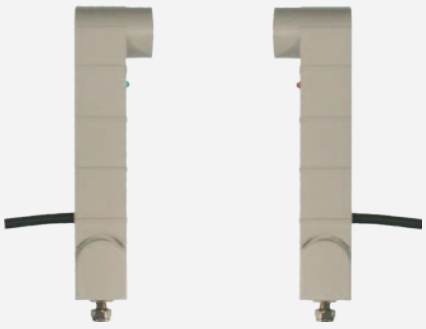
TwinSafe and TwinPro
Pull-in protections



WITT Sensoric

Optoelectronic systems

Operating gates safely

TwinSafe and TwinPro pull-in Protection

- **Technology which conforms to standards ***
- **Large range 1…20m**
- **Slim design**
- **Easy to adjust**
- **Front indicator LED**
- **High degree of protection IP67**
- **Two versions**

* complies with standards: DIN IEC 61496-2, DIN EN 954-1 (category 2), EN 12978:2003, EN 12453:2000, EN 12445:2000

TwinSafe (relay output)

Range	1…20m
Operating voltage (U_B)	10…30VDC
Current consumption	transmitter: 35mA receiver: 35mA
Type of light	IR, modulated
Aperture angle	approx. 2° round angle
Test input	U_B = Transmitter off
Test response times	
U_B at test input:	typ. 20ms until relay drops out
Test input uninterrupted:	typ. 100ms until relay picks up
U_B switched off:	typ. 20ms until relay drops out
U_B switched on:	typ. 100ms until relay picks up
Speed of response	max. 20ms delay between light beam interruption and output response
Switch on delay	typ. 100ms
Output	relay, potential-free changeover contact
Switch rating	min. 1mA/min. 5VDC, max. 0.6A/50VAC max. 0.6A/50VDC
Type of switching	responsive to brightness,relay picks up when light beam is uninterrupted
LED indications	
Transmitter:	green LED on when U_B on, flashes during test,
Receiver:	green/red dual LED, green when U_B and light beam uninterrupted (relay picks up), red when light beam interrupted (relay drops out)
Adjustment range	axial: 360°, vertical: ±30°
Casing material	PA6 with 30% glass fibre
Optical termination	lexan, infrared transparent
Type of connection	hardwired, PVC, casing black, Ø approx. 4.3mm transmitter 3x0.14mm² receiver 5x0.14mm² standard length of each 13m
Degree of protection	IP67 according to EN60529, filled with 2K-epoxy resin
Operating temperature	-25…+55°C

Terminal assignment

Transmitter
10…30VDC — brown
0V GND — blue
Test input — black

Receiver
10…30VDC — brown
0V GND — blue
max. 0.5A 48VDC — grey, yellow, pink

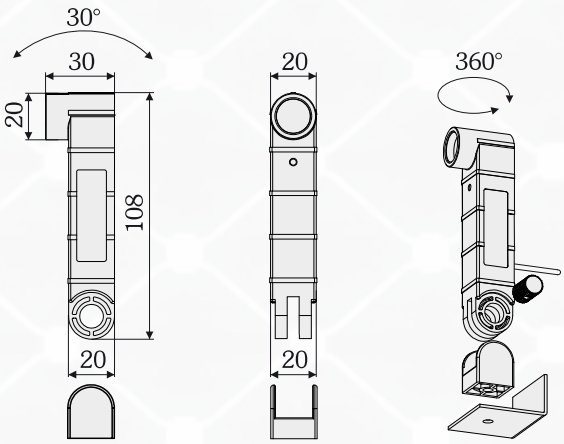
Product description

With the TwinSafe and TwinPro we offer two photo-electric systems which conforms to standards for use as pull-in protections on doors.

The photo-electric switches are very easy to attach and align using a single securing screw.

We offer two variants to allow direct connection to commercially-available control systems.

The TwinSafe with test input and relay output or the TwinPro with changeover signal output, as for an op-toelectronic safety edge.



