

## Description

- Operation mode and max sensing range:  
Diffuse proximity: 0,1-5 m  
Background suppression: 0,1-2 m
- Compact rectangular housing (50x50 mm)
- Cable or rotatable plug connection
- Sensitivity adjustment via potentiometer
- Switch selectable light or dark function
- Adjustable on/off time delay
- Power, output and signal level indicators
- 10-30 V dc or 12-240 V ac/dc supply voltage
- 4 wire, NPN/PNP output or 5 wire relay output
- Test input



The long range SP 2000 series consists of a self-contained diffuse proximity unit, SPP and background suppression unit, SPBS. Both models are offered with sensitivity/range adjustment via integral potentiometer, and with a choice between cable or 180° rotatable plug connection.



The complete series is available as a 4 wire, NPN/PNP transistor output with 10-30 V dc supply voltage or as a 5 wire SPDT, relay output

with 12-240 V ac/dc supply voltage. Both offer switch selectable light or dark function and potentiometer adjustable 0-10 sec on/off time delay.

The dc series is protected against reverse polarity of power supplies, test input and output signals. The output is protected against short circuit and inductive loads.

Technical Data		SPP	SPBS
Supply voltage	ac / dc	12-240 V dc / 20-240 V ac	
	dc	10-30 V dc	
Voltage ripple		Max. 15 %	
Output	Relay	1 open / 1 close, 240 V ac / 2 A	
	Transistor	200 mA / 30 V dc	
Reverse polarity protected	dc	Yes	
Short circuit protected	dc	Yes	
Current consumption	ac	< 70 mA	
	dc	< 65 mA	
Maximum operation frequency	ac	20 Hz	13 Hz
	dc	72 Hz	25 Hz
Response time $t_{ON} / t_{OFF}$	ac	25 ms / 25 ms	40 ms / 40 ms
	dc	7 ms / 7 ms	20 ms / 20 ms
Delay $t_{ON} / t_{OFF}$		0-10 sec, adjustable	
Power on indicator		Green LED	
Output indicator		Yellow LED	
Signal status indicator		Red LED	
Hysteresis		5-15 %	3-10 %
Light source		Infrared (880 nm)	
Opening angle		+/- 5°	
Emission angle		+/- 1,5°	
Housing material	Sensor housing	Polycarbonate / ABS	
	Front lens	Polycarbonate	
Cable, PVC Ø 4,9 mm	ac	5 x 0,20 mm <sup>2</sup>	
	dc	4 x 0,20 mm <sup>2</sup>	

**Environmental Data**

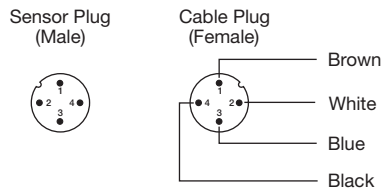
		SPP	SPBS
Vibration		10-55 Hz, 0.5 mm	
Shock		30 g	
Light immunity	@ 15° incidence	25 000 lux	
Temperature, operation		-20 to +55 °C	
Temperature, storage		-40 to +80 °C	
Sealing class		IP 67	
Approvals	ac		
	dc		

**Available Types**

	Type	Power Supply	Control Feature	Time Delay	Connection	5 m cable	4 pin, M12 plug	Range
					Output	Order Reference		
Diffuse Proximity	2605	10-30 V dc	Sensitivity potentiometer and light/dark switch	On/Off Delay	NPN/PNP	<b>SPP 2605T 5</b>	<b>SPP 2605T J</b>	0,1-5 m
				-		<b>SPP 2605 5</b>	<b>SPP 2605 J</b>	
	On/Off Delay	Relay		<b>SPP 2905T 5</b>	-			
	-			<b>SPP 2905 5</b>	-			
Background Suppression	2602	10-30 V dc	On/Off Delay	NPN/PNP	<b>SPBS 2602T 5</b>	<b>SPBS 2602T J</b>	0,1-2 m	
			-		<b>SPBS 2602 5</b>	<b>SPBS 2602 J</b>		
	On/Off Delay	Relay	<b>SPBS 2902T 5</b>	-				
	-		<b>SPBS 2902 5</b>	-				

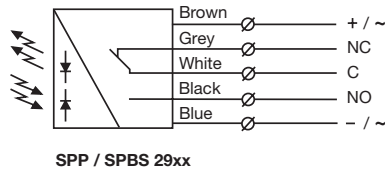
Connections		
	Cable	M12 Plug / Cable
<b>AC/DC</b>		
Supply + / ~	Brown	-
Supply - / ~	Blue	-
Output NC	Grey	-
Output NO	Black	-
Output C	White	-
<b>DC</b>		
Supply +	Brown	Pin 1 / Brown
Supply -	Blue	Pin 3 / Blue
SPT test input	Black	Pin 4 / Black
Output NPN	White	Pin 2 / White
Output PNP	Black	Pin 4 / Black

