

smartSWITCH HF 5DP f

Automatic switching based on motion and light level

Product description

- Motion detector for luminaire installation
- Motion detection through glass and thin materials (except metal)
- For automatic on/off switching of electronic ballasts and LED Drivers
- Bright-out function: luminaire is not switched on if there is adequate brightness
- Delay time, detection range and light value for the bright-out function can be set via 9 dip switches
- Max. installation height 5 m
- Two housing options allowing flexible installation
- Variable detection area (100 – 10 %)
- Zero cross switching supported
- 5-year guarantee

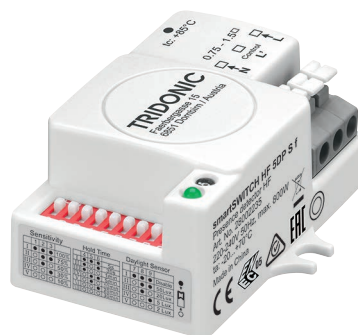


Product matrix, page 3

Wiring diagrams and installation examples, page 4



smartSWITCH HF 5DP f



smartSWITCH HF 5DP S f

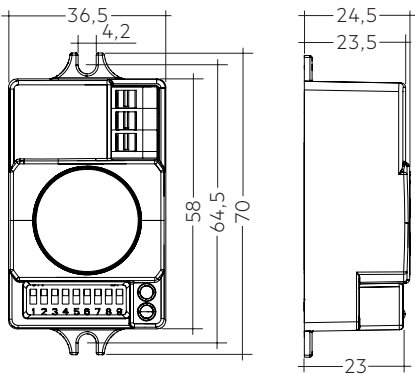


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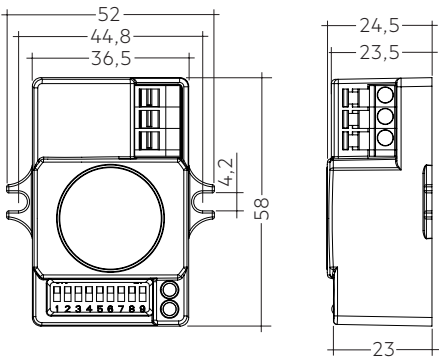
Automatic switching based on motion and light level

Technical data

| | |
|------------------------|---------------------------------|
| Rated supply voltage | 220 – 240 V |
| Mains frequency | 50 Hz |
| Power | < 0.5 W |
| Frequency | 5.8 GHz (± 75 MHz) |
| Transmission power | < 0.2 mW |
| Load resistive | 800 W |
| Load capacitive | 400 VA |
| Detection angle | 30 – 150° |
| Max. detection area | ø 7 m |
| Max. mounting height | 5 m |
| tc | 85 °C |
| Ambient temperature ta | -20 ... +70 °C |
| Storage temperature ts | -20 ... +70 °C |
| Humidity | min. 5 % ... max. 85 % at 30 °C |
| Type of protection | IP20 |
| Protection class | Reinforced insulation |
| Casing material | PC, halogen-free |
| Casing colour | RAL 9016 (white) |



smartSWITCH HF 5DP f



smartSWITCH HF 5DP S f

Ordering data

| Type | Article number | Dimensions L x W x H | Packaging, carton | Weight per pc. |
|------------------------|----------------|-------------------------|----------------------|-------------------|
| smartSWITCH HF 5DP f | 28002214 | 70 x 36,5 x 24,5 mm | 5 pc(s). | 0.040 kg |
| smartSWITCH HF 5DP S f | 28002235 | 58 x 52 x 24,5 mm | 5 pc(s). | 0.040 kg |

1. Standards

EN 61347-1
 EN 61347-2-11
 EN 300 440-2 V1.4.1 (2010-08)
 EN 301 489-3 V1.6.1 (2013-08)
 EN 62479:2010
 EN 55015:2013 + A1:2015
 EN 61000-3-2:2014
 EN 61000-3-3:2013
 EN 61547:2009

1.1 Glow-wire test according to EN 60598-1

850 °C passed

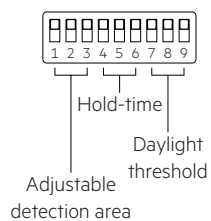
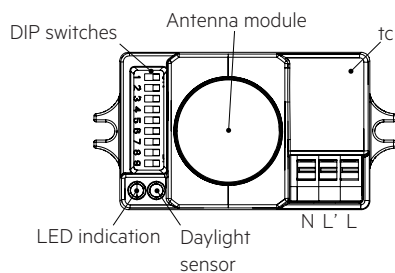
2. Common

smartSWITCH HF 5DP f and S f provides simple cost-effective motion detection in combination with the corridorFUNCTION offered by Tridonic electronic control gear.

