector firmware and function updates in a flash, keeping all devices fully up to date. Compared to other systems, start-up of this solution is quick and easy.

Main functions:

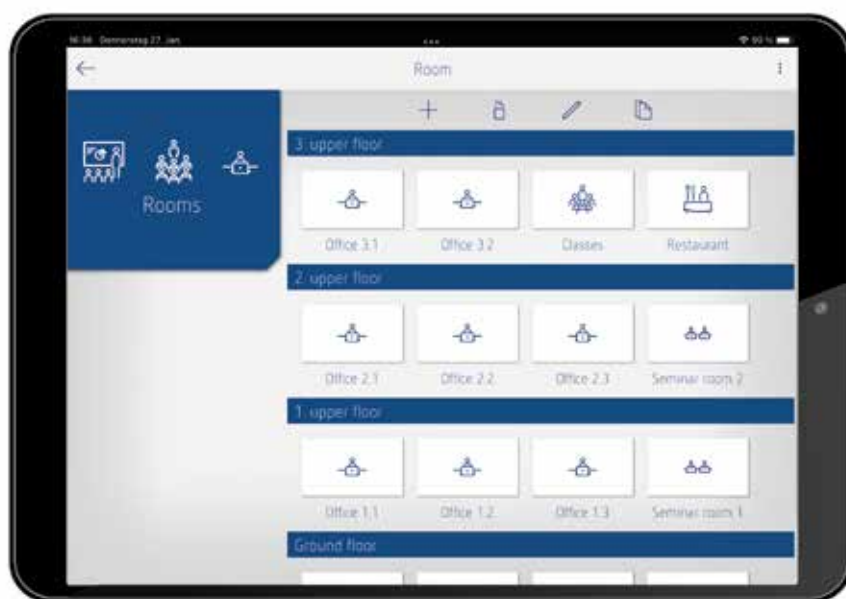
- **Intuitive user interface** with drag and drop
- **Fast programming** thanks to settings that can be copied
- **Efficient copy function** for quick transfer of a project or a single room
- **Easy parameter setting** for basic users and expert users
- **User-friendly setting** and selection of HCL trends, scenarios and time switch functions
- **Improved support** during start-up thanks to diagnostics data
- **Secure backup**: The project can be saved for documentation purposes and uploaded again later.



Download
iOS version



Download
Android version



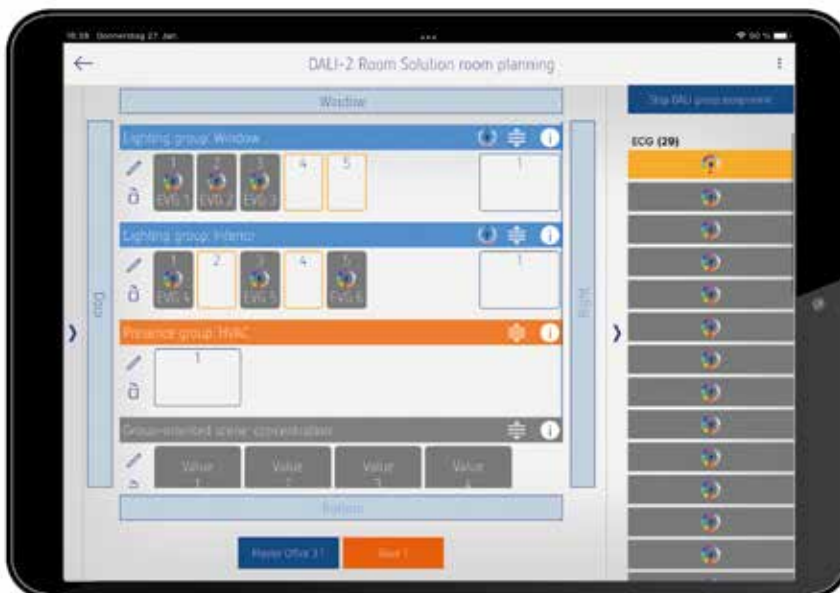
Define building

Create your building, the different floors and room types and assign unique names.



Define room

The structure of the room with light, presence and switching groups as well as the scenes can be defined and parameterised before commissioning.



Commissioning

As soon as the tablet is connected to the detector via Bluetooth, the entire programme including all parameters is transmitted to the detector.

