

APPLICATION

Transparent-object sensors with patented UV technology detect presence of clear plastic sheet during thermoforming

During automated packaging, high-speed thermoforming lines produce transparent plastic blister-trays from continuous reel-stock material. Transparent-object sensors with patented UV technology detect the presence of the transparent plastic sheet as it is unwound, ensuring the material is correctly tensioned as it enters the loading station. False detection is avoided, ensuring reliable operation with little or no downtime. Ecolab-certified, these sensors are also suitable for the packaging of medical products.

INDUSTRIES

Packaging, logistics, materials handling, food and beverage, filling machines, pharmaceutical industry



Detection of clear plastic bottles



Pharmaceutical vial processing



Detection of glass sheet on conveyor



Packaging systems



TRANSPARENT OBJECT

PHOTOELECTRIC SENSORS

OUTSTANDING RELIABILITY AND EASE OF ADJUSTMENT

The **TRU-C23** photoelectric sensor is ideally suited for the presence control of transparent objects. Its patented technology comprises an LED that emits polarized **UV light** and a suitable reflector. Special optics with autocollimation ensure reliable detection and no blind zone. For applications requiring the detection of thicker or larger transparent objects, the **C23 Transparent Standard** provides a highly favorable price-performance ratio.


KEY ADVANTAGES

- ✓  **IO-Link** interface available on PNP types
- ✓ Versions with stability alarm as second output
- ✓ Mutual interference immunity
- ✓ Adjustment by teach button or  **IO-Link**
- ✓ Enclosure rating IP67, Ecolab approved

C23 Transparent UV

- ✓ Extremely reliable detection thanks to strong absorption of UV light by plastic and glass material
- ✓ Easy sensor set-up, even for thinnest transparent objects
- ✓ Low environmental sensitivity minimizes threshold adjustments and maximizes uptime
- ✓ Autocollimated, polarized UV light beam eliminates blind zone, allowing detection of targets close to the sensor or through a small notch
- ✓ Sensing range up to 1,200 mm

C23 Transparent Standard

- ✓ Red polarized light source
- ✓ Calibrated sensing range up to 5,000 mm
- ✓ Sensitivity adjustment via teach button,  **IO-Link** or potentiometer



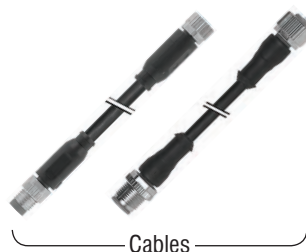
PRODUCT OVERVIEW

 **IO-Link**

SERIES Housing size mm	C23 UV Light □ 20 × 30 × 10	C23 Red Light □ 20 × 30 × 10
Reflex (s _n mm)	1,200	5,000

ACCESSORIES

Go to page 298 to see all the accessories



COMMON FEATURES


Supply Voltage range	10 ... 30 VDC
Output	PNP Light-ON*

* Other types available: PNP, NPN, Dark-ON, Light-ON









OUTPUT

Sensor type
 [TR] Transparent reflex
 [xx][x]-C23PA-[xxx]-[xxx] — see p. 196
Emission type
 [R] Red [U] UV — see p. 196
 Reference key on page 196


OPERATING PRINCIPLE

 **Transparent reflex**

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		1,200	20 × 30 (C23)	LED, UV 275 nm, Risk Group 2
		1,200	20 × 30 (C23)	LED, UV 275 nm, Risk Group 2
		5,000	20 × 30 (C23)	LED, red 630 nm
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	HOUSING MATERIAL	CABLE	CONNECTOR	IO-Link	SWITCHING FREQUENCY	AMBIENT TEMPERATURE	DEGREE OF PROTECTION	PART REFERENCE *	ACCESSORIES (SEE PAGE 160)
	ABS			IO-Link	1,000	-25 ... +65°C	IP67	TRU-C23PA-TMK-603	
	ABS			IO-Link	1,000	-25 ... +65°C	IP67	TRU-C23PA-TMS-603	
	ABS			IO-Link	1,500	-25 ... +65°C	IP67	TRR-C23PA-TMK-603	
	ABS			IO-Link	1,500	-25 ... +65°C	IP67	TRR-C23PA-TMS-603	
	ABS			IO-Link	1,500	-25 ... +65°C	IP67	TRR-C23PA-PMK-603	
	ABS			IO-Link	1,500	-25 ... +65°C	IP67	TRR-C23PA-PMS-603	