STEINEL® PROFESSIONAL

IR Quattro DALI

IR Quattro HD DALI

HF 360 DALI

DUAL HF DALI

CONTROL PRO SYSTEM

Information

IR Quattro DALI
IR Quattro HD DALI
HF 360 DALI
DUAL HF DALI

110028875 09/2014_G Technische Änderungen vorbehalten. / Subject to technical modification without notice.

D GB CZ SK PL RO SLO HR EST LT LV RUS BG 中

Dual HF DALI   HF 360 DALI   IR Quattro DALI   IR Quattro HD DALI

N
L
230 V

5   LUX

6   IQ   min.

7   ON   min.

3

9

4

NORM.		TEST
AUTO.		MAN
ON		ON/OFF
CONST. ON		CONST. OFF
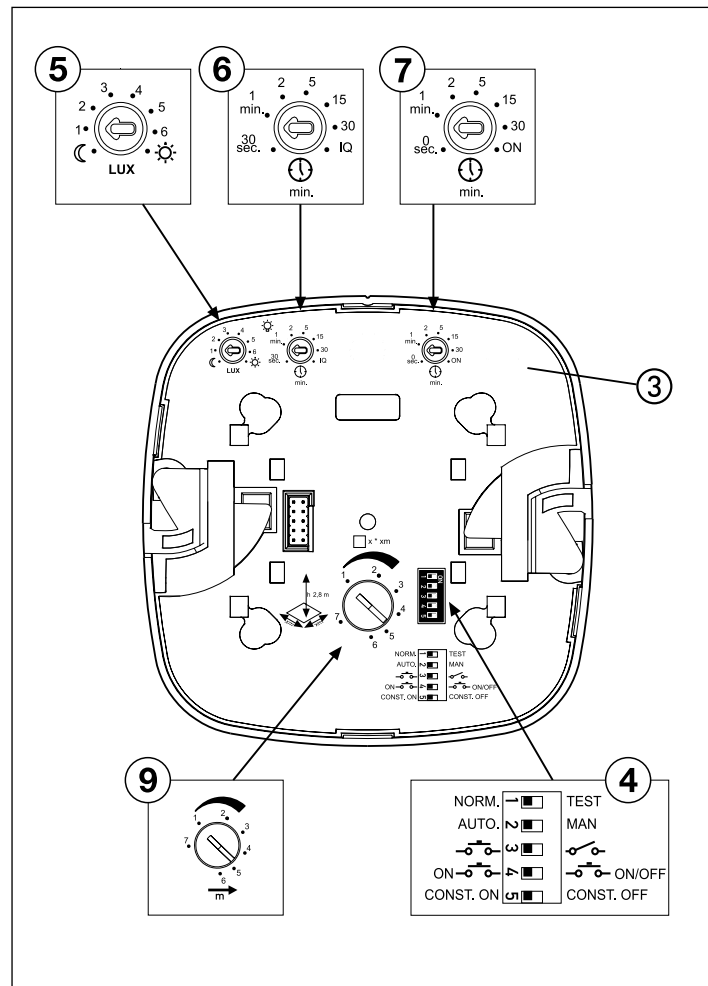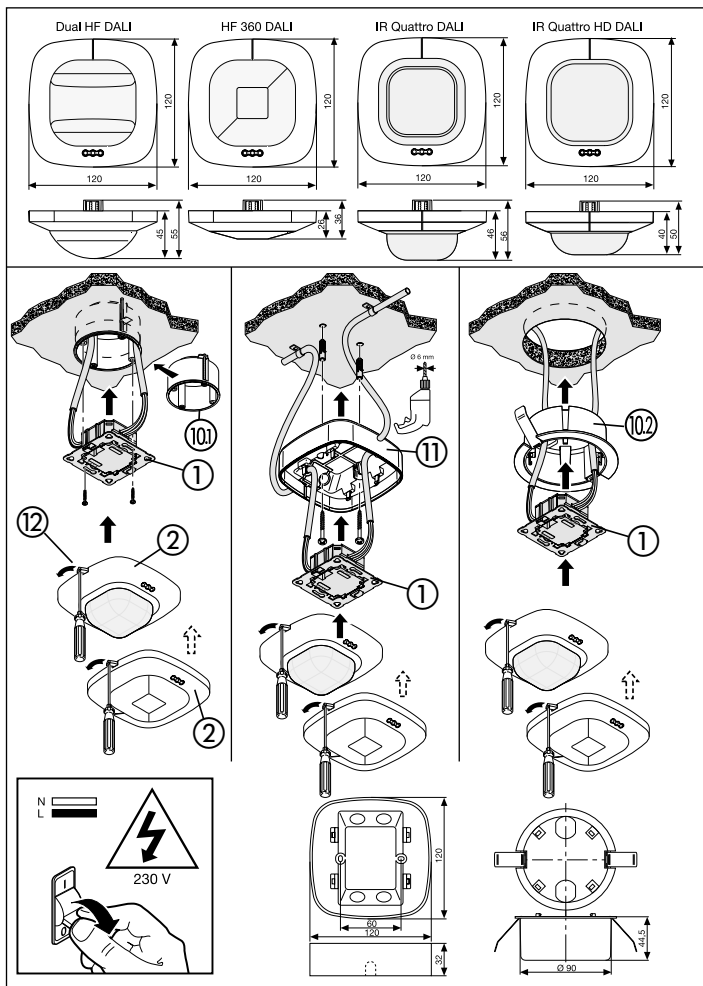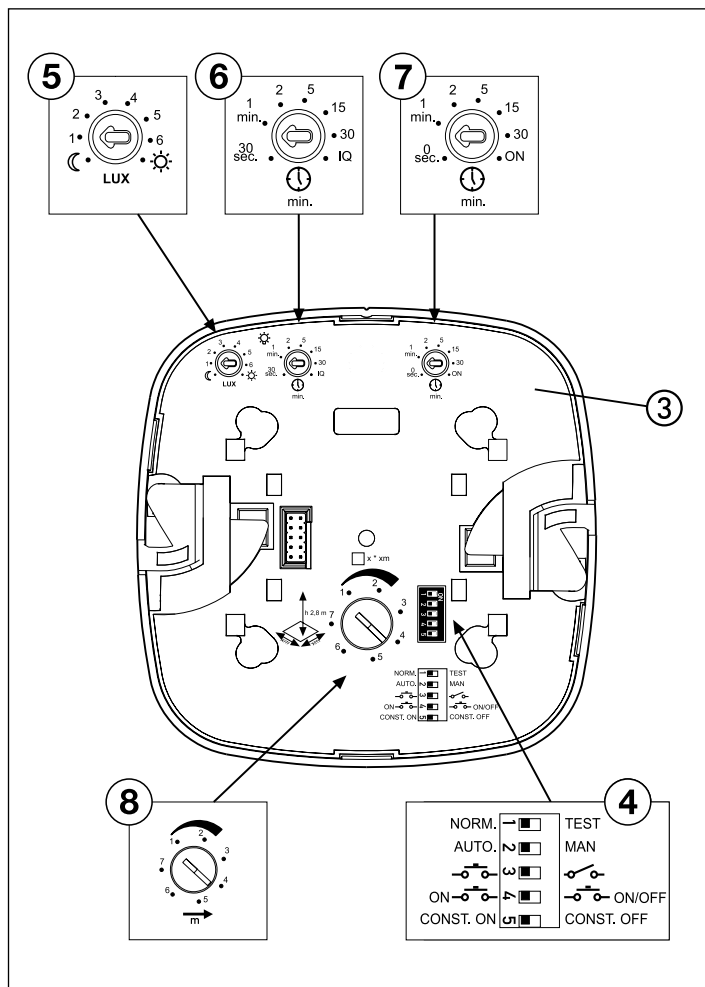
IR Quattro HD DALI