During commissioning all DALI devices are automatically read in and assigned to the lighting, presence or switching groups via drag & drop.



HCL functions

Various HCL sequences are available for the HCL lighting concepts, which can also be customised.

DALI-2 presence sensors

Greater flexibility, higher security

Maximum investment security

#01 Greater flexibility

as the DALI-2 components can be changed at any time by reassignment without rewiring or programming.

#02 More safety

thanks to interoperability of all DALI-2 components and mandatory certification.

#03 Simple installation

of all DALI-2 components (EBs, sensors, push buttons) on one line reduces time and material costs

#04 Various installation options

as ceiling installation, ceiling surface-mounting or flush-mounting.

#05 High level of investment security

Standardisation ensures compatibility across manufacturers. This makes DALI-2 sensors easier to integrate. The DALI-2 standard is synonymous with high levels of compatibility and security.

Original size – just 3 mm high!
PlanoSpot 360 DALI-2 S DE BK₉ (49 m², □ 7 m x 7 m)



Integrated
lux meter!



The perfect solution – all from a single source

DALI-2 presence sensors offer a straightforward and reliable solution for rooms where lamps need to be dimmed or switched, blinds need to be controlled or other functions need to be performed via remote control.

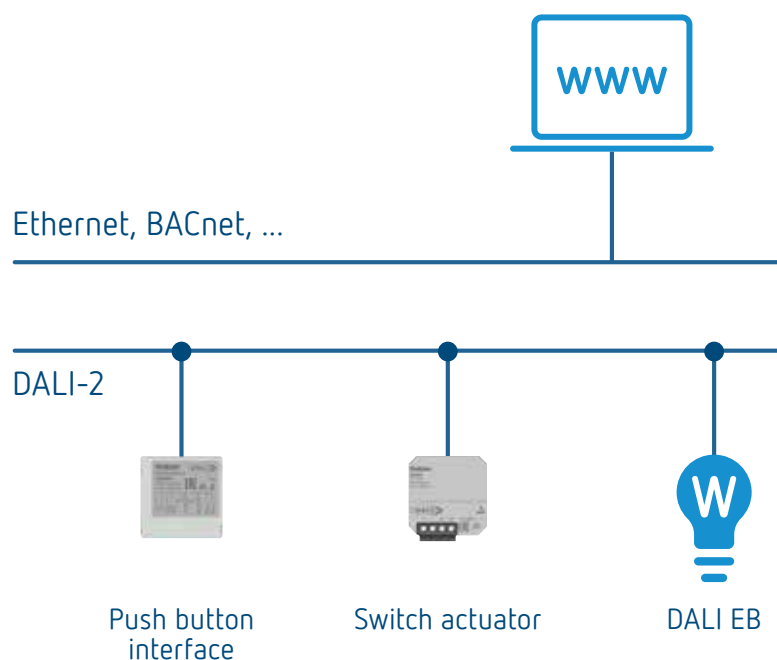
theSenda B remote controls (9070985) have an integrated lux meter. This means that the brightness value at the desired measuring point is sent directly to the DALI-2 presence sensor. As a result, the brightness measurement is calibrated virtually automatically. It couldn't be simpler or more convenient.

DALI-2 presence sensors, push button interfaces and actuators for operation with BMS

Perfect light management can also be achieved with a higher-level control solution using a Building Management System and presence sensors. Here, the DALI-2 standard ensures compatibility across manufacturers. This allows the Theben DALI-2 presence sensors to be operated with any multi-master application controller that complies with IEC 62386 Parts 101/104.

As an input device, the presence sensor provides information regarding presence detection and light measurements in accordance with IEC 62386 Part 303 or Part 304 via the DALI bus. The higher-level control system is responsible for providing all the functions, such as switching, constant lighting control, fully/semi-automatic device, manual override and scenes.

