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110067950 03/2019_A

STEINEL®
PROFESSIONAL

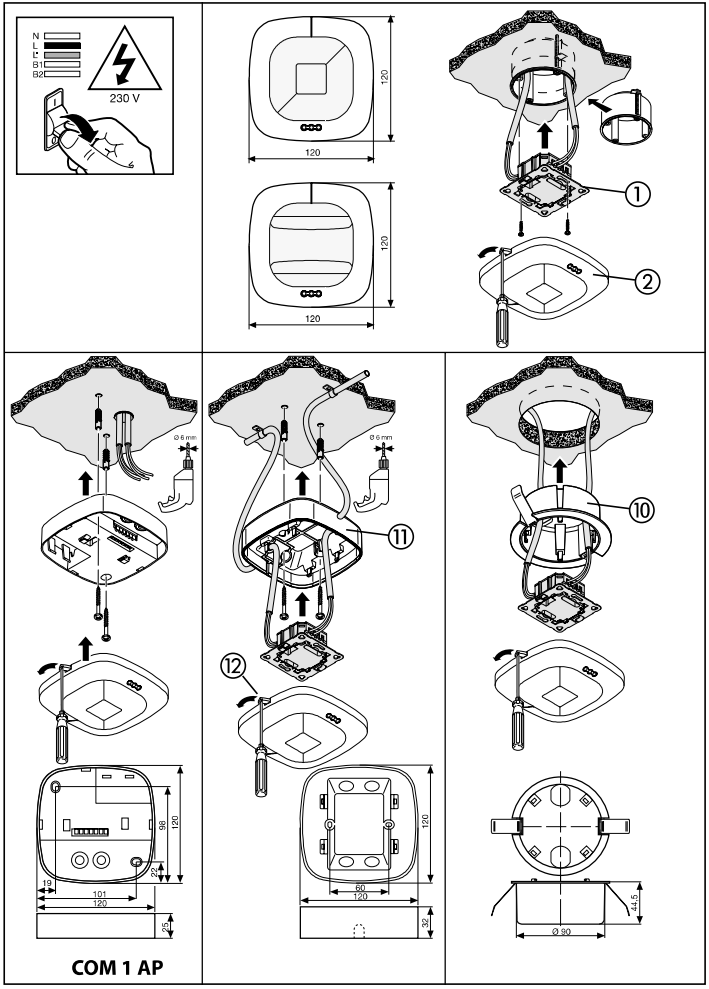
Information

HF 360 COM 1
HF 360 COM1 AP
HF 360 COM 2
HF 360 DIM

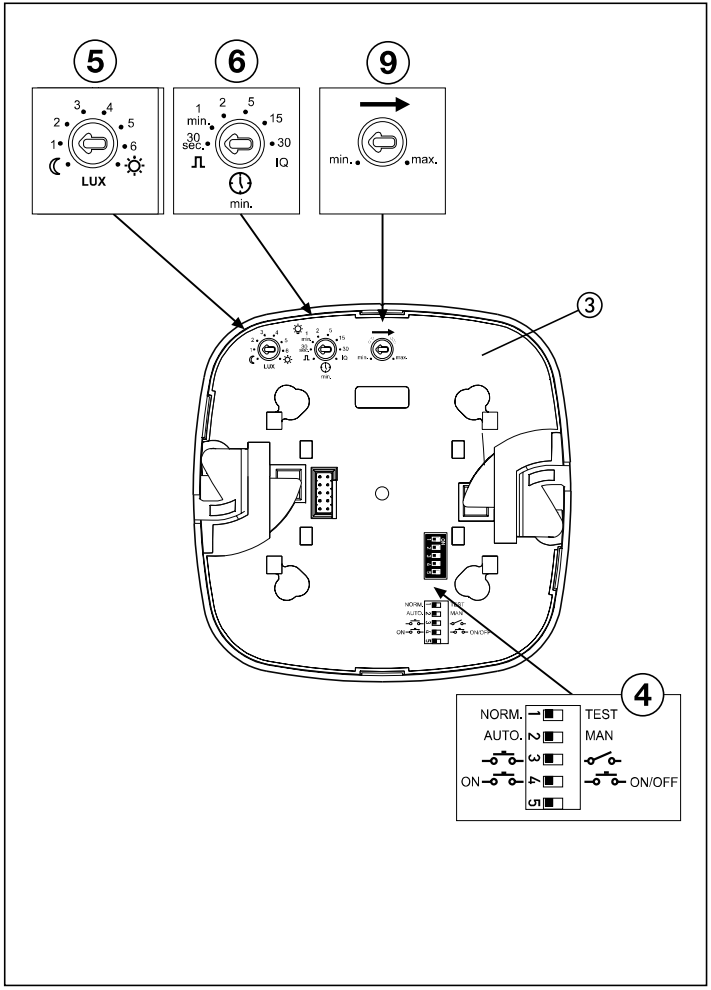
DUAL HF COM 1
DUAL HF COM 1 AP
DUAL HF DIM