HF 360 DALI / DUAL HF DALI

	🔆	IR Quattro DALI			IR Quattro HD DALI		
		Presence	Radial	Tangential	Presence	Radial	Tangential
2,50 m	1	2,6 m x 2,6 m	2,6 m x 2,6 m	2,8 m x 2,8 m	3,6 m x 3,6 m	3,6 m x 3,6 m	4 m x 4 m
	2	2,9 m x 2,9 m	2,9 m x 2,9 m	2,8 m x 2,8 m	4 m x 4 m	4 m x 4 m	4 m x 4 m
	3	3,2 m x 3,2 m	3,2 m x 3,2 m	2,8 m x 2,8 m	4,6 m x 4,6 m	4,6 m x 4,6 m	5 m x 5 m
	4	3,4 m x 3,4 m	3,4 m x 3,4 m	3,8 m x 3,8 m	5,2 m x 5,2 m	5,2 m x 5,2 m	6 m x 6 m
	5	3,6 m x 3,6 m	3,8 m x 3,8 m	4,7 m x 4,7 m	5,8 m x 5,8 m	5,8 m x 5,8 m	8 m x 8 m
	6	4,1 m x 4,1 m	4,2 m x 4,2 m	5,6 m x 5,6 m	6,8 m x 6,8 m	6,8 m x 6,8 m	13 m x 13 m
	7	4,7 m x 4,7 m	4,7 m x 4,7 m	6,6 m x 6,6 m	7,8 m x 7,8 m	7,8 m x 7,8 m	18 m x 18 m
2,80 m	1	2,8 m x 2,8 m	2,8 m x 2,8 m	2,8 m x 2,8 m	3,8 m x 3,8 m	3,8 m x 3,8 m	4 m x 4 m
	2	3,1 m x 3,1 m	3,1 m x 3,1 m	3 m x 3 m	4,4 m x 4,4 m	4,4 m x 4,4 m	4,5 m x 4,5 m
	3	3,5 m x 3,5 m	3,5 m x 3,5 m	3,8 m x 3,8 m	5,1 m x 5,1 m	5,1 m x 5,1 m	5,5 m x 5,5 m
	4	3,9 m x 3,9 m	3,9 m x 3,9 m	4,5 m x 4,5 m	5,5 m x 5,5 m	5,5 m x 5,5 m	6,5 m x 6,5 m
	5	4,2 m x 4,2 m	4,2 m x 4,2 m	5,4 m x 5,4 m	5,9 m x 5,9 m	5,9 m x 5,9 m	8,5 m x 8,5 m
	6	4,4 m x 4,4 m	4,4 m x 4,4 m	6,1 m x 6,1 m	6,9 m x 6,9 m	6,9 m x 6,9 m	17 m x 17 m
	7	4,7 m x 4,7 m	4,7 m x 4,7 m	7,1 m x 7,1 m	7,9 m x 7,9 m	7,9 m x 7,9 m	20 m x 20 m
3,00 m	1	2,8 m x 2,8 m	2,8 m x 2,8 m	2,8 m x 2,8 m	4 m x 4 m	4 m x 4 m	4 m x 4 m
	2	3,2 m x 3,2 m	3,3 m x 3,3 m	3,3 m x 3,3 m	4,8 m x 4,8 m	4,8 m x 4,8 m	5 m x 5 m
	3	3,6 m x 3,6 m	3,8 m x 3,8 m	4,7 m x 4,7 m	5,6 m x 5,6 m	5,6 m x 5,6 m	6 m x 6 m
	4	3,7 m x 3,7 m	4,2 m x 4,2 m	5,4 m x 5,4 m	5,8 m x 5,8 m	5,8 m x 5,8 m	7 m x 7 m
	5	3,8 m x 3,8 m	4,7 m x 4,7 m	6,1 m x 6,1 m	6 m x 6 m	6 m x 6 m	9 m x 9 m
	6	4,2 m x 4,2 m	4,7 m x 4,7 m	6,6 m x 6,6 m	7 m x 7 m	8 m x 8 m	20 m x 20 m
	7	4,2 m x 4,2 m	4,8 m x 4,8 m	7 m x 7 m	8 m x 8 m	8 m x 8 m	22 m x 22 m
3,50 m	1	2,8 m x 2,8 m	4,7 m x 4,7 m	4,7 m x 4,7 m	4,8 m x 4,8 m	5 m x 5 m	6 m x 6 m
	2	3,2 m x 3,2 m	5,2 m x 5,2 m	5,6 m x 5,6 m	5 m x 5 m	5,5 m x 5,5 m	6 m x 6 m
	3	3,6 m x 3,6 m	5,6 m x 5,6 m	7,5 m x 7,5 m	5,4 m x 5,4 m	6 m x 6 m	6 m x 6 m
	4	3,7 m x 3,7 m	6,6 m x 6,6 m	9,1 m x 9,1 m	5,8 m x 5,8 m	7 m x 7 m	9,5 m x 9,5 m
	5	3,8 m x 3,8 m	7,1 m x 7,1 m	9,9 m x 9,9 m	6,2 m x 6,2 m	8 m x 8 m	13 m x 13 m
	6	4,2 m x 4,2 m	7,5 m x 7,5 m	11 m x 11 m	7,2 m x 7,2 m	9,5 m x 9,5 m	20,5 m x 20,5 m
	7	4,2 m x 4,2 m	8,6 m x 8,6 m	12 m x 12 m	8,2 m x 8,2 m	11 m x 11 m	28 m x 28 m