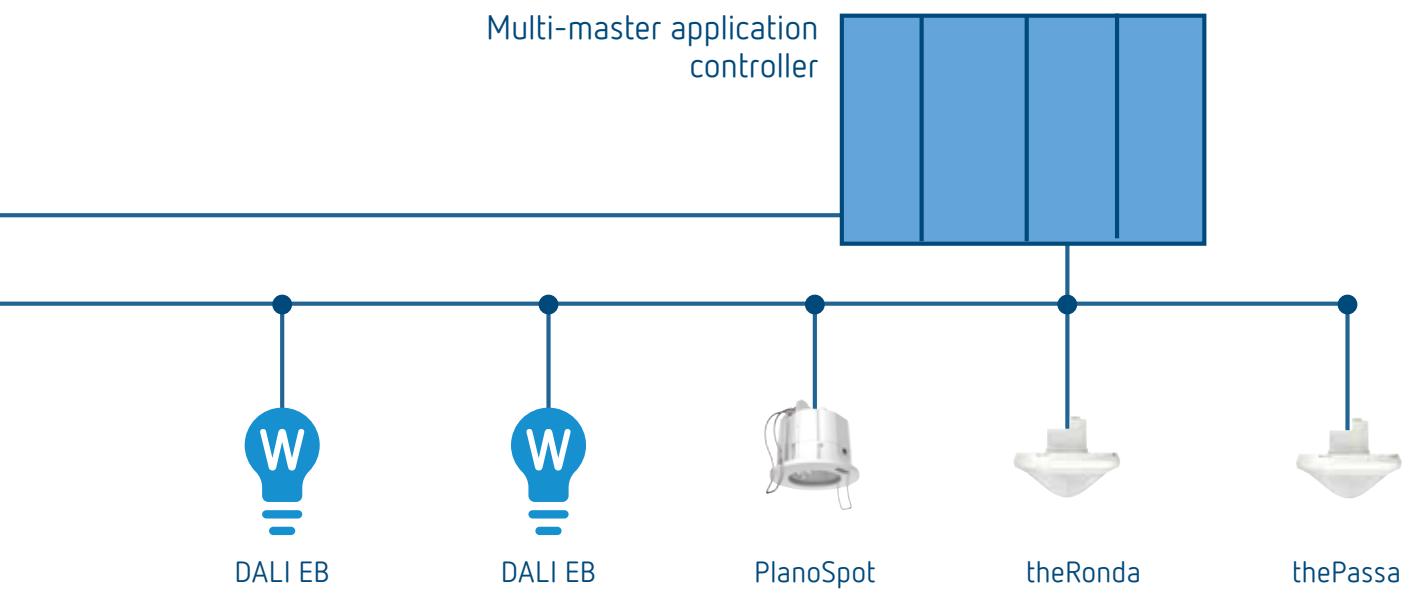
The presence sensors also support remote control commands for dimming or switching lamps, controlling blinds, or other functions. The presence sensor sends the information via the DALI-2 bus to the higher-level control system as per IEC 62386 part 301. Using the information, it can trigger desired actions. In addition, a compact DALI-2 push button interface and a powerful DALI-2 switch actuator can be integrated into the Building Management System.





Original size

theRonda S360 DALI-2 S UP WH (50 m², circular Ø 8 m)
theRonda P360 DALI-2 S UP WH (452 m², circular Ø 24 m)
thePassa P360 DALI-2 S UP WH (135 m², □ 30 x 4.5 m)





G

Flexible colour control in KNX building automation with KNX and DALI-2 Device Type 8