CONTROL PRO SYSTEM

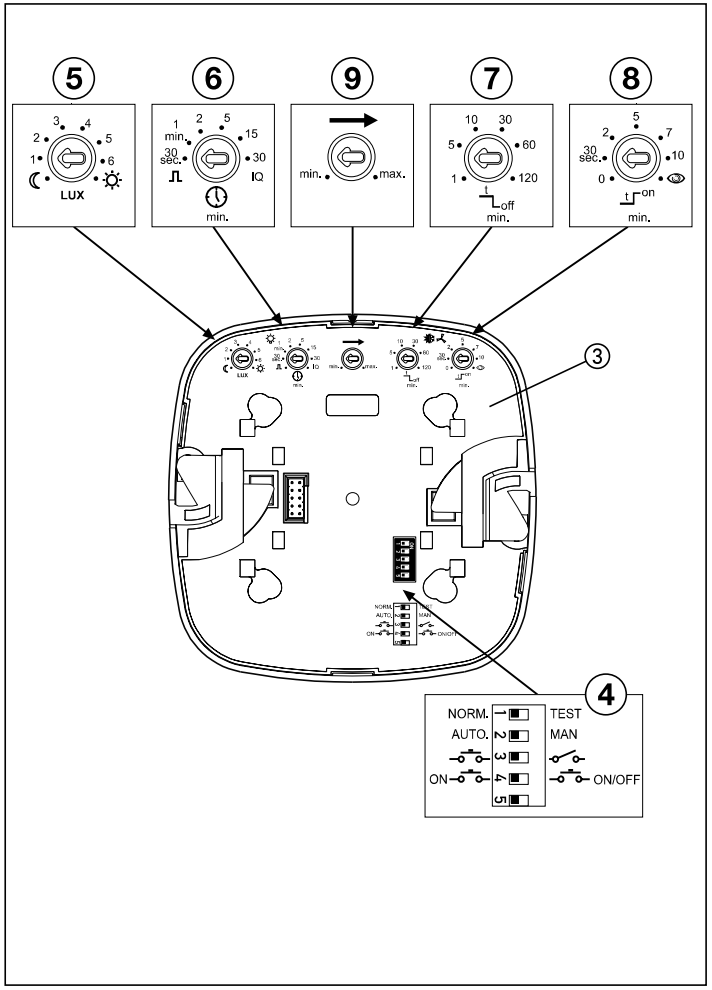
⑬



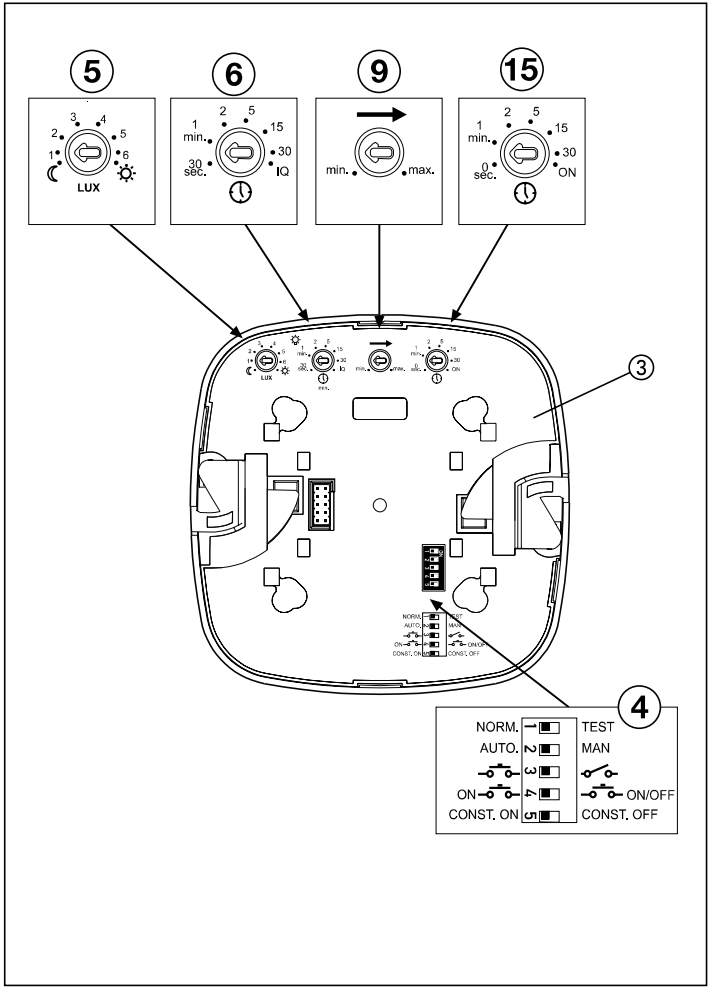
HF 360 COM 1/COM 1 AP / DUAL HF COM 1/ COM 1 AP