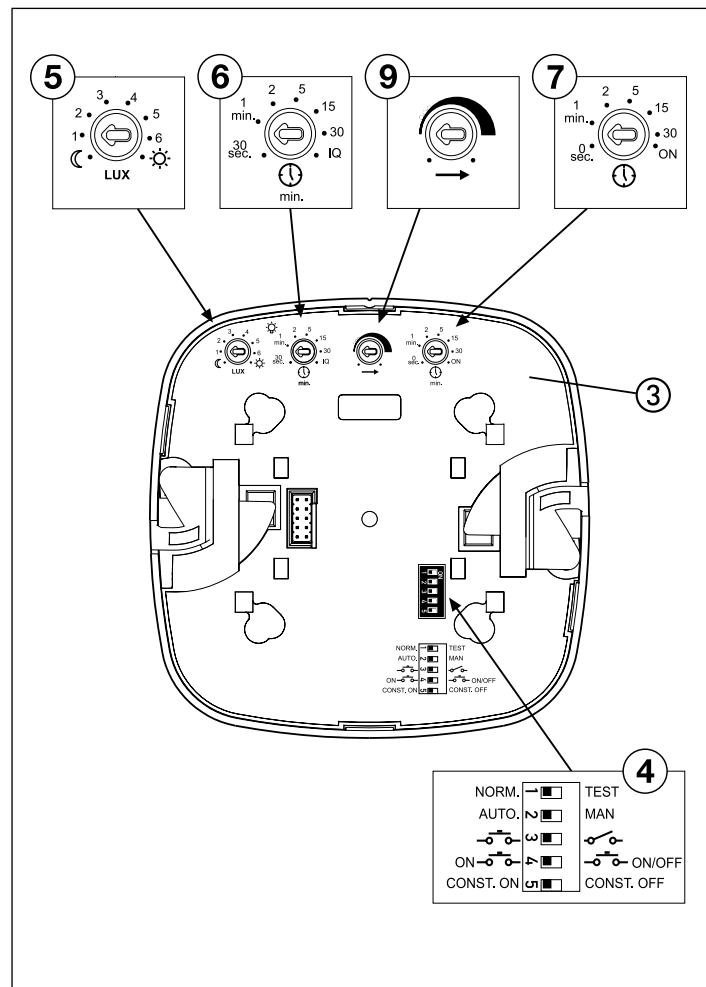|	🔆	IR Quattro DALI			IR Quattro HD DALI		
		Presence	Radial	Tangential	Presence	Radial	Tangential
4,00 m	1	–	3,8 m x 3,8 m	3,8 m x 3,8 m	–	6 m x 6 m	7 m x 7 m
	2	–	3,8 m x 3,8 m	4,7 m x 4,7 m	–	6 m x 6 m	7,5 m x 7,5 m
	3	–	3,8 m x 3,8 m	5,6 m x 5,6 m	–	6 m x 6 m	8 m x 8 m
	4	–	4,7 m x 4,7 m	7,5 m x 7,5 m	–	7 m x 7 m	12 m x 12 m
	5	–	4,7 m x 4,7 m	7,5 m x 7,5 m	–	8 m x 8 m	15 m x 15 m
	6	–	5,6 m x 5,6 m	8,5 m x 8,5 m	–	8 m x 8 m	20 m x 20 m
	7	–	7,5 m x 7,5 m	10 m x 10 m	–	8,4 m x 8,4 m	24 m x 24 m
5,00 m	1	–	–	–	–	6 m x 6 m	8 m x 8 m
	2	–	–	–	–	6,3 m x 6,3 m	11 m x 11 m
	3	–	–	–	–	6,7 m x 6,7 m	14 m x 14 m
	4	–	–	–	–	7 m x 7 m	17 m x 17 m
	5	–	–	–	–	7,4 m x 7,4 m	20 m x 20 m
	6	–	–	–	–	7,7 m x 7,7 m	24 m x 24 m
	7	–	–	–	–	8,1 m x 8,1 m	27 m x 27 m
6,00 m	1	–	–	–	–	7 m x 7 m	9 m x 9 m
	2	–	–	–	–	7,1 m x 7,1 m	12 m x 12 m
	3	–	–	–	–	7,3 m x 7,3 m	16 m x 16 m