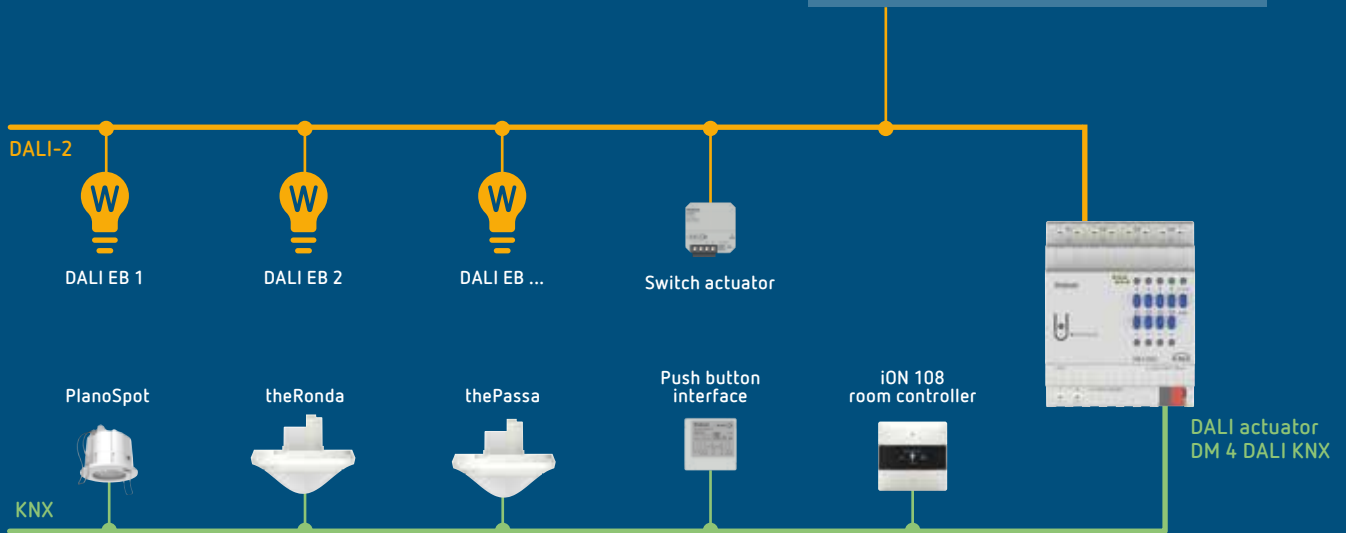
With the DALI-2 certified DM 4 DALI KNX actuator, up to 30 DALI operating devices per channel can be easily controlled via broadcast commands. Broadcast communication requires no DALI addressing or grouping and greatly simplifies start-up and maintenance.

The highlight: the 4-channel actuator also supports the control of colour and colour temperature of devices according to DALI Device Type 8 (DT8) in a KNX building automation system. Of course, optimally protected by KNX Data Secure.

For example, the working atmosphere in offices and conference rooms can be made more comfortable by using colder or warmer light. Also, creative accent lighting is possible, e.g. in hotels, lounges, exhibition rooms or outdoor areas. By using LED strips, you gain maximum flexibility in the colour and colour temperature design of individual lighting concepts.

IEC 62386

Part 201 (DT0) fluorescent lamps
Part 204 (DT3) discharge lamps
Part 205 (DT4) incandescent and halogen lamps
Part 206 (DT5) 1-10V DC control units
Part 207 (DT6) LED modules
Part 208 (DT7) switching relays
Part 209 (DT8) colour control



System diagram: Broadcast control



Simply colourful: DALI broadcast actuator

The DM 4 DALI KNX actuator is for controlling electronic ballasts with DALI interface via the KNX installation bus.

- Broadcast-actuator
- 4 independent channels
- 30 DALI EBs per channel
- Simple start-up and maintenance thanks to broadcast communication
- Support for colour and colour temperature control (Device Type 8)
- Complies with DALI-2 standard and offers maximum operational safety and compatibility
- Simple start-up and programming in the ETS, without additional tools or ETS app
- Secure communication thanks to KNX Data Secure

The actuator is also available for the LUXORliving Smart Home system as the LUXORliving D4 DALI.



