

*RP20 and RP25*  
*reflective photo electric switch*



**WITT**  
Sensoric

Optoelectronic systems

*Operating gates safely*

## RP20 and RP25 reflective photo electric switch

- ◇ Reflective photo electric switch with polarisation filter
- ◇ Range 0.5...15m, depending on the type of reflector
- ◇ Insensitive against ambient light
- ◇ High degree of protection
- ◇ Optional cable entry
- ◇ Terminal compartment
- ◇ Polarisation filter optical system
- ◇ Test input
- ◇ Protected against polarity reversal
- ◇ Relay output
- ◇ Easy adjustment of the optical sensor
- ◇ Soiling indication
- ◇ LED alignment indication



### Functional Description

*The RP20/RP25 reflective photo electric switch has been developed specially for door installations and offers the optimum solution for this application.*

#### **Polarisation filter:**

Detects even “shiny” objects between the photo electric switch and the reflector.

#### **Large range:**

Offers reserves against soiling, rain, snow and fog.

#### **Optional cable entry:**

There are 2 cable entries moulded into the casing which can be broken out. Cable can be connected from the back or the bottom.

#### **Insensitive against ambient light:**

The light barrier is not affected from sunlight or other external light sources.

#### **High degree of protection:**

The hermetically closed casing is suitable for outside use.

#### **Relay output:**

Potential-free changeover contact

#### **Protected against polarity reversal:**

Either polarity is acceptable.

#### **Terminal compartment:**

The RP20/RP25 has a large terminal compartment. The screw terminals can also be pulled out for easy connection.

#### **Adjustment screws:**

The light barrier can still be adjusted to the reflector using the 3 adjustment screws, even if the casing is mounted to the wall.

#### **Soiling indication:**

In case of a soiled light barrier the red LED starts flashing before it drops out.

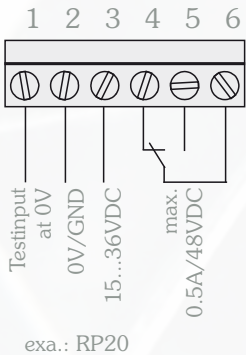
#### **Alignment indication:**

The alignment LED flashes red when the photo electric switch is not optimally aligned to the reflector. Alignment OK = LED lights up green

## Technical Data

Operating voltage RP20	15...36VDC, polarity reversal protected	Range	RD82 SW4 0.5...12m R100/100 0.5...15m R30/60 0.5...8m
Operating voltage RP25	10...40VDC o. 24VAC ±25%	Indications	dual LED red/green
Operational	<100ms after power on	Light beam interrupted	= lights up red
Current consumption	max. 30mA/24V	Light beam uninterrupted, spare critical function capacity.	= flashes red at 4Hz
Type of light	red, 680nm pulsed, polarised	Light beam uninterrupted, high spare function capacity.	= lights up green
Aperture angle	approx. 1.5° round angle	Additional function	test input (when 0V at terminal 1 the transmitter switches off)
Output	relay, changeover contact	Type of connection	screw terminal max. 1.5mm <sup>2</sup>
Switch rating	min. 1mA/min. 5VDC max. 0.6A/50VAC max. 0.5A/48VDC (resistive load)	Casing material	lower part: ABS-GF15% upper part: PMMA, red
Response time	<10ms, detection of light beam interruption	Degree of protection	IP67 according to EN60529
Relay delay	100ms, when the light beam is uninterrupted again, the relay picks up with 100ms delay	Operating temperature	-25...60°C
Type of switching	responsive to brightness, i.e. the relay picks up when the light beam is uninterrupted	Storage temperature	-35...80°C
		Weight	approx. 60g
		Size	86x44x39mm <sup>3</sup> (LxWxH)

