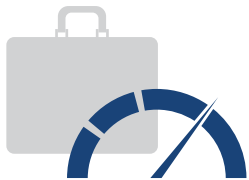
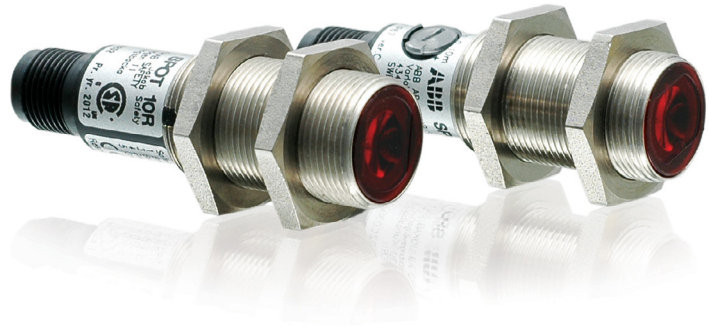


# Safety light beam Spot

Spot is a light beam mainly used for body detection. It consists of a transmitter and a receiver. Infrared light is sent from the transmitter to the receiver and when the light beam is interrupted a stop signal is given to the dangerous machine.

Spot needs to be connected to Pluto safety PLC or Vital safety controller and can be used for distances up to 10 meter.



## Speed up installation

### Easy to place

Spot is very compact which makes it easy to place.

### Easy cabling

M12 and Y connectors speed up the installation.

### Minimal cabling

Up to 6 Spot light beams can be connected in series to Vital while maintaining PL e.

### Accessories simplifies mounting

Brackets and mirrors simplify mounting and make it easy to create a suitable light beam setup.



## Continuous operation

### LED indication

LED indication shows if the units are in contact and simplifies alignment.

### Information output

Information output reduces troubleshooting time.



## Safety and protection

### Highest safety level

Spot used together with Pluto or Vital achieves PL e according to EN ISO 13849.

### Safe series connection

Easy to connect several Spot in series to make a multi-beam solution while still achieving PL e.

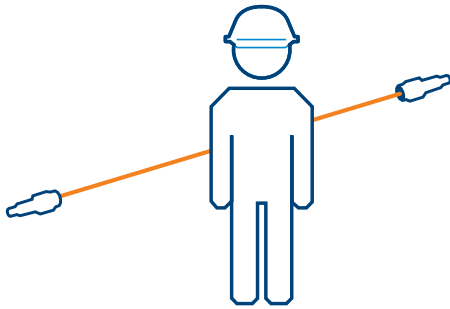
# Applications

## Spot

### Applications

#### Perimeter guard

Spot can be used as a perimeter guard to detect if someone gets too close to the dangerous zone. Since spot only consists of one beam, the risk assessment has to decide if this is suitable for the safety function.



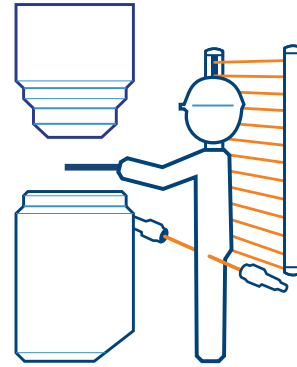
#### Light beams

By using deflective mirrors, a suitable light beam setup can easily be created by just using one Spot transmitter and receiver pair. Spot has a sensing distance of 10 m, but each mirror used reduces the sensing distance by approximately 20%.

If longer distances or more beams are required, it is simple to connect up to 6 Spot light beams in series, while maintaining PL e.

#### Complementary protective device

Spot is often used together with other protective devices, e.g. to detect someone standing on the wrong side (inside) of the protective device.



#### Light beam adjustment

In environments with optical disturbances the power of the light beam can be adjusted using the trim potentiometer on the transmitter.

#### DYNlink solution

Spot uses the ABB Jokab Safety DYNlink signal that allows to connect several safety products in series while maintaining PL e using only one channel. DYNlink signals must be used with Vital safety controller or Pluto programmable safety controller. Up to 6 Spot can be connected in series to Vital and up to 2 Spot can be connected in series to one input of Pluto. All products using the DYNlink signal can easily be connected in series and mixed in the same loop with a maintained PL e. Tina adapters allow to use other products in a DYNlink loop, and a wide range of connection accessories simplify the cabling.

#### Info signal and extensive indication facilitate troubleshooting

Spot offers extensive LED indication to help troubleshooting and localizing which safety device has caused a stop. The LEDs on the Spot transmitter and receiver have the following functions:

**transmitter green** - power supply OK

**receiver green** - alignment OK, DYNlink circuit closed

**receiver flashing** - alignment OK, earlier DYNlink circuit open

**receiver off** - beam interrupted, DYNlink circuit open

# Ordering information

## Spot



Spot 10 T/R

2TLC172441F0201

### Ordering details

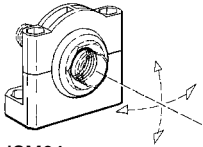
Description	Type	Order code
Spot 10 T/R safety light beam, transmitter and receiver	Spot 10 T/R	2TLA020009R0600