When the sensor detects movement it triggers a predefined motion detection profile in the control gear.

If the user-definable light value at the integrated light sensor is exceeded the control gear remains switched off.

High-frequency technology enables the sensor to be installed in completely enclosed luminaires.

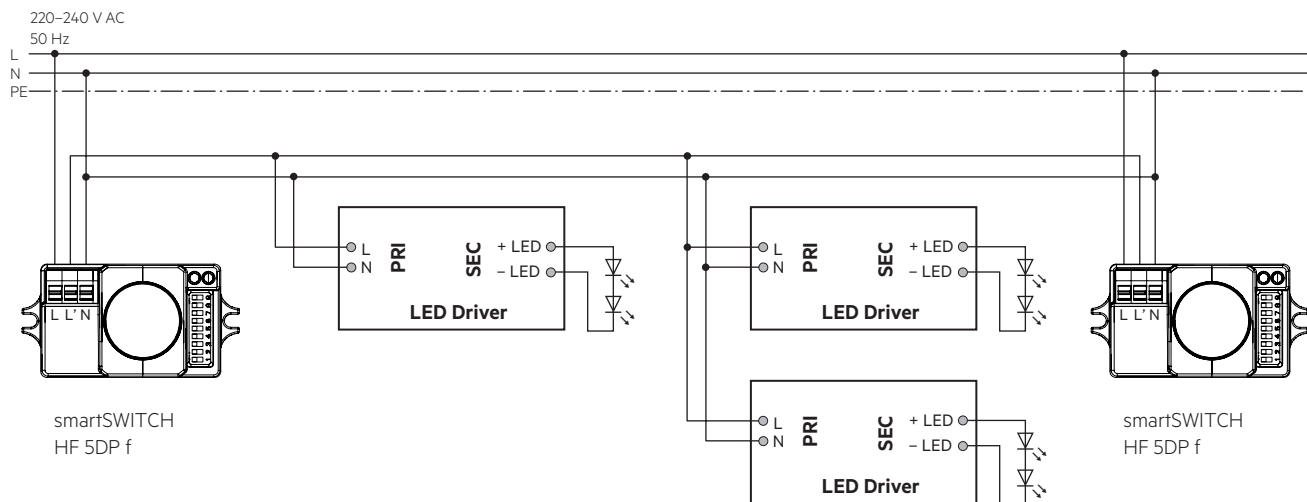


3. Installation



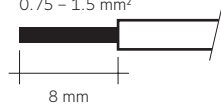
- Not for use with phase cut dimmers
- The sensor must protrude over the light sources
- The power supply must be disconnected before installation
- Suitable for installation only in indoor luminaires (e.g. corridors and closed parking garage) without vibration
- Opening angle of the sensor: must be at least 45 %
- Motion detection: only possible through thin housing material (e.g. plastic or glass), do not use metal housing
- Light sensor: must be able to detect reflected artificial light and reflected daylight
- Reflected HF waves (e.g. of walls, floors, ceilings or furniture) from other transmitters affect motion detection
- Avoid direct illumination of the light source on the sensor including housing.

Maximum load (capacitive): 400 VA



Stranded wire with ferrule or solid wire from 0.75 to 1.5 mm² may be used for wiring. Strip 8 mm of insulation from the cables to ensure perfect operation of the push-in terminals.

wire preparation:
0.75 – 1.5 mm²



4. Functions

4.1 Setting up

Setting the detection area

The detection area can be restricted to prevent the lighting system being switched on unnecessarily, as would be the case if the area was too large. The detection area indicates the diameter within which motion is detected.

| | 1 | 2 | 3 | Sensitivity |
|-----|---|---|---|-----------------|
| I | ● | ● | ● | 100 % (default) |
| II | ○ | ● | ● | 75 % |
| III | ○ | ● | ○ | 50 % |
| IV | ○ | ○ | ● | 30 % |
| V | ○ | ○ | ○ | 10 % |



Setting the switch-off delay

To prevent the lighting system being switched on and off unnecessarily you can set a switch-off delay. The delay starts after the last motion in the detection area is detected. If a further motion is detected in the detection area during this delay then the delay is retriggered. At the end of the delay the light will be switched off or the corridorFUNCTION is started.