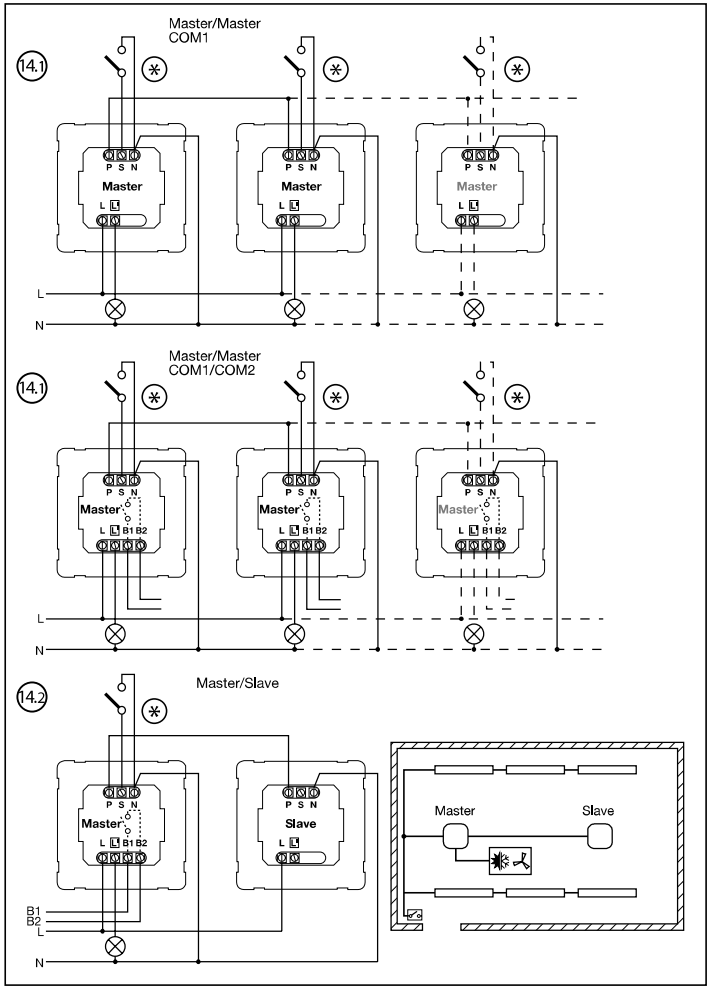
HF 360 COM 2



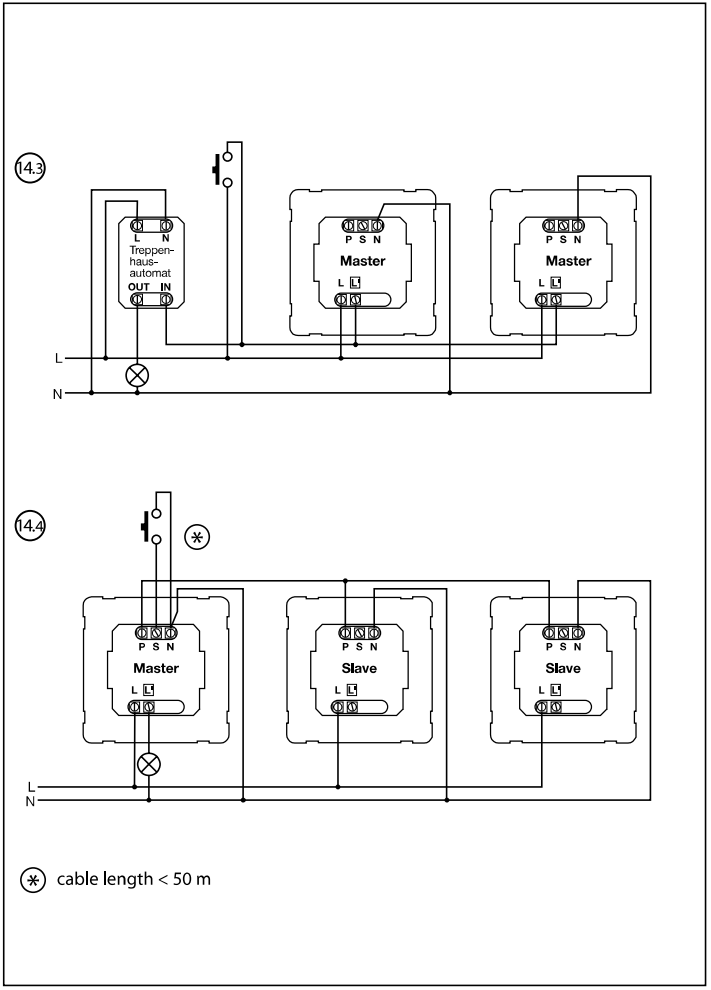
HF 360 DIM / DUAL HF DIM



⑭

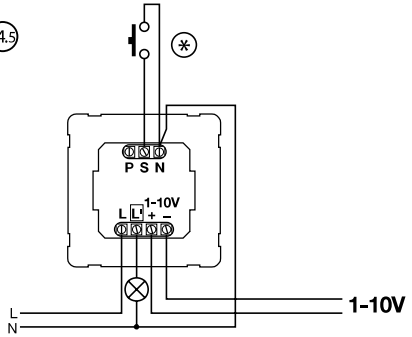

Master/Master
COM1
14.1
P S N
Master
L
L
N
Master/Master
COM1/COM2
14.1
Master
L B1 B2
Master/Slave
14.2
Slave
B1
B2
Master
Slave