### Mounting accessories

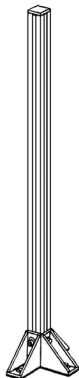
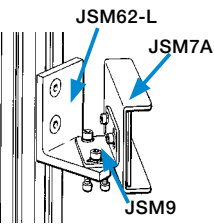
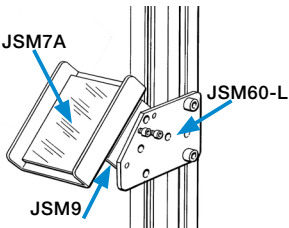
Description	Type	Order code
Adjustable mounting bracket with rotational knuckle for 18 mm barrel style sensors.	JSM64	2TLA040007R0200
Bracket for JSM9 for vertical angling. Includes screws for profile.	JSM60-L	2TLA040003R0000
Bracket for JSM9 for horizontal angling around a machine. Includes screws for profile.	JSM62-L	2TLA040004R0000
Mirror for 0-20 m, adjustable mirror plate. Dimensions: 115 × 80 × 30 mm. Screws for bracket included.	JSM7A	2TLA040006R0500
Bracket for mirror.	JSM9	2TLA040007R0000
Wrench for tightening of M12 connectors according to specified torque: 0.6 Nm.	M12 Torque wrench	2TLA020053R0900
Aluminum post 44 x 44 x 1100 mm with 3 feet brackets and end caps.	JSMA44A-L	2TLA040001R1100

### Connection accessories

Description	Type	Order code
Y-connector for series connection of DYNlink devices with M12-5 connectors, e.g. Spot	M12-3A	2TLA020055R0000
Y-connector for parallel connection of 2 DYNlink devices with M12-5 connectors, e.g. Spot	M12-3B	2TLA020055R0100



JSM64



JSMA44A-L

# Ordering information

## Spot



M12-C61

2TLC172951R0201



M12-C61HE

2TLC0100039F0201

### Cable with connectors

Connector	Female/male	Length	Special feature	Type	Order code
M12-5	Female	6 m		M12-C61	2TLA020056R0000
			Harsh environment, halogen free	M12-C61HE	2TLA020056R8000
		10 m		M12-C101	2TLA020056R1000
			Harsh environment, halogen free	M12-C101HE	2TLA020056R8100
	Female + male	20 m		M12-C201	2TLA020056R1400
		0.3 m		M12-C0312	2TLA020056R5800
		0.06 m		M12-C00612	2TLA020056R6300
		1 m		M12-C112	2TLA020056R2000
		3 m		M12-C312	2TLA020056R2100
		6 m		M12-C612	2TLA020056R2200
		10 m		M12-C1012	2TLA020056R2300
			Angled female connector	M12-C1012V2	2TLA020056R6700
		16 m		M12-C1612	2TLA020056R5400
		20 m		M12-C2012	2TLA020056R2400

### Separate cables and connectors

Description	Type	Order code
<b>Connectors</b>		
M12-5 pole female, straight	M12-C01	2TLA020055R1000
M12-5 pole male, straight	M12-C02	2TLA020055R1100

### Cable with 5 conductors

10 m cable with 5 x 0.34 shielded conductors	C5 cable 10 m	2TLA020057R0001
50 m cable with 5 x 0.34 shielded conductors	C5 cable 50 m	2TLA020057R0005
100 m cable with 5 x 0.34 shielded conductors	C5 cable 100 m	2TLA020057R0010
200 m cable with 5 x 0.34 shielded conductors	C5 cable 200 m	2TLA020057R0020
500 m cable with 5 x 0.34 shielded conductors	C5 cable 500 m	2TLA020057R0050



M12-C01

2TLC172651R0201




C5 cable

2TLC0100039F0201

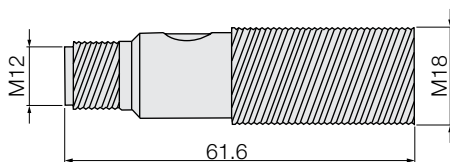
# Technical data

## Spot

### Technical data

Approvals (pending)	TÜV NORD 
Conformity	<b>CE</b> 2006/42/EC - Machinery 2004/108/EC - EMC EN ISO 12100:2010, EN ISO 13849-1:2008, EN 62061:2005, EN 61508:2010, EN 60204-1:2006+A1:2009, EN 61496-1:2004+A1:2008, EN 60664-1:2007, EN 61000-6-2:2005, EN 61000-6-4:2007
Functional safety data	
EN/IEC 61508:2010	SIL3, $\text{PFH}_D = 1.14 \times 10^{-8}$
EN/IEC 62061:2005+A1:2013	SILCL3, $\text{PFH}_D = 1.14 \times 10^{-8}$
EN ISO 13849-1:2008	PL e, Cat. 4, $\text{PFH}_D = 1.14 \times 10^{-8}$
EN/IEC 61496-1:2004	Type 4 with Vital/Pluto
Electrical data	
Operating voltage	+17...+27 VDC, ripple $\pm 10\%$ (SELV/PELV)
Mechanical data	
Operating temperature	-25...+65°C
Protection class	IP67
Range	0 - 10 m
Installation	2 x M18 nuts (provided)
Cable connection	M12-4 male connector on the transmitter and M12-5 male connector on the receiver
Serial connection	
With Vital	Up to 6 Spot light beams can be connected in series while maintaining PL e.
With Pluto	2 Spot light beams can be connected in series on each Pluto input while maintaining PL e.

### Dimension drawings



All dimensions in mm

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