	4	–	–	–	–	7,4 m x 7,4 m	19 m x 19 m
	5	–	–	–	–	7,5 m x 7,5 m	23 m x 23 m
	6	–	–	–	–	7,7 m x 7,7 m	26 m x 26 m
	7	–	–	–	–	7,8 m x 7,8 m	30 m x 30 m
8,00 m	1	–	–	–	–	7,4 m x 7,4 m	11 m x 11 m
	2	–	–	–	–	7,5 m x 7,5 m	15 m x 15 m
	3	–	–	–	–	7,7 m x 7,7 m	19 m x 19 m
	4	–	–	–	–	7,8 m x 7,8 m	24 m x 24 m
	5	–	–	–	–	7,9 m x 7,9 m	28 m x 28 m
	6	–	–	–	–	8,1 m x 8,1 m	32 m x 32 m
	7	–	–	–	–	8,2 m x 8,2 m	36 m x 36 m
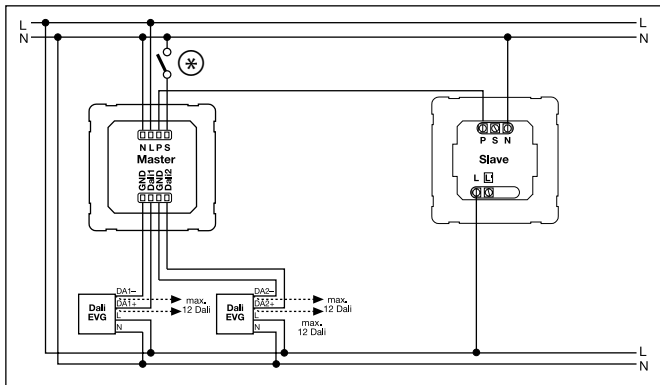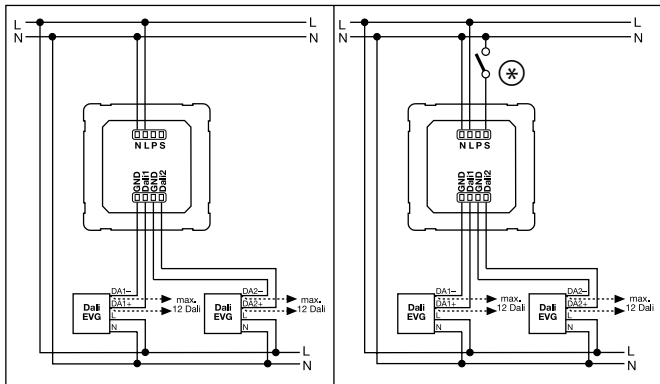
✳ cable length < 50 m
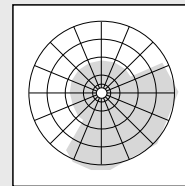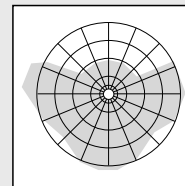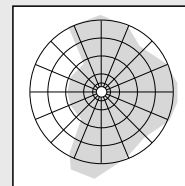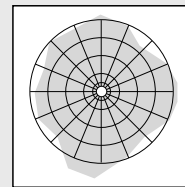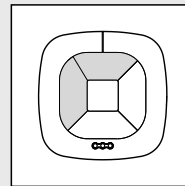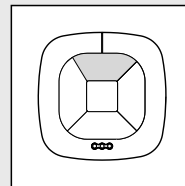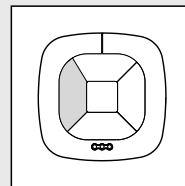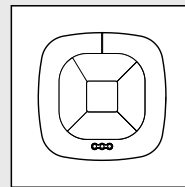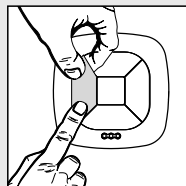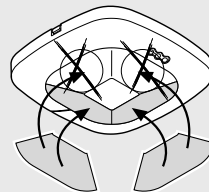
GB   Operating Instructions