4 pin, M12

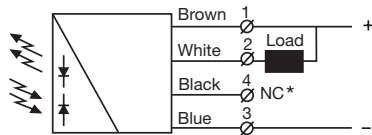


Wiring Diagrams

AC/DC Models

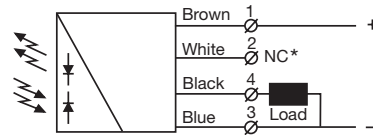


DC Models



\* Do not connect black wire

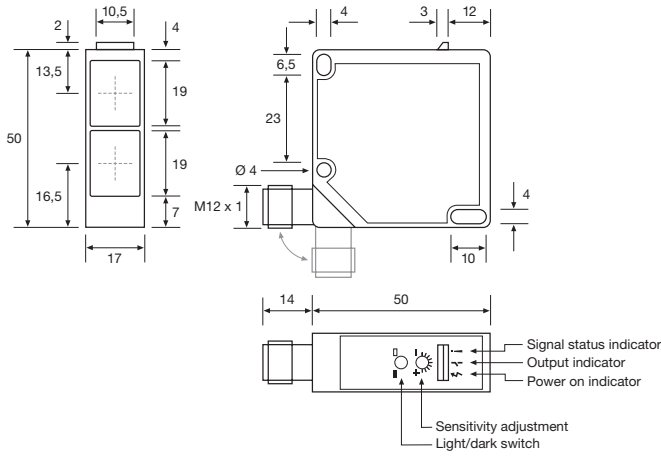
SPP / SPBS 26xx  
Load as NPN



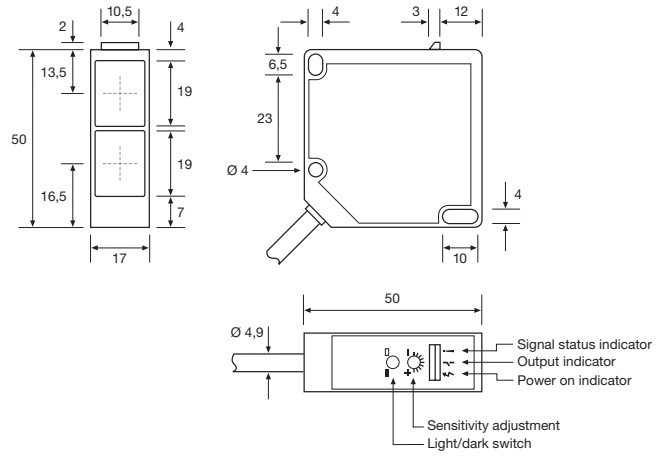
\* Do not connect white wire

SPP / SPBS 26xx  
Load as PNP

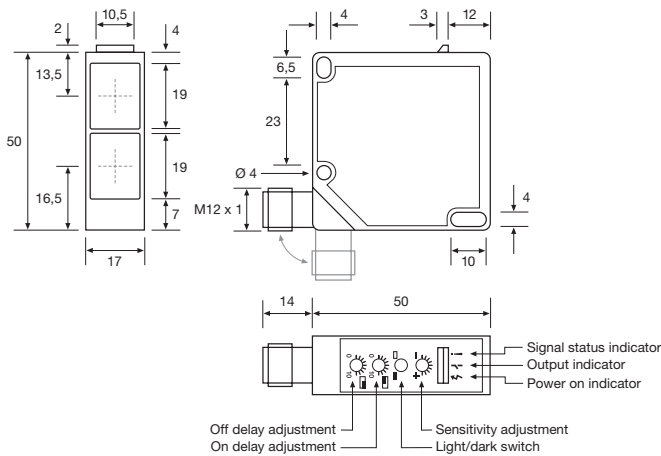
Dimensions and Descriptions



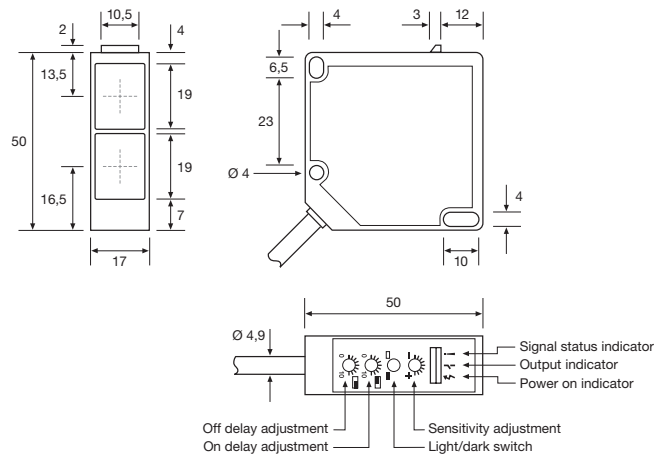
SPP / SPBS 260x J



SPP / SPBS 2x0x 5



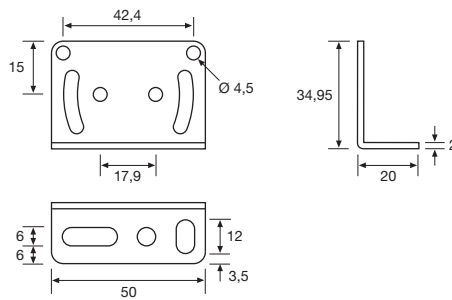
SPP / SPBS 260xT J



SPP / SPBS 2x0xT 5

(Units in mm)

Mounting Bracket

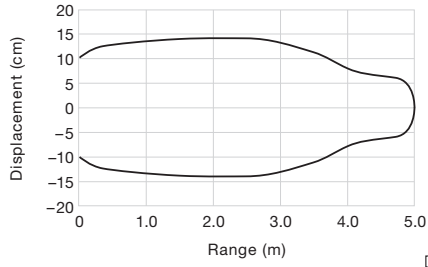


TR SP35-50 L  
Stainless steel AISI 304  
(Included with each unit)

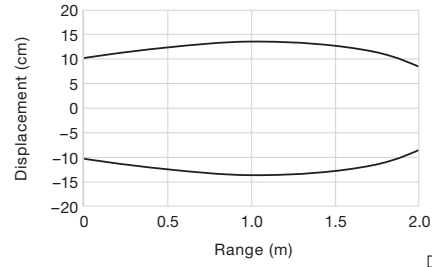
(Units in mm)

Sensing Characteristics

Parallel Displacement



SPP 2x05



SPBS 2x02



Telco reserves the right to change specifications without notice.