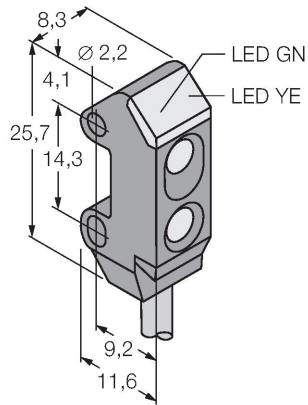


VS1RN5CV20

Photoelectric Sensor – Convergent Mode Sensor

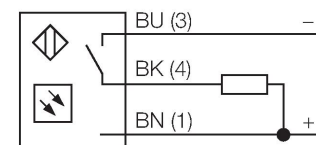
Miniature Sensor



Features

- Cable 2 m
- Very high excess gain
- Operating voltage: 10...30 VDC
- NPN switching output, dark operation

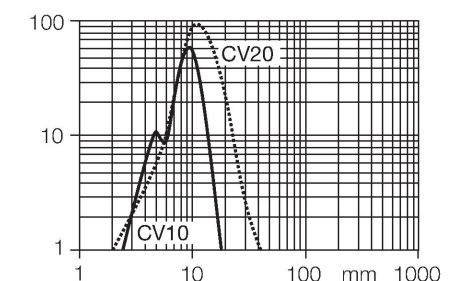
Wiring diagram



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

Type	VS1RN5CV20
ID	3056497
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, NPN
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

Technical data

Electrical connection	Cable, 2 m, PVC
Number of cores	3
Core cross-section	0.34 mm ²
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