

Contact displacement sensor built into amplifier

D5V

Contact displacement sensor integrated with the amplifier enables inline measurement of a variety of objects at a low operating force (0.29 N).

- Measures glass, plastic, rubber, and a variety of other objects at low operating force (0.29 N).
- Two types are available: 4- to 20-mA linear output with respect to a stroke of 0 to 5 mm, and digital output (supports B7A communication).
- Three types of measurement head can be selected according to the object: ball, pin or flat.
- A sensor I/O connector (XS3) makes it easy to connect the sensor.



Ordering Information

Stroke	Output specifications	Measurement head	Resolution	Model
5 mm	4 to 20 mA	Ball type	10 μm	D5VA-3B1
		Pin type		D5VA-3P1
		Flat type*1		D5VA-3F1
	B7A serial communication output*2	Ball type	1 μm	D5VM-3B1
		Pin type		D5VM-3P1
		Flat type		D5VM-3F1

*1. The tip of the flat type accepts an M2.5 screw (5-mm depth) to allow for attachment of a measurement head.

*2. The D5VM-3□1 is used in combination with a B7A Link Terminal Output Unit or a C200H-type or CQM1-type B7A Interface Unit. Use a standard transfer delay time type (19.2 ms) with 16 points or 32 points (a high-speed type cannot be used).

Rating/performance

Item	Model	D5VA-3□1	D5VM-3□1
Power supply voltage		12 to 24 VDC ±10%*1	
Current consumption		80 mA max.	
Measurement range		5 mm	
Operating range		Approx. 5.7 mm	
Offset adjustment range		±0.25 mm	
Resolution		10 μm	1 μm
Linearity		±0.5%FS max.	
Repetition precision		10 μm max.	
Response speed		6 ms max.	37 ms or less (including transfer delay time)
Operating force		0.3 N or less	
Output		Linear current output of 4 to 20 mA (permissible load resistance: 0 to 300 Ω)	B7A serial communication output (BCD mode, multi-point ON/OFF output mode*2)
Installation dimensions		M4 screws, 2	
Display		Power/pressure warning	Power/pressure warning, state of settings, output state
Mechanical life		10 million times or more	
Temperature drift		±0.04%FS/°C max.	
Operating temperature		-10° to 55°C (with no icing or condensation)	
Storage temperature		-25°C to 65°C (with no icing or condensation)	
Humidity range		35% to 85%RH (with no condensation)	
Insulation resistance		100 MΩ or higher (using 100-V DC insulation resistance tester)	
Dielectric strength		1,000 VAC at 50/60 Hz for 1 minute	
Noise resistance		Noise level 1.5 kV, pulse width 100 ns, 1 μs	
Vibration resistance		10 to 55 Hz, Vibration width 0.75 mm	
Shock resistance		196 m/s ²	
Connection cable		2 m (XS3F-M421-402-R included as accessory)	
Weight		Approximately 80 g (excluding cable)	
Material		ABS/PC (polymer alloy)	

*1. When using the D5VM-3□1 and B7A output units powered from only one of their power sources, use a voltage of 24 V DC ±10%.

*2. BCD and multi-point output modes can be selected as desired using a switch.

