

**Description**

- K-Band motion and direction detection
- Max sensing range: 3 metres
- Adjustable sensing field range
- Adjustable slow speed zone
- Selectable background suppression
- Selectable direction sensitive detection
- Adjustable off time delay
- 10-30 V dc or 24 V ac/dc supply voltage
- Power and output indicators
- Solid state relay output
- Output monitor function (Sniffer)
- Compact IP67 housing design
- Especially designed for escalator and moving-walk applications



The SpaceMotion series is a compact Doppler radar sensor that detects motion in the detection area using the latest in microwave technology and a powerful microprocessor. The compact design allows it to be installed in space limited locations, where traditional motion sensors cannot be installed. The microwave technology allows the sensor to be mounted behind plastic constructions for out-of-sight installations.

The Doppler radar sensor detects objects that are in motion towards or away from the sensor. People passing the sensor perpendicular (i.e. with no intention of entering an escalator) will have no or very low speed relative to the sensor – such motion can remain undetected.

The detection field is divided into two parts; 'low-speed zone' and 'high-speed zone'. The part of the field closest to the sensor is the low-speed zone where low speed motion is detected. This is intended to detect people in a multi-storey building that are moving from one escalator to the next making a semi-circular movement/turn i.e. perpendicular to the sensor and with a relatively low speed. The extension of the low speed zone relative to the high speed zone can be adjusted from 0 – 100% of the total range. Total range is also adjustable.

The sensor also includes a background suppression feature which allows the sensor to ignore all constant movements of minor objects (either directly or indirectly detected through reflections) e.g. handrails.

**Technical Data**

Supply voltage	ac/dc	10-30 V dc / 24 V ac
	dc	10-30 V dc
Voltage ripple		+/- 15 %
Output	Solid state	100 mA
Output monitor function		Yes (dc model only)
Reverse polarity protected		Yes
Short circuit protected		Yes
Power consumption		Max 600 mW
Technology		Microwave
Frequency		K-Band, 24.125 GHz
Horizontal field		+/- 40°
Vertical field		+/- 16°
Power on indicator		Green LED
Output indicator		Yellow LED
Range		0 - 3 m, potentiometer adjustable
Off delay		0 - 10 sec, potentiometer adjustable
Background suppression		Selectable
Low speed zone extension		Potentiometer adjustable
Housing dimension (w x h x d)		50 x 50 x 30 mm
Housing material		Plastic
Connection, PVC Ø 4 mm		4 x 0,14 mm <sup>2</sup>

**Environmental Data**

Vibration	10-55 Hz, 0,5 mm
Shock	30 g
Temperature, operation	-20 to +55 °C
Temperature, storage	-40 to +80 °C
Sealing class	IP 67
Approvals	CE

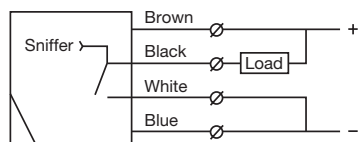
## Available Types

Type	Power Supply	Housing (w x h x d)	Frequency	Connection		5 m cable	Range
				Output		Order Reference	
4033	10-30 V dc	50 x 50 x 30	Low	Solid State Relay	NC	SMM 01 4033L S50P 5	0-3 m
			High			SMM 01 4033H S50P 5	
7023	24 V ac / 10-30 V dc		Low			SMM 01 7023L S50P 5	
			High			SMM 01 7023H S50P 5	

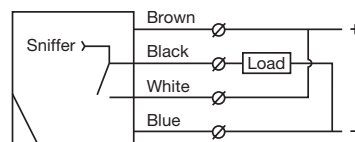
## Connections

	Cable
Supply +	Brown
Supply -	Blue
Output	White
Output	Black

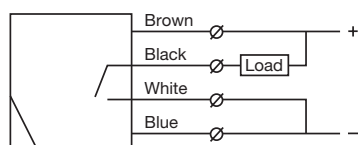
## Wiring Diagrams



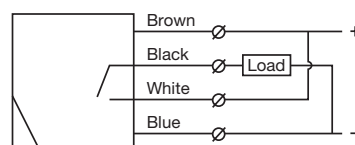
**4033**  
(load as NPN)