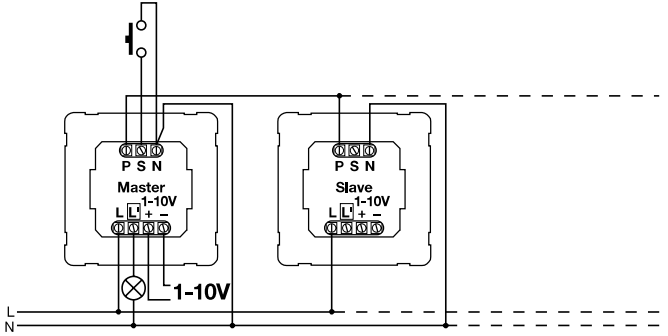
⑭


14.3
L N
Treppen-
haus-
automat
OUT IN
P S N
Master
L
L
N
14.4
Master
Slave
Slave
cable length < 50 m

⑭

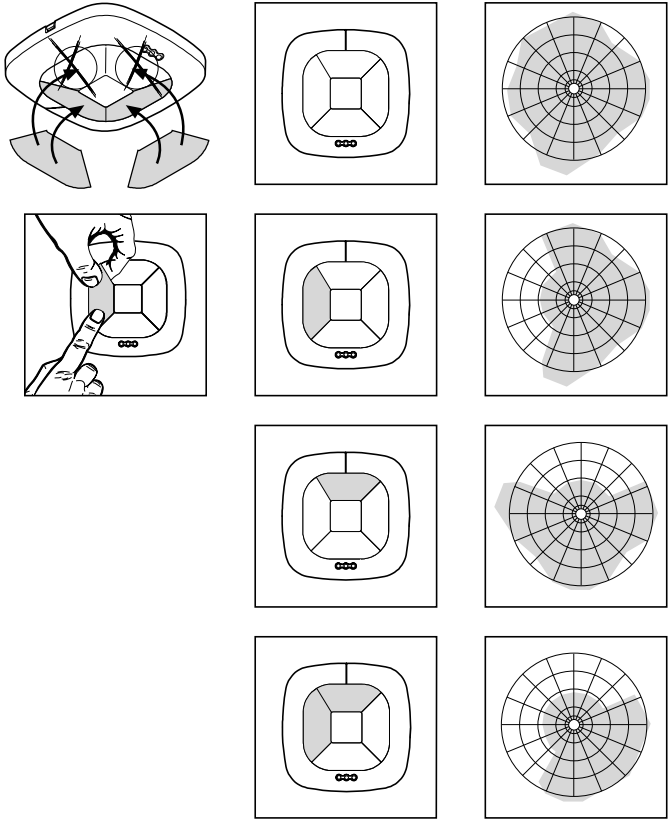
14.5





⊛ cable length < 50 m

⑯ HF 360



GB Operating instructions

Dear Customer,

Congratulation on purchasing your new STEINEL presence detector 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 presence detector 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 warnings

- 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).
- It is only permissible to use electronic ballasts with isolated control signal at the DIM 1-10 V control output.

Assembly/Installation ⑬ (see chart on page 2)

The sensor is only intended for concealed, indoor installation in ceilings (apart from the COM 1 AP - surface-mounted - option). 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.

Accessories:
Clamping-type ceiling adapter, EAN 4007841 000370
Surface-mounting adapter, EAN 4007841 000363
Guard cage, EAN 4007841 003036
User remote control RC 5, EAN 4007841 592806
Service remote control RC 8, EAN 4007841 559410

System components

① Load module
② Sensor module
③ Sensor base
④ Dip switches
(1) Normal/test mode
(2) Semi-/fully automatic mode
(3) Button/switch
(4) 'ON' / 'ON'-'OFF' button
(5) DIM option
Constant lighting control 'ON'/'OFF'
⑤ Twilight setting
⑥ Time setting
Switching output 1
⑦ HVAC stay-'ON' time
Switching output 2
⑧ HVAC switch-'ON' delay
Switching output 2
⑨ Reach setting
⑩ Clamping-type ceiling adapter, optional
⑪ Surface-mounting adapter IP 54, optional
⑫ Locking mechanism
⑬ Assembly/Installation
⑭ Parallel-connected configurations
⑮ Stay-'ON' time
Orientation light
DIM option
⑯ Film shroud for minimising the detection zone (HF 360).