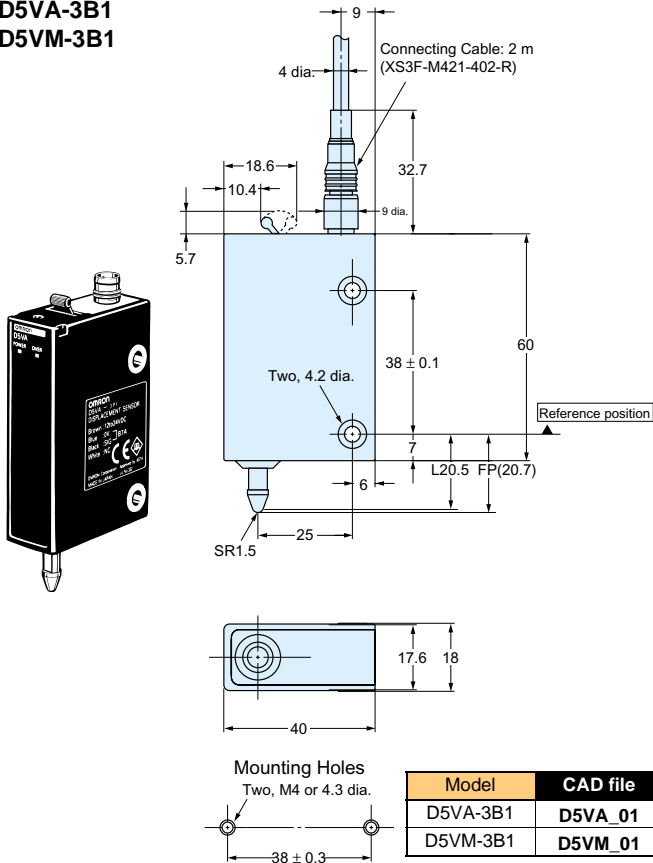
Certified safety standard rating

Complies with EN50081-1 and prEN50082-2

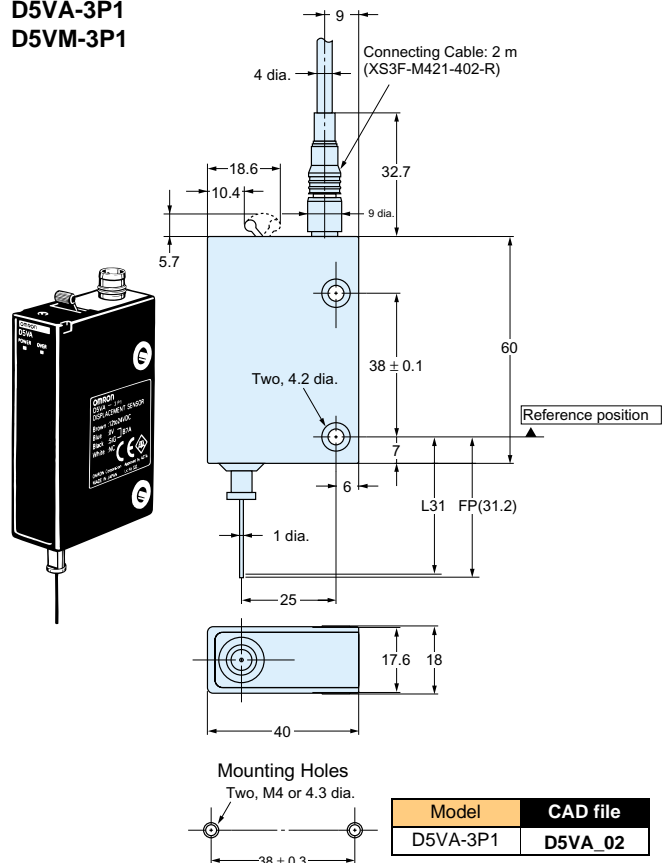
Rated current	100 mA
Rated voltage	24 VDC

Dimensions (the illustration shows the D5VA-□□□) (units: mm)

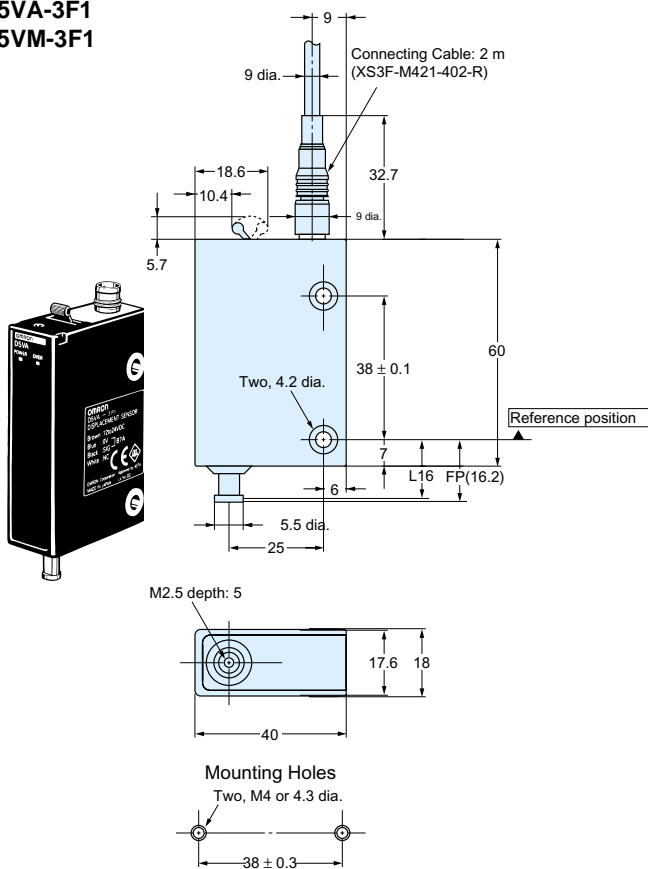
D5VA-3B1
D5VM-3B1



D5VA-3P1
D5VM-3P1



D5VA-3F1
D5VM-3F1



The "L" position output of the D5VA is initially set to 4 mA.
The "L" position output of the D5VM (BCD mode) is initially set to 0000.
In the FP (free position), EEEE is output, and when pressed in excess of the measurement range, FFFF is output.