Dear Customer,

Congratulation on purchasing your new STEINEL sensor and thank you for the confidence you have shown in us. You have chosen a high-quality product that has been manufactured, tested and packed with the greatest care.

Please familiarise yourself with these instructions before attempting to install the product because prolonged, reliable and trouble-free operation will only be ensured if it is fitted and used properly.

We hope your new STEINEL sensor will bring you lasting pleasure.

⚠ Safety Precautions

■ Disconnect the power supply before attempting any work on the sensor!
■ During installation, the electric power cable to be connected must be dead. Therefore, switch 'OFF' the power first and use a voltage tester to make sure the wiring is off circuit.

■ Installing the sensor involves work on the mains power supply. This work must therefore be carried out professionally in accordance with the applicable national wiring regulations and electrical operating conditions (VDE 0100).

Assembly/Installation ⑬ (see fig. on page 2)

The sensor is only suitable for recessed ceiling installation indoors. A clamping-type ceiling adapter or surface-mounting adapter is not included.

Sensor and load module come ready assembled and must be plugged together after fitting the load module and setting the potentiometers/dip switches. The sensor module must now be locked in place with the catch mechanism ⑫, using a screwdriver if necessary.

Accessories:
Kaiser junction box for stud walls
EAN No.: 4007841 000370
Clamping-type ceiling adapter
EAN No. 4007841 002855
Surface-mounting adapter,
EAN No.: 4007841 000363
Guard cage,
EAN No.: 4007841 003036
Service remote control RC 3,
EAN No.: 4007841 000387
User remote control RC 5,
EAN No.: 4007841 592806

System Components

① Load module
② Sensor module
③ Sensor base
④ Dip switches
   (1) Normal mode/Test mode
   (2) Semi- / fully automatic mode
   (3) Button/switch
   (4) 'ON' / 'ON-OFF' button
   (5) Constant-lighting control 'ON'/'OFF'

⑤ Twilight setting
⑥ Time setting
   Switching output 1
⑦ Basic brightness
⑧ Reach setting (IR)
⑨ Reach setting (HF)
⑩₁ Kaiser stud-wall junction box, optional
⑩₂ Clamping-type ceiling adapter, optional,

⑪ Surface-mounting adapter IP 54, optional
⑫ Locking mechanism
⑬ Assembly/Installation
⑭ Parallel-connected configurations
⑮ Shrouds for minimising the detection zone (HF 360 DALI)

How It Works / Basic Function

The infrared presence detectors from the Control PRO range control lighting, e.g. in offices, WC's, public buildings or at home, in relation to ambient light level and the presence of persons.

Modern, high-frequency technology guarantees that movement is detected absolutely anywhere irrespective of radiated temperature.

Sensing movement in two directions, the DUAL HF DALI sensor is ideal for corridors in hotels, schools and office buildings. The PIR sensor (passive infrared sensor) IR Quattro DALI with highly advanced lens provides a square detection zone, as the typical shape of a room, in which the smallest of movements are sensed.

The presence detector's switching outputs and reach are set at the potentiometers and dip switches or by means of the optional remote control.

Presence Control has a low intrinsic power consumption.