How it works / Basic function

The high-frequency presence detectors from the Control PRO range control lighting as well as heating, ventilation and air-conditioning (COM 2 only), e.g. in offices, WCs, 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 sensor is ideal for corridors in hotels, schools and office buildings. 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
HF 360 COM 1 / COM 1 AP
DUAL HF COM 1 / COM 1 AP

1 switching output operating in relation to brightness setting and presence of persons.

Settings:
- Brightness setting
- Stay-'ON' time, pulse mode, IQ mode

Presence Control PRO
HF 360 COM 2

1 switching output, such as COM 1. Plus a 2nd switching output for HVAC (heating / ventilation / air conditioning) governed by presence.

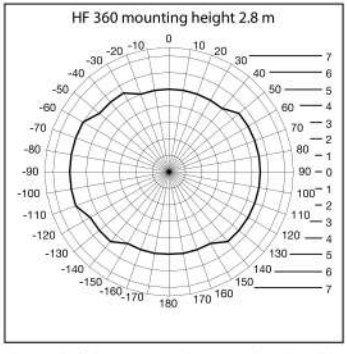
Settings:
- Stay-'ON' time
- Switch-'ON' delay
- Room surveillance

Presence Control PRO
HF 360 DIM
DUAL HF DIM

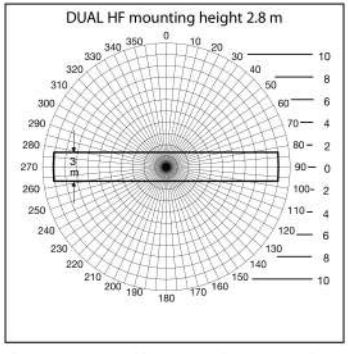
1 switching output operating in relation to brightness setting and presence of persons.

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

Detection zone



The reach of the HF 360 is electronically adjustable. 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 12 m.

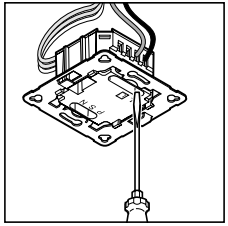


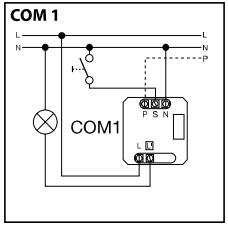
The DUAL HF sensor has 2 special HF sensors that detect movement from the ceiling in both directions. Controlled electronically, reach is infinitely variable in both directions from 3 × 3 m – 10 × 3 m.

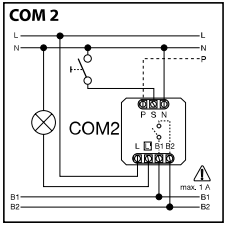
Electrical installation/Automatic mode

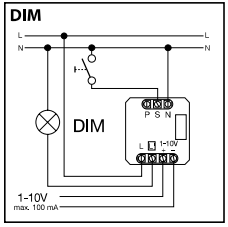
In selecting the wiring leads, it is important to meet the wiring regulations laid down in VDE 0100 (see Safety warnings on page 19). The following applies to wiring presence detectors: According to section 6 of VDE 0100 520, a multiple-core lead containing both the mains voltage leads and the control leads (e.g. NYM 5 × 1.52) may be used for wiring between the sensor and electronic ballast.

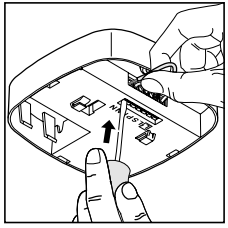
The mains connection lead must be no greater than 10 mm in diameter. The clamping range of the mains terminal is designed for a maximum of 2 × 1.5 mm² or 1 × 2.5 mm².