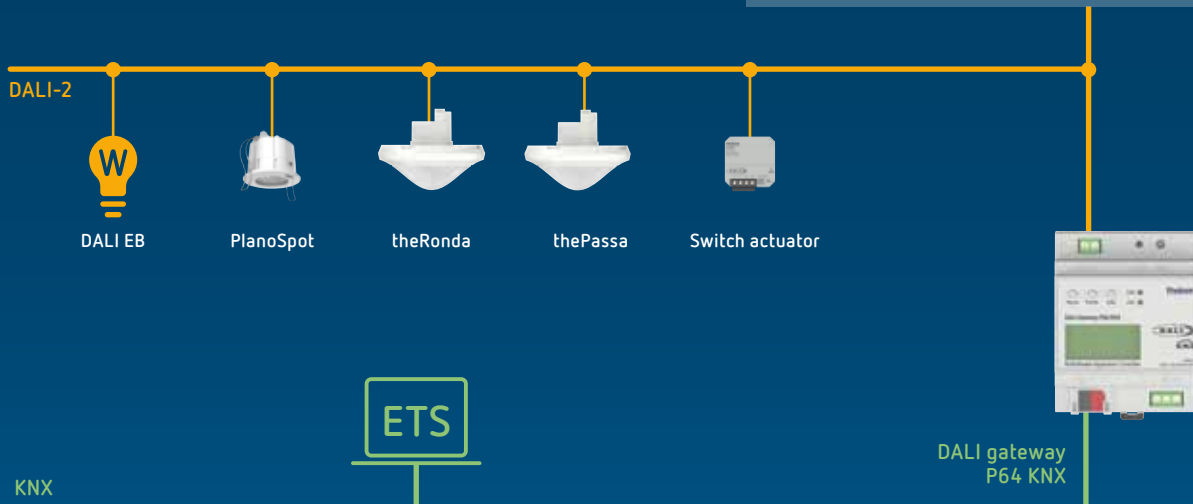
Making more out of light

automatically

DALI gateways

IEC 62386

Part 201 (DT0) fluorescent lamps
 Part 202 (DT1) emergency lamps with individual battery
 Part 204 (DT3) discharge lamps
 Part 205 (DT4) incandescent and halogen lamps
 Part 206 (DT5) 1-10V DC control units
 Part 207 (DT6) LED modules
 Part 208 (DT7) switching relays
 Part 209 (DT8) colour control
 Part 303 motion detectors
 Part 304 brightness sensors



System diagram: Multi-master application controller



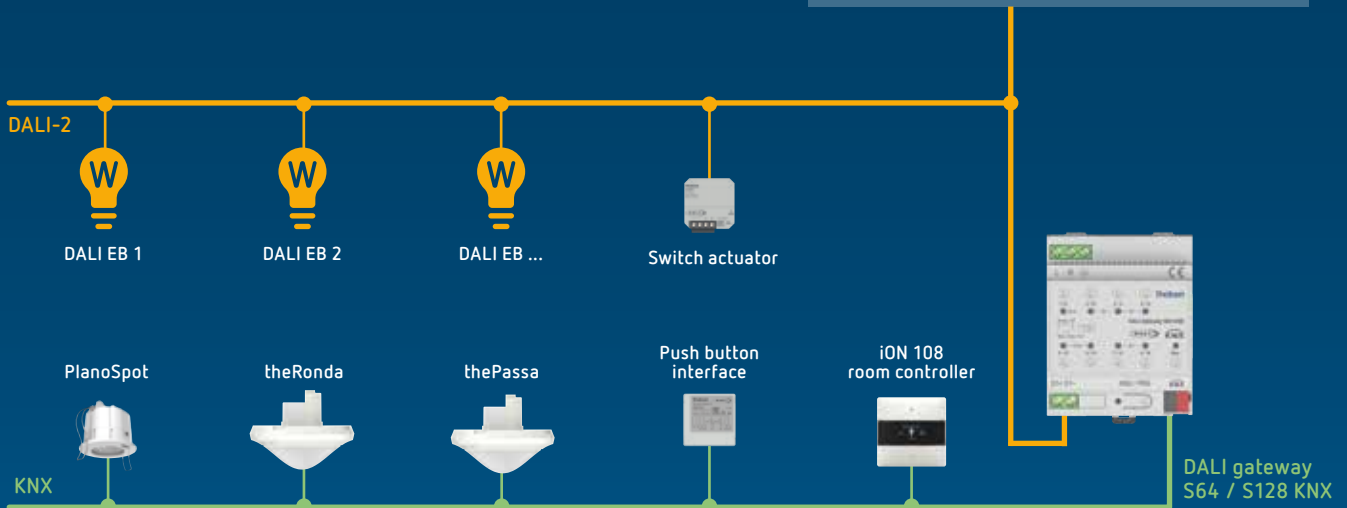
Connecting worlds: Multi-master DALI gateway P64 KNX

The P64 KNX DALI gateway is a multi-master application controller for controlling electronic ballasts with DALI interface via the KNX installation bus.