Presence Control PRO

IR Quattro DALI
IR Quattro HD DALI

HF 360 DALI
DUAL HF DALI

2 DALI switching outputs operating in relation to brightness setting and presence of persons.

Settings:
- Brightness setting
- Stay-'ON' time, IQ mode
- Orientation light
- Constant-lighting control
- Scene control

Detection Zone

IR Quattro DALI / IR Quattro HD DALI

presence
radially
tangentially

tangentially
radially
presence
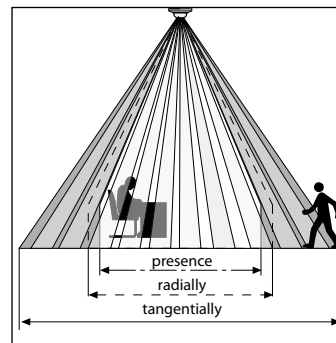
Reliable presence detection largely depends on the number, condition and arrangement of the lens segments. The IR Quattro DALI with its square detection zone of 49 m² divided up into 13 levels and 1760 switching zones senses the smallest of movements. With a square detection zone covering an area of 64 m², the IR Quattro HD DALI has
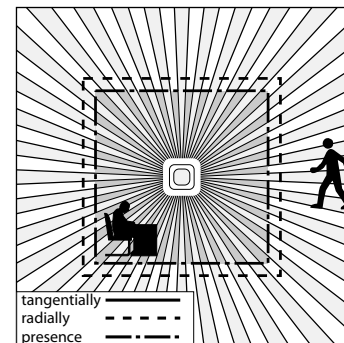
4800 switching zones that provide even greater precision. These reaches can be adjusted to suit specific requirements at the setting potentiometer. The square detection zone provides the basis for creating optimum configurations quickly and easily.

Reach Setting (IR Quattro DALI / IR Quattro HD DALI)
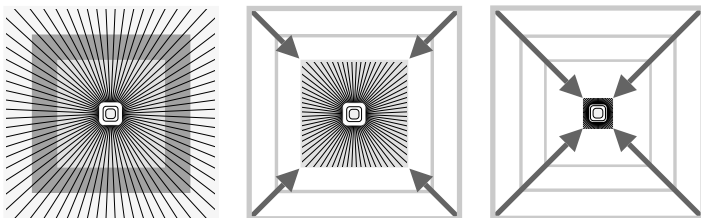
Potentiometer ⑧

Adjusts reach to specific requirements.

See table on pages 6-7 showing Technical Specifications for selecting settings to suit specific requirements.

Reach Setting (HF 360 DALI / DUAL HF DALI)

HF 360 DALI - mounting height 2.8 m

DUAL HF DALI - mounting height 2.8 m
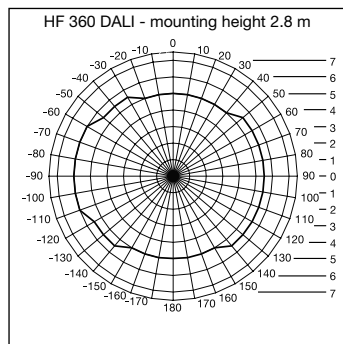
HF 360 DALI reach can be selected using service remote control RC 3 (see accessories). 1 or 2 detection directions can be masked out for adjustment to the room situation. An angle of coverage of 360° provides a max. reach of 8 m. The DUAL HF DALI
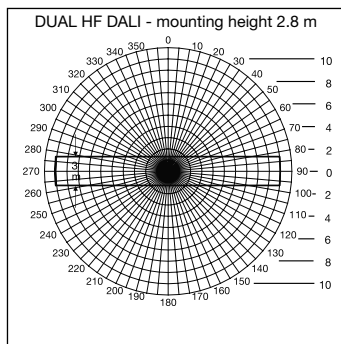
sensor has 2 special HF-sensors that detect movement from the ceiling in both directions. Reach is electronically selectable in either direction at the same time.

Electrical Installation/Automatic Mode

In selecting the wiring leads, it is important to meet the wiring regulations laid down in VDE 0100 (see Safety Precautions on page 18). The following applies to wiring presence detectors: Section 6 of VDE 0100 520 permits the use of a multiple-conductor cable containing both the mains-voltage wires as well as the control lines (e.g. NYM 5 x 1.52) for the wiring between sensor and electronic ballast. The mains supply lead must be no greater than 10 mm in diameter. The clamping range of the mains terminal is designed for a maximum of 2 x 1.5 mm^2 or 1 x 2.5 mm^2.
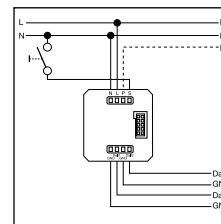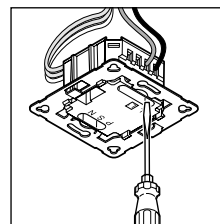
Technical Specifications