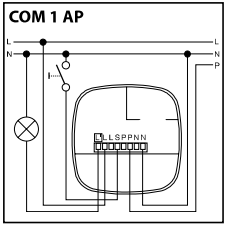












Technical Specifications

Dimensions (w × h × d)	**HF 360** 120 × 120 × 56 mm	**Dual HF** 120 × 120 × 76 mm
Supply voltage	230 – 240 V, 50 Hz / 60 Hz	
Capacity, **switching output 1** (COM 1/COM 2)	Relay 230 V Resistive load 2000 W max. (cos φ = 1) 1000 VA max. (cos φ = 0,5)	
Electronic ballast: (COM 1/COM 1 AP/ COM 2/DIM)	Max. 'ON' current 800 A/200 µs 30 × (1 × 18 W), 25 × (2 × 18 W) 25 × (1 × 36 W), 15 × (2 × 36 W) 20 × (1 × 58 W), 10 × (2 × 58 W) Pay attention to specific 'ON' currents of electronic ballasts! A relay or contactor must be provided on line side for higher switching capacities.	
Capacity, **switching output 2** (COM 2 only) (HF 360 only)	**Presence** 230 W max. / 230 V 1A max. (cos φ = 1) for HVAC (heating/ventilation/air-conditioning)	
Application	indoors	
Mounting height (mounted to ceiling)	2.5 m – 3.5 m ceiling height	
Detection angle	**HF 360** 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** see diagrams on p. 21 also through glass, wood and stud walls
Reach	**HF 360** max. Ø 12 m, electronically infinitely variable	**Dual HF** 10 × 3 m max. in each direction, electronically and infinitely adjustable
Switching output 1 Time setting	30 sec. – 30 min., pulse mode (approx. 2 sec.) IQ mode (automatic adjustment to use profile)	
Switching output 2 Time setting (HF 360 only)	**COM2 only for HVAC** 0 sec. – 10 min. switch-'ON' delay 1 min. – 2 h stay-'ON' time Automatic room surveillance	
DIM: Time setting	30 sec. - 30 min. IQ mode (automatic adjustment to use profile)	
Control output	1 – 10 V / max. of 50 electronic ballasts, max. of 100 mA	
Sensor system	High-frequency 5.8 GHz, transmission power < 1mW	
Function setting by DIP switches	DIP 1 Normal / test mode DIP 2 Semi- / fully automatic mode DIP 3 Button / switch mode DIP 4 'ON' button / 'ON'-'OFF' button DIP 5 Constant-lighting control 'ON'-'OFF' (DIM)	
Parallel connections	Master/slave Master/master	
User-friendly setting capability	Teach-in (with optional remote control)	
Light-level setting	10 – 1000 lux, ∞ / daylight DIM 100 – 1000 lux	
IP rating	IP 20 (IP 54 with surface-mounted box)	
Safety class	II	
Temperature range	-25°C to +55°C	
Housing	UV-resistant, paintable	

Functions – Settings by DIP switch

COM 1 + COM 2

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 push-button 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 (except in pulse mode: no manual 'OFF'). 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.

DIM

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

COM 1 + COM 2

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.

Potentiometer ⑥

Time setting

Stay-'ON' time for switching output 1
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.

Pulse mode (except DIM) ⎍

If the dial is set to ⎍ (fully anti-clockwise), the unit is in pulse mode, i.e. the output is switched 'ON' for approx. 2 sec. (e.g. for stairwell lighting timer). Afterwards, the sensor does not respond to movement for approx. 8 sec. Day mode is the only mode possible here because of dazzle by light from external sources.

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.

COM 2

Potentiometer ⑦

Stay-'ON' time for switching output 2 HVAC

- Setting 1 sec. – 2 hr.
- Turned fully clockwise: max
- Turned fully anti-clockwise: min

Potentiometer ⑧

Switch-'ON' delay for switching output 2 HVAC

- Setting 0 sec. – 10 min.
- Turned fully clockwise: Room surveillance
- Turned fully anti-clockwise: 0 sec. ('OFF')

Turning the potentiometer to the "Surveillance" setting reduces the sensitivity of the "Presence" switching output. The contact only closes on detecting a pronounced movement, signalising with a high degree of certainty that persons are present.