TwinPro (changeover signal output)

Range	1...20m
Operating voltage	12VDC±10%
Current consumption	transmitter: max. 20mA teceiver: max. 20mA
Type of light	IR, modulated
Aperture angle	approx. 2° round angle
Output	transistor-output, max. load 10mA, short-circuit proofed
Levels	low level 0...1V high level 3...5V
Signal frequency	typically 900Hz (0.5kHz...2kHz)

LED indications
- Receiver: green LED
- Transmitter: green/red dual LED, green when U_B on and light beam uninterrupted, red when light beam interrupted

Adjustment range	axial: 360°, vertical: ±30°
Casing material	PA6 with 30% glass fibre
Optical termination	lexan, infrared transparent
Type of connection	hard wired, PUR, casing black, Ø approx. 3.3mm transmitter 3x0.14mm² receiver 3x0.14mm² standard length of each 13m
Degree of protection	IP67 according to EN60529, filled with 2K-epoxy resin
Operating temperature	-25...+55°C

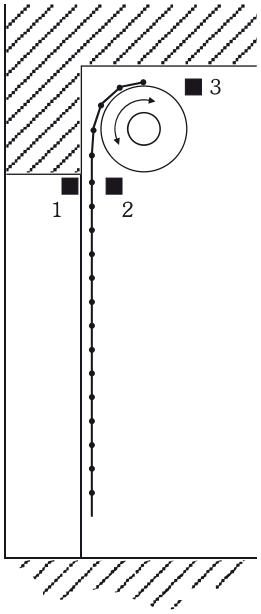
Terminal assignment

Transmitter	12VDC — brown 0V GND — white dynamic signal — green
Receiver	12VDC — brown 0V GND — white dynamic signal — green

Requirements

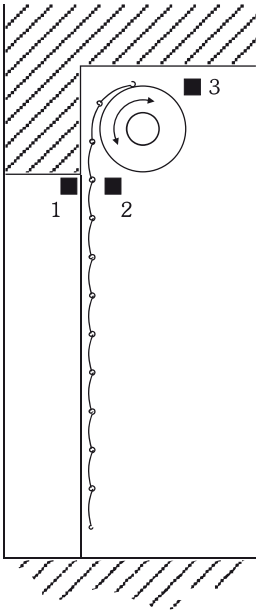
DIN EN 12453 requires that power-operated doors should be provided with safeguards against the hazards of crushing, shearing and pull-in points, unless the doors are used with dead-man control. Hazard points up to a height of 2.50m should be considered, and also situations in which a person can be lifted up by the door. DIN EN 12453 also requires a switching protective device which ensures that the door immediately stops even before the hazard point is reached.

Installation situations



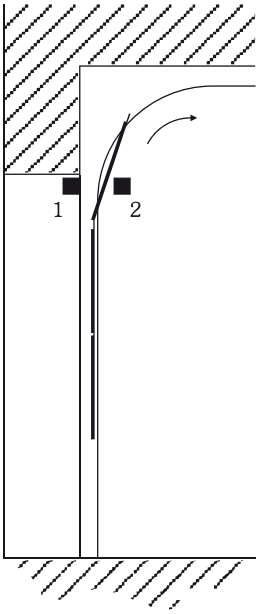
Roller grille doors

Since roller grille doors can lift up persons, hazard points 1 and 2 must be protected in all cases. Pull-in protection at hazard point 3 is necessary if the distance between the upper face of the finished floor and the lower face of the ceiling is less than 2.50m and the wrap-around roller is not suitably enclosed.



Roller shutter doors

Protection at hazard point 1 is necessary if it is considered conceivable that persons could be lifted up by the shutter elements, or the height of the hazard point is less than 2.50m. Protection at hazard point 2 is necessary if the distance between the upper face of the finished floor and the lower face of the wrap-around roller or its enclosure is less than 2.50m, or the roller shutter armouring is such that persons could be lifted up. Protection at hazard point 3 should be provided as described above for roller grille doors.



Sectional doors

Protection at hazard point 1 is necessary if it is considered conceivable that persons could be lifted up by the moving door segment, or the height of the hazard point is less than 2.50m. If a hazard point exists also on the inside of the door this must be protected if it is lower than 2.50m or if persons could be lifted up.

The mentioned cases are recommendations only. For further information please ask the TÜV or other competent authority.

Witt Sensoric GmbH
Gradestraße 48-50 · 12347 Berlin · Germany
Tel.: +49 (0) 30 / 75 44 94-0
Fax: +49 (0) 30 / 75 44 94-11
info@witt-sensoric.de
www.witt-sensoric.de