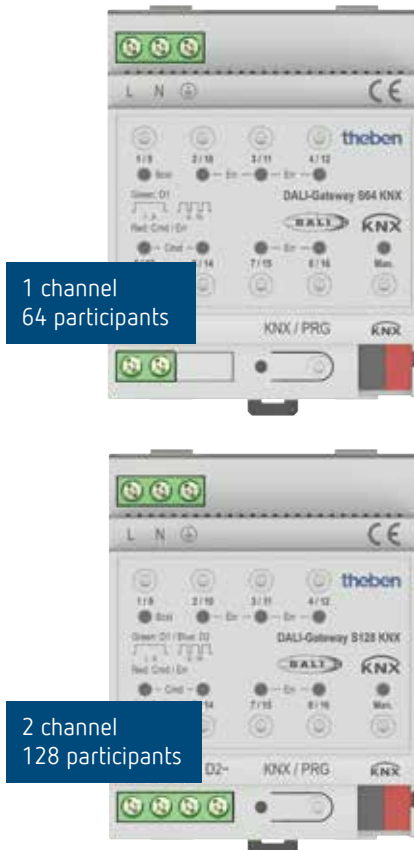
- Multi-master application controller
- 1-channel for 64 EBs and 8 DALI-2 motion detectors or light sensors
- Individual control or in 16 groups
- Coloured light control with Device Type 8 (DT8), individually or in groups
- Time-dependent colour control
- Scene module for 16 scenarios
- Effect module for sequential control
- Energy saving by switching off the EB power supply in the groups (communication object)
- Easy replacement of EBs in the event of a fault
- DALI start-up via free ETS app (DCA) or integrated web server
- Secure communication thanks to KNX Data Secure

IEC 62386

Part 201 (DT0) fluorescent lamps
Part 204 (DT3) discharge lamps
Part 205 (DT4) incandescent and halogen lamps
Part 206 (DT5) 1-10V DC control units
Part 207 (DT6) LED modules
Part 208 (DT7) switching relays
Part 209 (DT8) colour control



System diagram: Single-master application controller



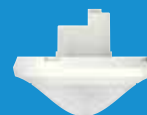
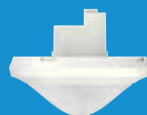
DALI gateway S64 and S128 KNX

Common functions:

- Single-master application controller
- 1-channel for 64 EBs/2-channel for 2x 64 EBs
- Individual control or in 16 groups
- Coloured light control with Device Type 8 (DT8)
- Time-dependent colour control
- Scene module for 16 scenarios
- Energy saving by switching off the EB power supply in the groups (communication object)
- Easy replacement of EBs in the event of a fault
- DALI start-up via free ETS app (DCA)

DALI-2 presence detector

Technical data



Features

theRonda P360 DALI-2 HCL UP

theRonda P360-330 DALI UP

DALI-2 certified	yes (IEC 62386 part 101/103 supports 208/209/218/301/303)	yes (IEC 62386 part 101/103 supports 208)
Detection area seated / walking*	circular Ø 6/24 m	circular Ø 6/24 m
Detection angle	360°	360°
Installation height	2 – max. 15 m	2 – max. 15 m
Light channels	4 (addressable)	3 (addressable)
Maximum number DALI devices**	64	50
Lighting time delay	10 s – 120 min	10 s – 120 min
Brightness setting range	10 – 6000 lx	10 – 3000 lx
Light measurement	3 x mixed light	3 x mixed light
Standby brightness	1 – 75%	1 – 50%
Standby time	0 s – 60 min/permanently on	0 s – 60 min/permanently on
Remote operation	yes	yes
Operating voltage, frequency	230 V AC, +10% / –15%, 50 Hz	110 – 230 V AC, 50–60 Hz
Power consumption	< 0.7 W (without DALI participant) < 1.6 W (with DALI output 150 mA)	~0.4 W
Permissible ambient temperature	–15 °C to +45 °C	–15 °C to +50 °C
Protection rating (when installed)	IP 54	IP 54
Number of buttons	16	up to 3
Master/Master and Master/Slave	no/yes	yes
Area restriction	yes	yes

Item numbers

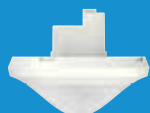
Item number white (WH)	2080095	2080045
------------------------	---------	---------

Optional accessories

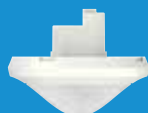
theSenda S remote control	9070911	9070911
theSenda P remote control	-	-
theSenda B app remote control	9070985	9070985
Surface frame white (WH)	9070912	9070912
Surface frame grey (GR)	9070913	9070913
Bezel frame grey (GR)	9070591	9070591
Ceiling installation box	9070992	9070917
Cover clip	9070921	9070921