**4033**  
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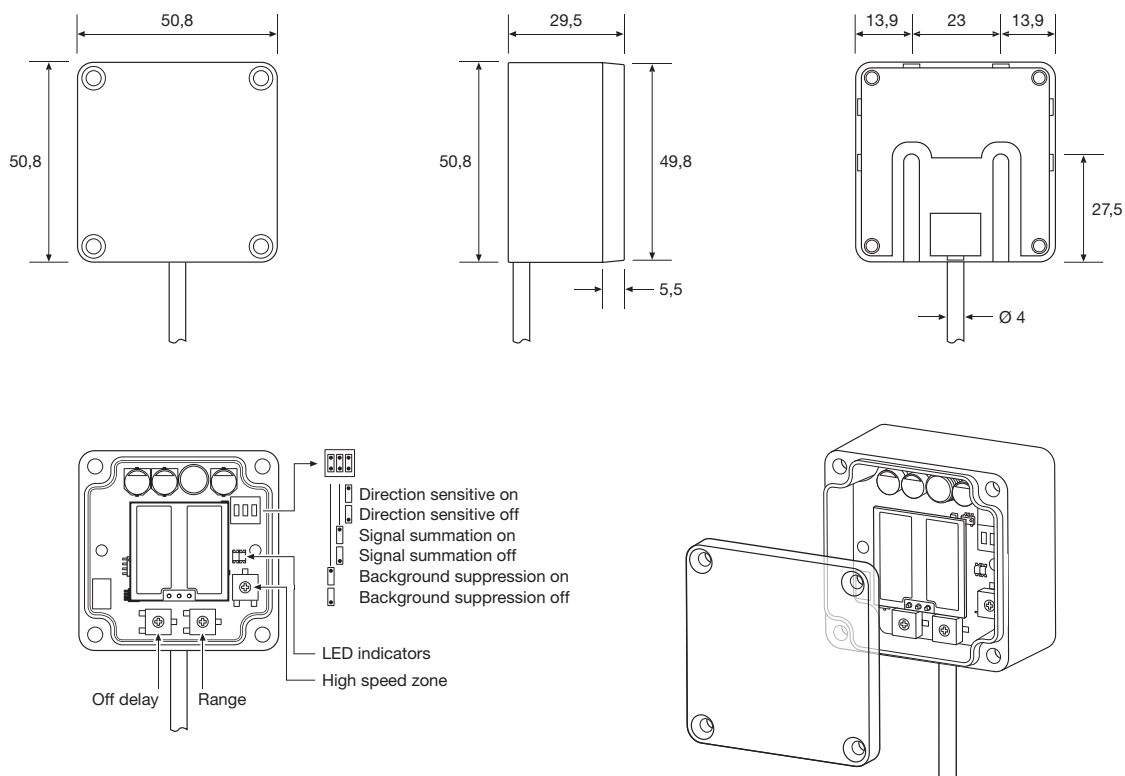


**7023**  
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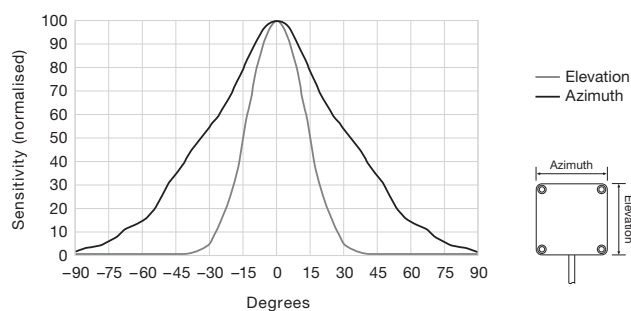
**7023**  
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# Dimensions and Descriptions



(Units in mm)

# Sensing Characteristics



## Applications



**ESCALATOR**  
Pedestrian detection

Telco reserves the right to change specifications without notice.