| Power supply:	230 – 240 V/50 Hz	
DALI output 1:	2-core DALI control cable / broadcast	
DALI output 2:	2-core DALI control cable / broadcast	
Controllable DALI electr. ballasts:	12 DALI electronic ballasts per output	
Square detection zones:	**IR Quattro DALI**	**IR Quattro HD DALI**
Presence:	4 x 4 m max. (16 sqm.)	8 x 8 m max. (64 sqm.)
Radially:	5 x 5 m max. (25 sqm.)	8 x 8 m max. (64 sqm.)
Tangentially:	7 x 7 m max. (49 sqm.)	20 x 20 m max. (400 sqm.)
Angle of coverage:	**HF 360 DALI** 360° with 140° aperture angle also through glass, wood and stud walls. 1 or 2 detection directions can be masked out for adjustment to the room situation.	**DUAL HF DALI** see diagram on p. 20 also through glass, wood and stud walls
Reach:	**HF 360 DALI** 8 m max. all round, electronically and infinitely variable	**DUAL HF DALI** 10 x 3 m max. in each direction electr. and infinitely variable
Basic brightness :	0 sec. – 30 min., 10 %	
Time setting:	30 sec. – 30 min., IQ mode IQ mode (automatic adjustment to the usage profile)	
Installation height: (ceiling mounting)	2.5 m – 8 m (IR Quattro DALI) 2.5 m – 10 m (IR Quattro HD DALI)	
Installation site:	indoors	
Sensors:	13 detection levels, 1760 switching zones (IR Quattro DALI) 13 detection levels, 4800 switching zones (IR Quattro HD DALI)	
IP rating:	IP 20 (IP 54 with AP Box)	
Protection class:	II	
Temperature range:	0° C to +40° C	

Functions – Settings by DIP Switch

DIP 1

Normal mode / Test mode (NORM / TEST)

Test mode has priority over all other settings on the presence detector and serves the purpose of checking for proper working order as well for testing the detection zone. Irrespective of ambient light level, the presence detector activates the light to stay 'ON' for approx. 8 sec. in response to movement in the room (blue LED flashes when movement is detected). All user-selected potentiometer settings apply in normal mode. The presence detector can also be set by means of the blue LED without any load connected.

DIP 2

Semi-automatic mode (MAN) / fully automatic mode (AUTO)

Semi-automatic mode: (MAN)

The light now only switches 'OFF' automatically. Light is switched 'ON' manually. Light must be requested using the button and stays 'ON' for the time set at the potentiometer. (pressing twice switches 'ON' for 4 hours).

Fully automatic mode: (AUTO)

The light automatically switches 'ON' and 'OFF' in relation to brightness when someone is present. Light can be switched 'ON' and 'OFF' manually at any time. This temporarily interrupts the automatic switching function. Irrespective of the settings selected, light stays 'ON' for 4 hours after manually pressing the button twice or switches 'OFF' after manually pressing the button once. Pressing the button before the 4 hours elapse returns the Presence Control IR Quattro to the normal operating mode.

DIP 3

Button/switch

Tells the sensor how to interpret the incoming signal. Assigning external buttons/switches allows you to operate the detector as a semi-automatic unit and override it manually at any time.

- Operation either by button or switch
- Several buttons possible on one control input
- Only use illuminated pushbutton with neutral conductor connected
- Cable length between sensor and switch < 50 m

DIP 4

'ON'/'ON'-'OFF' button

In the 'ON'-'OFF' setting, the light can be switched 'ON' and 'OFF' manually at any time. In the 'ON' setting, light can no longer be switched 'OFF' manually. The stay-'ON' time starts from the beginning again each time the button is pressed.

DIP 5

Constant light 'ON'/'OFF'

Provides a constant level of brightness. Detector measures the prevailing level of daylight and activates sufficient artificial light to achieve the required level of brightness. As daylight changes, the switched-in artificial lighting component is adjusted accordingly. In addition to the daylight component, artificial light is also switched 'ON' and 'OFF' in relation to whether or not persons are present.

Functions – Settings by Potentiometer

Potentiometer ⑤

Twilight setting

The chosen response threshold can be infinitely varied from approx. 10 – 1000 lux.

Control dial turned fully clockwise: MAX daylight mode
Control dial turned fully anti-clockwise: MIN night-time operation

Depending on the site of installation, the setting may need to be corrected by 1 – 2 marks on the scale.

Examples of Use	Brightness settings
Night-time mode	min
Corridors, foyers	1
Stairs, escalators, moving walkways	2
Washrooms, toilets, switchrooms, canteens	3
Sales floor, kindergartens, nursery school rooms, sports halls	4
Work environments: Offices, conference and meeting rooms, precision assembly activities, kitchens	5
Working areas requiring good light: Laboratory, technical drawing, precision work	>=6
Daylight mode	max

Note: Depending on the site of installation, the setting may need to be corrected by 1 – 2 marks on the scale. Brightness is measured directly at the sensor.

Potentiometer ⑥

Time setting

Stay-'ON' time for switching output 1 & 2
Setting 30 sec. – 30 min.

The chosen stay-'ON' time is infinitely variable from a minimum of approx. 30 sec. to a maximum of 30 min. Light is calibrated after 3 min. When the threshold is exceeded, the sensor switches 'OFF' after the stay-'ON' time expires.