* Details at an installation height of 3 m

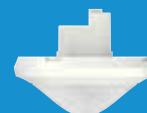
** DALI devices with max. 2 mA power consumption



thePassa
P360-221 DALI UP



theRonda
P360-110 DALI UP



theRonda
S360-110 DALI UP

yes (IEC 62386 part 101/103 supports 208)

yes (IEC 62386 part 101/103 supports 208)

yes

rectangular
30 x 4.5 m walking transversely

circular
Ø 6/24 m

circular
Ø 4/8 m

360°

360°

360°

2 – max. 15 m

2 – max. 15 m

2 – 4 m

1 (broadcast) or 3 (addressable)

1 (broadcast)

1 (broadcast)

50

50

50

10 s – 120 min

10 s – 120 min

10 s – 120 min

10 – 3000 lx

10 – 3000 lx

10 – 3000 lx

2 x mixed light

1 x mixed light

1 x mixed light

1 – 50%

1 – 50%

1 – 50%

0 s – 60 min/permanently on

0 s – 60 min/permanently on

0 s – 60 min/permanently on

yes

yes

yes

110 – 230 V AC, 50 – 60 Hz

110 – 230 V AC, 50 – 60 Hz

110 – 230 V AC, 50 – 60 Hz

~0.4 W

~0.4 W

~0.4 W

– 15 °C to +50 °C

– 15 °C to +50 °C

– 15 °C to +50 °C

IP 54

IP 54

IP 54

up to 2

1

1

yes

yes

yes/yes

yes

yes

yes

2010340

2080040

2080580

9070911

9070911

9070911

9070910

9070910

9070910

9070985

9070985

9070985

9070912

9070912

9070912

9070913

9070913

9070913

9070591

9070591

9070591

9070917

9070992

9070992

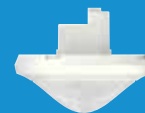
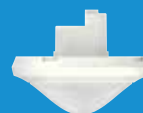
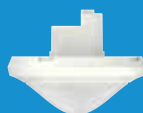
9070921

9070921

9070921

DALI-2 presence sensors

Technical data



Features

PlanoSpot
360 DALI-2 S DE

theRonda
S360 DALI-2 S UP

theRonda
P360 DALI-2 S UP

thePassa
P360 DALI-2 S UP

DALI-2 certified	yes (IEC 62386 part 101 / 103/303/304)	yes (IEC 62386 part 101 / 103/303/304)	yes (IEC 62386 part 101 / 103/303/304)	yes (IEC 62386 part 101 / 103/303/304)
Detection area seated / walking*	square 4.5 x 4.5 m / 7 x 7 m	circular Ø 4/8 m	circular Ø 6/24 m	rectangular 30 x 4.5 m walking transversely
Type of installation	Ceiling installation	Ceiling installation in flush-mounted box	Ceiling installation in flush-mounted box	Ceiling installation in flush-mounted box
Installation height	2 – 3.5 m	2 – 4 m	2 – max. 15 m	2 – max. 15 m
Detection angle	360°	360°	360°	360°
Operating voltage	DALI	DALI	DALI	DALI
Power consumption	max. 10 mA	max. 10 mA	max. 10 mA	max. 10 mA
Light measurement (mixed light)	3 x mixed light	1 x mixed light	3 x mixed light	2 x mixed light
Protection rating	IP 20	IP 54 (installed)	IP 54 (installed)	IP 54 (installed)
Permissible ambient temperature	0 °C to +50 °C	– 15 °C to +50 °C	– 15 °C to +50 °C	– 15 °C to +50 °C
Remote operation	yes	yes	yes	yes

Item numbers

Item number white (WH)	2030190	2080590	2080090	2010390
------------------------	---------	---------	---------	---------

Optional accessories

theSenda S remote control	9070911	9070911	9070911	9070911
theSenda P remote control	9070910	9070910	9070910	9070910
theSenda B app remote control	9070985	9070985	9070985	9070985
Surface frame white (WH)	9070949	9070912	9070912	9070912
Surface frame grey (GR)	–	9070913	9070913	9070913
Surface frame black (BK)	9070824	–	–	–
Bezel frame grey (GR)	–	9070591	9070591	9070591
Black bezel frame (BK)	9070977	–	–	–
Silver bezel frame (SR)	9070978	–	–	–
Ceiling installation box	–	9070992	9070992	9070992
Cover clip	–	9070921	9070921	9070921

