

VS1RP5CV20Q

Photoelectric Sensor – Convergent Mode Sensor

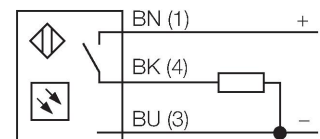
Miniature Sensor



Features

- Cable with male end, PVC, M8 × 1, 3-pin, 150 mm
- Very high excess gain
- Operating voltage: 10...30 VDC
- PNP switching output, dark operation

Wiring diagram



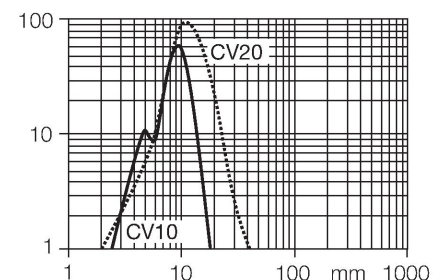
Technical data

Type	VS1RP5CV20Q
ID	3063095
Optical data	
Function	Proximity switch
Operating mode	Convergent
Light type	Red
Wavelength	630 nm
Focal distance	15 mm
Range	20 mm
Electrical data	
Operating voltage	10...30 VDC
Residual ripple	< 10 % U _{ss}
DC rated operational current	≤ 50 mA
No-load current	≤ 25 mA
Short-circuit protection	yes
Reverse polarity protection	yes
Output function	NO contact, PNP
Current output	0...50 mA
Switching frequency	≤ 500 Hz
Readiness delay	≤ 0 ms
Response time typical	< 1 ms
Mechanical data	
Design	Rectangular, VS1
Dimensions	11.6 x 8.3 x 25.7 mm
Housing material	Plastic, Thermoplastic material, Black
Lens	plastic, Acrylic

Functional principle

Convergent mode sensors are equipped with a lens in front of the emitter diode that produces a small and intense focal point at a defined distance from the sensor. Similar to diffuse mode sensors, the light reflected by the target is evaluated. Convergent mode sensors are ideal for detection of small targets or colour marks and edge guiding or positioning control of transparent materials. The targets must always be within the focal depth of the sensors. The focal depth is defined as the area in front of or behind the focal point within which the object can be detected. Based on the intense light concentration in the focal point, convergent mode sensors are capable of detecting targets with a low reflectivity. Excess gain curve

Excess gain in relation to the distance



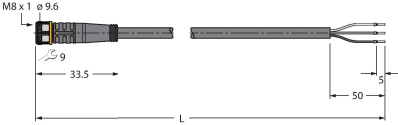
Technical data

Electrical connection	Cable with connector, M8 × 1, 0.15 m, PVC
Number of cores	3
Ambient temperature	-20...+55 °C
Protection class	IP54
Power-on indication	LED, Green
Switching state	LED, Yellow
Error indication	LED, green, Flashing
Excess gain indication	LED
Tests/approvals	
Approvals	CE

Accessories

SMBVS1T	3055496	SMBVS1TC	3056795
Mounting bracket, stainless steel, rectangular, for VS1		Mounting bracket, stainless steel, rectangular, for VS1	
SMBVS1S	3055554	SMBVS1SC	3056797
Mounting bracket, stainless steel, rectangular, for VS1		Mounting bracket, stainless steel, rectangular, for VS1	

Accessories

Dimension drawing	Type	ID	
	PKG3M-2/TEL	6625058	Connection cable, female M8, straight, 3-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com
	PKW3M-2/TEL	6625064	Connection cable, female M8, angled, 3-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com