| | 4 | 5 | 6 | Hold time |
|-----|---|---|---|---------------|
| I | ● | ● | ● | 5 s (default) |
| II | ● | ○ | ● | 30 s |
| III | ● | ○ | ○ | 1 min |
| IV | ○ | ● | ● | 5 min |
| V | ○ | ● | ○ | 10 min |
| VI | ○ | ○ | ● | 20 min |
| VII | ○ | ○ | ○ | 30 min |



Setting the daylight threshold value

A threshold value can be set to prevent the lighting system from being switched on when there is already adequate illuminance. The threshold value indicates the illuminance value below which detected motion causes the lighting system to be switched on.

| | 7 | 8 | 9 | Daylight sensor |
|-----|---|---|---|-------------------|
| I | ● | ● | ● | Disable (default) |
| II | ○ | ● | ● | 50 Lux |
| III | ○ | ● | ○ | 20 Lux |
| IV | ○ | ○ | ● | 5 Lux |
| V | ○ | ○ | ○ | 2 Lux |



Note:

To ensure the sensor switches on in conjunction with the corridorFUNCTION you should set the threshold value to I = Disable. If the threshold value disabled the sensor will always switch on.

4.2 corridorFUNCTION

The corridorFUNCTION can be activated by applying a voltage of 230 V for 5 minutes at the switchDIM connection of the control gear or via corridorFUNCTION Plug.

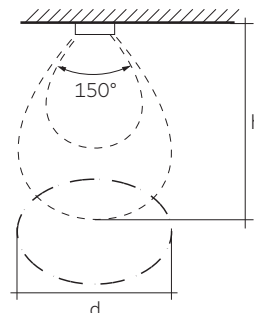
Note: To apply a voltage of 230 V for 5 minutes at the switchDIM input of the control gear the sensor must detect motion for more than 5 minutes or a switch-off delay longer than 5 minutes must be set.

4.3 Start up behaviour

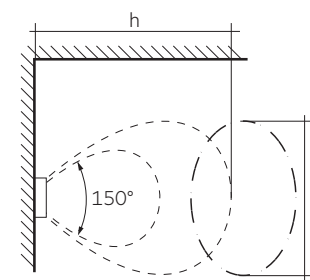
20 seconds after mains is connected, the sensor is ready and indicates this by switching on the green LED.

4.4 Motion detection

Ceiling mounted:



Wall mounted:



Sensitivity

| h | 100 % | 75 % | 50 % | 30 % | 10 % |
|-------|-------|-------|-------|-------|--------|
| 0.5 m | 5.0 m | 3.0 m | 1.5 m | 1.0 m | 0.50 m |
| 1.0 m | 6.0 m | 4.0 m | 3.0 m | 2.0 m | 1.00 m |
| 1.5 m | 6.5 m | 4.0 m | 3.0 m | 2.0 m | 1.00 m |
| 2.0 m | 7.0 m | 4.5 m | 3.5 m | 2.5 m | 1.00 m |
| 2.5 m | 7.0 m | 4.5 m | 3.5 m | 2.0 m | 1.50 m |
| 3.0 m | 7.5 m | 5.5 m | 4.0 m | 1.5 m | 0.50 m |
| 3.5 m | 5.5 m | 3.5 m | 2.0 m | 0.5 m | 0.25 m |
| 4.0 m | 5.5 m | 3.0 m | 1.5 m | 0.5 m | 0.25 m |
| 4.5 m | 3.5 m | 2.0 m | 1.0 m | 0.5 m | 0.25 m |
| 5.0 m | 3.0 m | 1.5 m | 1.0 m | 0.5 m | 0.25 m |

Diameter of the detection cone as a function of height at maximum detection area without taking objects in the room into consideration. Stationary objects (walls, tables, floor-standing luminaires, etc.) located in the direct view of the sensor change the characteristics of the detection area.

The mentioned values are typical minimum values depending on the environment and application the detection area may increase.

4.5 Detection sensitivity

Optimized for detection of pedestrians with a speed of 0.5 – 1.5 m/s corresponds to 1.8 – 5.4 km/h.

Depending on the application and environmental conditions the maximum detectable speed of object may vary.

5. Miscellaneous

5.1 Disposal of equipment



Return old devices in accordance with the WEEE directive to suitable recycling facilities.

5.2 Additional information

Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

Life-time declarations are informative and represent no warranty claim. No warranty if device was opened.