* Details at an installation height of 3 m

DALI-2 components

Technical data



DM4 DALI
KNX



DALI gateway
S64 KNX



DALI gateway
S128 KNX



DALI gateway
P64 KNX

DALI-2 certified			yes	
Operating voltage	110 – 240 V AC / DC		100 – 240 V AC / DC	
Frequency			50 – 60 Hz	
KNX type			TP1-256	
KNX Data Secure	yes	no	no	yes
Number of DALI channels	4	1	2	1
Number of DALI devices	4x 30	64	128 (2x 64)	64
Broadcast control			yes	
Individual control	no	yes	yes	yes
Group control	no	yes / 16	yes / 2x 16	yes / 16

Supported DALI types

- Part 201 (DT0) fluorescent lamps			yes	
- Part 202 (DT1) emergency lamps with individual battery	no	no	no	yes
- Part 204 (DT3) discharge lamps			Yes	
- Part 205 (DT4) incandescent and halogen lamps			Yes	
- Part 206 (DT5) 1 – 10 V DC control units			Yes	
- Part 207 (DT6) LED modules			Yes	
- Part 208 (DT7) switching relays			Yes	
- Part 209 (DT8) colour control			Yes	
- Part 303 motion detectors	no	no	no	yes
- Part 304 brightness sensors	no	no	no	yes
Time control module	no	yes	yes	yes
Effect module	no	no	no	yes
Scene module	yes / 8	yes / 16	yes / 2x 16	Yes / 16
Energy saving Standby switch off			yes	
Integrated web server	no	no	no	yes

Item numbers

Article number	4940300	4940301	4940302	4940303
----------------	---------	---------	---------	---------

DALI-2 push button interface & switch actuator

Technical data



Push button interface
TA 4 S DALI-2



Switch actuator
SU 1 DALI-2

DALI-2 certified	yes
Operating voltage	DALI (as per IEC 62386-101): 10 V–22.5 V
Power consumption	max. 10 mA
Type of contact	NO contact or opening contact, potential-free
Contact voltage	5 V
Contact current	0.5 mA (5 mA peak)
Output voltage	5 V DC
Debounce time	50 ms
Resistance range for slider or potentiometer	0 ... 100 kΩ
Max. temperature measurement range ¹	–25 °C ... +75 °C or 0 °C ... +85 °C
Protection rating	IP 20 (IP 40 when installed)
Protection class	II (subject to designated use)
Ambient temperature	–15°C ... +50°C
Article number	4960094

¹ Measurement range depends on the temperature sensor used.

DALI-2 certified	yes
Operating voltage	DALI (as per IEC 62386-101): 10 V–22.5 V
Power consumption	max. 10 mA
Type of contact	μ-contact, floating, NO contact
Nominal switching capacity	13 A/250 V AC
Incandescent/halogen lamp load	1500 W
Capacitive switching load	80 μF
Inrush current	max. 500 A/200 μs
LED lamps	< 2 W = 30 W or > 2 W = 350 W
SELV	Switching SELV is possible
Protection rating	IP 20 (IP 40 when installed)
Protection class	II (subject to designated use)
Ambient temperature	–15°C ... +50°C
Article number	4940091

Your contact

Our Sales Team

Hohenbergstraße 32
72401 Haigerloch
Germany

Telephone +49 7474 692-0
info@theben.de
www.theben.co.uk

Technical advice

Telephone +49 7474 692-369
hotline@theben.de
Monday–Thursday 7 a.m. – 6 p.m.
Friday 7 a.m. – 4 p.m.

Theben is a member of:

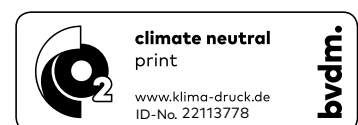


theben

Theben AG
72401 Haigerloch · Germany
Telephone +49 7474 692-0
info@theben.de · www.theben.co.uk

Service hotline

hotline@theben.de
Telephone +49 7474 692-369
Mon–Thu 7 a.m.–6 p.m., Fri 7 a.m.–4 p.m.



9900666 1022

Subject to technical changes and improvements.



4 003468 991251