IQ mode

Turned fully clockwise:
The stay-'ON' time is self-learning and adjusts dynamically to user behaviour. The optimum time cycle is determined by means of a learning algorithm. The shortest time is 5 min., the longest 20 min.

Potentiometer ⑦

Basic brightness (DIM/DALI version)

Provides basic illumination for the selected stay-'ON' time when ambient light falls below the selected brightness threshold that is set. This can be dimmed to 10% of maximum light intensity. As soon as a person enters the scene, the detector switches either to 100% light intensity (constant-lighting controller 'OFF') or adjusts to the preselected brightness level (constant-lighting controller 'ON'). When no movement is being detected, the detector dims back to basic brightness after the stay-'ON' time expires. This is switched 'OFF' when stay-'ON' time (1 min. – 30 min.) has expired or the day-light component is sufficient to exceed the selected level of brightness. In the 'ON' setting, the detector switches basic brightness 'ON' and 'OFF' as soon as the level of light falls below the brightness threshold.

Parallel-connected Configurations ⑭

When using several detectors, they must be connected to the same phase!

⑭ Master/master

The "P" input provides the capability of extending the zone movement is detected in.

It is not possible to wire two DALI power supply units through the "P" input as the DALI version only provides one input for "P". It is only possible to extend the detection

zone with a Presence Control PRO COM1/COM2 or DIM version.

Burning-in function

To ensure trouble-free sensor operation, we recommend seasoning the tubes by leaving them switched 'on' for 100 hours. This seasoning process can increase tube life. This function is activated using the RC 5 remote control..

Note:
If tubes are not seasoned or ambient temperatures are low, the sensor may not switch the light OFF. In this case, switch the light "OFF" and, for the time being, drastically reduce the reach setting.

Please only use high-quality brand-name lamps. Otherwise, we cannot guarantee that this high-precision sensor will operate reliably.

Remote Control

Using the remote control (optional), functions can be conveniently activated from the floor.

Presence Control remote control unit:
Service remote control RC 3,
EAN No.: 4007841 000387
User remote control RC 5,
EAN No.: 4007841 592806

Troubleshooting

Malfunction	Cause	Remedy
Light does not switch 'ON'	■ No supply voltage ■ Lux setting too low ■ No motion detection	■ Check supply voltage ■ Slowly increase lux setting until light switches 'ON' ■ Ensure unobstructed sensor vision ■ Check detection zone
Light does not switch 'OFF'	■ Lux setting too high ■ Stay-'ON' time running out ■ Interference from sources of heat, e.g.: fan heater, open doors and windows, pets, light bulb/halogen floodlight, moving objects (IR Quattro)	■ Reduce lux setting ■ Wait until stay-'ON' time elapses; reduce stay-'ON' time if necessary ■ Use stickers to mask out stationary sources of interference

Malfunction	Cause	Remedy
Sensor switches 'OFF' in spite of persons being present	■ Stay-'ON' time too short ■ Light-level threshold too low	■ Increase stay-'ON' time ■ Change light threshold
Sensor does not switch 'OFF' quickly enough	■ Stay-'ON' time too long	■ Reduce stay-'ON' time
Sensor does not switch 'ON' quickly enough when approached from the front	■ Reach is reduced when approached from the front	■ Install additional sensors ■ Reduce distance between two sensors
Sensor does not switch 'ON' when persons are present in spite of it being dark	■ Lux setting too low	■ Sensor deactivated by switch/button? ■ Semi-automatic mode? ■ Increase light-level threshold
Sensor does not switch 'ON' selected basic brightness in spite of it being dark	■ Sensor in semi-automatic mode ■ Lux setting too low	■ Sensor in fully automatic mode ■ Increase light-level threshold
Other faults	■ Sensor operating at the limit of specific temperature ranges	■ See Tech. specs.

CE Declaration of Conformity

This product complies with
- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC
- RoHS Directive 2011/65/EC
- WEEE Directive 2012/19/EC.

Declaration of Guarantee

All rights are based on our guarantee period. We guarantee that your STEINEL Professional sensor product will remain in perfect condition and proper working order for a period of 5 years. We guarantee that this product is free from material, manufacturing and design flaws. In addition, we guarantee that all electronic components and cables function in the proper manner and that all materials used and their surfaces are without defects.

Making Claims
If you wish to make a claim, please send your product complete and carriage paid with the original receipt of purchase, which must show the date of purchase and product designation, either to your retailer or directly to us at **STEINEL (UK) Limited, 25 Manasty Road, Axis Park, Orton Southgate, Peterborough, PE2 6UP.** For this reason, we recommend that you keep your receipt of purchase in a safe place until the guarantee period expires. STEINEL shall assume no liability for the costs or risks involved in returning a product.

For information on making claims under the terms of the guarantee, please go to **www.steinel-professional.de/garantie**

If you have a guarantee claim or would like to ask any question regarding your product, you are welcome to call us at any time on our service hotline **01733 366700**.

**FUNCTIONAL
5 Year
WARRANTY**