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DISTANCE PHOTOELECTRIC SENSORS

HIGH PRECISION AND DIRECT DIGITAL TRANSMISSION

As contactless measurement devices, photoelectric **Distance sensors** are suitable for numerous areas of application. C23 types use a triangulation method for accurate distance measurement at short range. For longer ranges, the optical time-of-flight (TOF) method is used by C55 types. Distance measurement is largely independent of target color or surface characteristics and repeatability is high.

KEY ADVANTAGES

C23 distance-measuring sensors

- ✓ Two distance-measurement ranges: 20 ... 80 mm and 30 ... 200 mm
- ✓ Housing 20 × 34 × 12 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67/IP69K



C55 distance-measuring sensors

- ✓ Distance measurement up to 5,000 mm
- ✓ Housing 50 × 50 × 23 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67/IP69K, Ecolab approved
- ✓ IO-Link



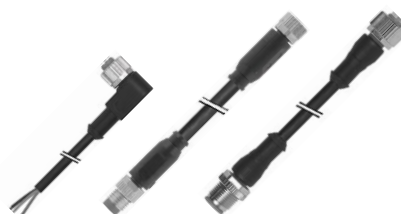
PRODUCT OVERVIEW

IO-Link

SERIES Housing size mm		C23 □ 20 × 34 × 12	C55 □ 50 × 50 × 23
s _n mm	Short range	80/100/200	–
	Medium range	–	5,000

ACCESSORIES

Go to page 298 to see all the accessories



Cables



Mounting brackets

COMMON FEATURES

Supply Voltage range	13 ... 30 VDC
----------------------	---------------

OUTPUT

Sensor type
[DT] Distance diffuse

Emission type
[L] Laser [R] Red

see p. 196

see p. 196

[xx][x]-C23PB-[xxx]-[xxx]-[xxx]— see p. 196

Reference key on page 196

OPERATING PRINCIPLE

 Distance diffuse

ACCESSORIES

 **A** Group A: M8 3-pin
Sub-group: Field attachable connectors
Sub-group: Distribution boxes

 **B** Group B: M8 4-pin
Sub-group: Field attachable connectors

 **C** Group C: M12 4-pin
Sub-group: Field attachable connectors
Sub-group: Distribution boxes

 **D** Group D: M12 AC/DC 3-pin

 **E** Group E: Universal mounting brackets
Sub-group: Mechanical stops

 **F** Group F: Photoelectric mounting brackets

 **G** Group G: Photoelectric reflectors

 **H** Group H: Sensor tester

Go to page 298 for details

 **CABLES**
Cable lengths available:
2 m, 5 m, 10 m
other customised lengths possible

CUBIC C23
C23 SERIES

FAMILY	OPERATING PRINCIPLE	SENSING RANGE (mm)	HOUSING SIZE (mm)	LIGHT SOURCE	
CUBIC C23 – C23 SERIES		80	20 × 34 (C23)	LED, red 632 nm	
		80	20 × 34 (C23)	LED, red 632 nm	
		100	20 × 34 (C23)	Laser class 1, red 650 nm	
		200	20 × 34 (C23)	LED, red 632 nm	
		200	20 × 34 (C23)	LED, red 632 nm	



KEY ADVANTAGES

- ✓ Two distance measurement ranges: 20 ... 80 mm and 30 ... 200 mm
- ✓ Housing 20 × 34 × 12 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67 / IP69K



	HOUSING MATERIAL	CABLE	CONNECTOR	IO-Link	SWITCHING FREQUENCY (Hz)	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE	ACCESSORIES (SEE PAGE 178)
	ABS		 M8		1,000	−20 ... +60°C	IP67 / IP69K	DTR-C23PB-TMS-139	
	ABS		 M8		1,000	−20 ... +60°C	IP67 / IP69K	DTR-C23PB-TMS-129	
	ABS		 M8		1,000	−20 ... +60°C	IP67 / IP69K	DTL-C23PB-TMS-139-501	
	ABS		 M8		1,000	−20 ... +60°C	IP67 / IP69K	DTR-C23PB-TLS-139	
	ABS		 M8		1,000	−20 ... +60°C	IP67 / IP69K	DTR-C23PB-TLS-129	

COMMON FEATURES

Supply Voltage range	18 ... 30 VDC
----------------------	---------------

OUTPUT

Sensor type
[DT] Distance diffuse

Emission type
[L] Laser

see p. 196

see p. 196

see p. 196

see p. 196

[xx][x]-C55PA-[xxx]-[xxx]-[xxx]

Reference key on page 196

OPERATING PRINCIPLE



Distance diffuse

ACCESSORIES



Group A: M8 3-pin
Sub-group: Field attachable connectors
Sub-group: Distribution boxes



Group B: M8 4-pin
Sub-group: Field attachable connectors



Group C: M12 4-pin
Sub-group: Field attachable connectors
Sub-group: Distribution boxes



Group D: M12 AC/DC 3-pin



Group E: Universal mounting brackets
Sub-group: Mechanical stops



Group F: Photoelectric mounting brackets



Group G: Photoelectric reflectors



Group H: Sensor tester

Go to page 298 for details



CABLES
Cable lengths available:
2 m, 5 m, 10 m
other customised lengths possible

CUBIC C55
C55 SERIES

FAMILY	OPERATING PRINCIPLE	SENSING RANGE (mm)	HOUSING SIZE (mm)	LIGHT SOURCE
CUBIC C55 – C55 SERIES		5,000	50 × 50 (C55)	Laser class 1, red 655 nm
		5,000	50 × 50 (C55)	Laser class 1, red 655 nm
		5,000	50 × 50 (C55)	Laser class 1, red 655 nm



KEY ADVANTAGES

- ✓ Distance measurement up to 5,000 mm
- ✓ Housing 50 × 50 × 23 mm
- ✓ High precision and repeatability
- ✓ Settable analog range for optimum distance measurement
- ✓ Enclosure rating IP67 / IP69K, Ecolab approved
- ✓  IO-Link



	HOUSING MATERIAL	CABLE	CONNECTOR	 IO-Link	SWITCHING FREQUENCY (Hz)	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE	ACCESSORIES (SEE PAGE 180)
	ABS		 M12		250	−40 ... +60°C	IP67 / IP69K	DTL-C55PA-TMS-119-502	C F H
	ABS		 M12		250	−40 ... +60°C	IP67 / IP69K	DTL-C55PA-TMS-119-503	C F H
	ABS		 M12	 IO-Link	500	−40 ... +60°C	IP67 / IP69K	DTL-C55PA-TMS-407-505	C F H

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