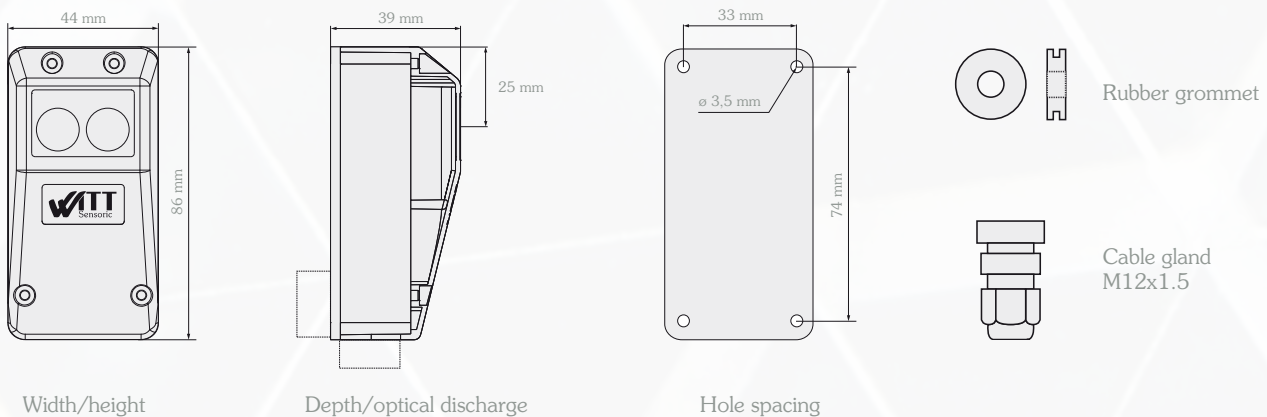
## Terminal Assignments



**Note:** For testing purposes the light barrier switches off the transmitter if GND/0V is connected to terminal 1. Safety-related the light barrier is switched in light-on mode. The relay is activated with uninterrupted light beam.

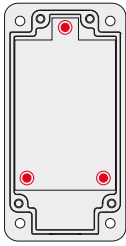


## Size

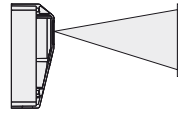


**Note:** The cable entry is moulded into the lower part of the casing and can be broken out. Either the rubber grommet or the cable gland (both supplied) can be used.

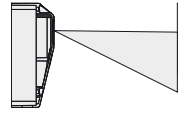
## Fine Adjustment



After mounting the photo-switch the light beam can be adjusted using 3 screws.  
**Important note!**  
 The optical sensor is spring-mounted. All 3 screws are unscrewed by 1 turn factory-made, the maximum is 3 turns.  
 The optical sensor is optimally aligned when the green LED lights up constantly.



LED lights up:  
 100 % of the cone of light is hitting the reflector



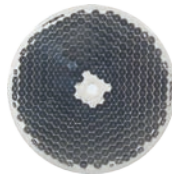
LED flashing:  
 Less than 100 % of the cone of light is hitting the reflector

## Accessories



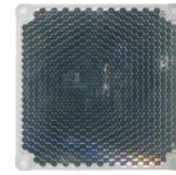
**R30/60 reflector**

Size 30x81mm<sup>2</sup>  
 Range 0.5...8m



**RD82 SW4 reflector**

Size ø 82mm  
 Range 0.5...12m



**R100/100 reflector**

Size 100x100mm<sup>2</sup>  
 Range 0.5...15m



**Anti-condensation cover for R30/60 reflector  
 ISO 30/60**

Material Polystyrene or Neopor



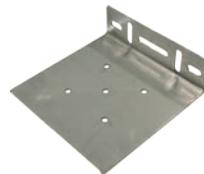
**Anti-condensation cover for RD82 SW4 reflector  
 ISO RD82**

Material Polystyrene or Neopor



**HW-LS20 mounting bracket**

Material bright 1.5 1.4301 (V2A)



**HW-RD82 mounting bracket**

Material bright 1.5 1.4301 (V2A)

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