The stay-'ON- time remains active. The switch-'ON' delay is inactivated.

Potentiometer ⑮

Basic brightness (DIM option)

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 daylight 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.

Reach adjustment

Potentiometer ⑨

The reach required (response threshold) is infinitely variable.

- HF 360
  1 m min. – 12 m max.
- DUAL HF
  min. 3 × 3 m – 10 × 3 m in each direction

Turned fully anticlockwise (factory setting) = minimum reach

Turned fully clockwise (factory setting) = maximum reach

Parallel-connected configurations

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

⑭.1 Master/master

A parallel-connected configuration also permits the use of several masters. In this case, each master operates the lighting group in accordance with the level of brightness it measures. Delay times and brightness thresholds are selected at each master as required. The switched load is spread among the individual masters. Presence is still detected collectively by all detectors. The presence output can be picked off from any master.

⑭.2 Master/slave

The master/slave configuration permits detection of movement in large-type rooms or spaces (load connected = master, no load = slave). The level of brightness prevailing in the room is only evaluated at the master. The slaves report movements detected to the master. Lighting or HVAC is switched 'ON' and 'OFF' by the master only.

⑭.3 Two detectors linked with an external stairwell lighting timer

Old building / building modernisation

External light source activated by button. No twilight mode, day mode only.

⑭.4 Detector as stairwell lighting timer

⑭.5 DIM detector

Additional functions with RC 5

Burning-in function

Pressing the button for > 5 s activates the burn-in function for 100 h.

Presentation mode

Pressing the button for > 5 s keeps the light OFF while movement is being detected.
If movement is no longer being detected, the light switches back to sensor mode after the stay-ON time elapses (LED ON).

Additional functions with RC 8 (DIM version)

Basic brightness

Pressing the relevant button for > 5 s changes the basic brightness to 60 min.

Basic brightness level

Pressing the relevant button for > 5 s changes the brightness level in steps of 10% to: 1 = 10%, 2 = 20%, ... 6 = 60%

Dimming by pushbutton

When a pushbutton is connected to the S terminal, lighting can be dimmed by pressing the pushbutton. The pushbutton first increases lighting to maximum level and then returns it to minimum level. After releasing the pushbutton without further control action, the lighting level selected is maintained until the light is switched OFF.
The detector is then in the previously selected sensor mode.
The direction in which the level of lighting is changed (max./min.) can be reversed by briefly releasing and then re-pressing the pushbutton.

Remote control

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

User remote control RC 5, EAN 4007841 592806

Service remote control RC 8, EAN 4007841 559410

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	■ Reduce lux setting ■ Wait until stay-'ON' time elapses; reduce stay-'ON' time if necessary ■ Use stickers to mask out stationary sources of interference
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

Disposal

Electrical and electronic equipment, accessories and packaging must be recycled in an environmentally compatible manner.

Do not dispose of electrical and electronic equipment as domestic waste.

EU countries only:
Under the current European Directive on Waste Electrical and Electronic Equipment and its implementation in national law, electrical and electronic equipment no longer suitable for use must be collected separately and recycled in an environmentally compatible manner.

Declaration of Conformity

Hereby, STEINEL Vertrieb GmbH declares that the radio equipment type HF 360/DUAL HF is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: www.steinel.de

Manufacturer's Warranty

As purchaser, you are entitled to your statutory rights against the vendor. If these rights exist in your country, they are neither curtailed nor restricted by our Warranty Declaration. 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 contact us at **STEINEL (UK) Limited, 25 Manasty Road, Axis Park, Orton Southgate, Peterborough, PE2 6UP**, for a returns number.
For this reason, we recommend that you keep your receipt of purchase in a safe place until the warranty 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 warranty, please go to **www.steinel-professional.de/garantie**

If you have a warranty 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**.

5 YEAR MANUFACTURER'S WARRANTY