



TFM

TFM1/1P-0V

Photo,MINI TOF,PNP,Pigtail M12,Dif.
TIME OF FLIGHT MINIATURIZED SENSOR

OVERVIEW

- Completely filled with resin
- 2 Digital Outputs (Lon)
- Switching Frequency from 10 Hz to 80 Hz
- Infrared Laser emission (class 1)
- Wide angle emission
- Output selectable : PNP or Pushpull
- Resolution from 1 to 3 mm
- IP67 protection degree and complete protection against electrical damages



TECHNICAL FEATURES

Detection properties

Nominal sensing distance	180mm
Spot dimension	Divergent (25°) wide angle
Resolution	1mm
Sensitivity adjustment	Trimmer

Hysteresis	$\pm 4\text{mm}$
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Application

Function Principle	Time of Flight
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Notes	(white 90% - grey 18% - black 6%)
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Outputs

Output type	2 x PNP LO
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Output Function	LO
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Switching frequency	$\leq 10\text{Hz}$
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Response time	50ms
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Electrical data

Operating Voltage	19,2 ... 28,8VDC
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No-Load supply current	$\leq 40\text{mA}$
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Load current	$\leq 50\text{mA}$
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Leakage current	$\leq 10\mu\text{A}$
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Output voltage drop	$\leq 2\text{V}@I_{\text{load}}=50\text{mA}$
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Max ripple content	$\leq 10\%$
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LED indicators	Green (Run), Red (out of the operating range), Yellow (status)
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Time delay before availability	$\leq 200\text{ms}$
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Short-circuit protection	Yes
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Reverse Polarity Protection	Yes
Emission	LASER Infrared
Impulsive Overvoltage Protection	Yes

Mechanical data

Dimensions	13 x 2x 31,2mm
Housing Material	PA66 + ABS
Connections	200mm PVC cable + M12 plug
Active Head Material	Glass
Operating temperature	-10°C ... + 50°C
Storage temperature	30°C ... +90°C
humidity	< 80% (without condensation)
Diameter/Dimension	Cubic

Test/Approvals

Approvals	CE
EMC compatibility	EN 60947-5-2
Degree of protection	IP67

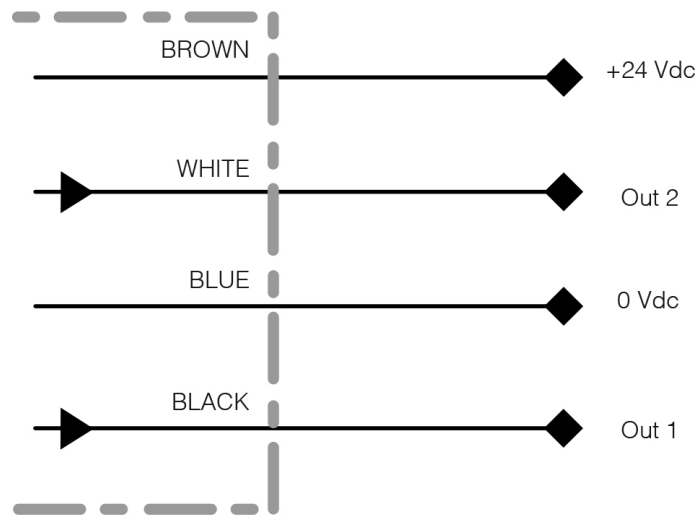
Generical Data

Dimensions	13 x 2x 31,2mm
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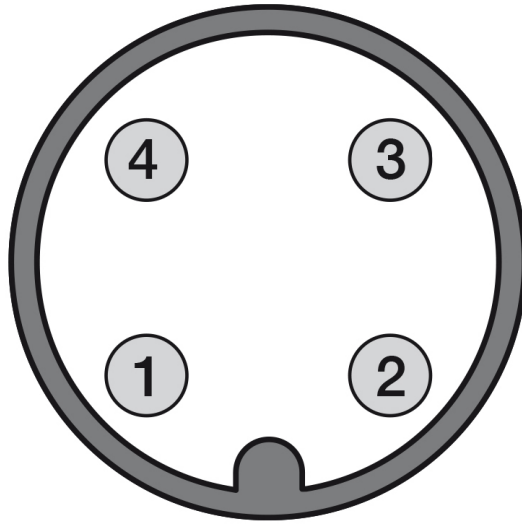
Operating Temperature	- 10°C...+ 50°C (Without freeze)
Humidity	< 80% (without condensation)
Mechanical Protection	IP67

CONNECTIONS

Electrical diagram

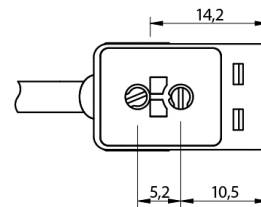
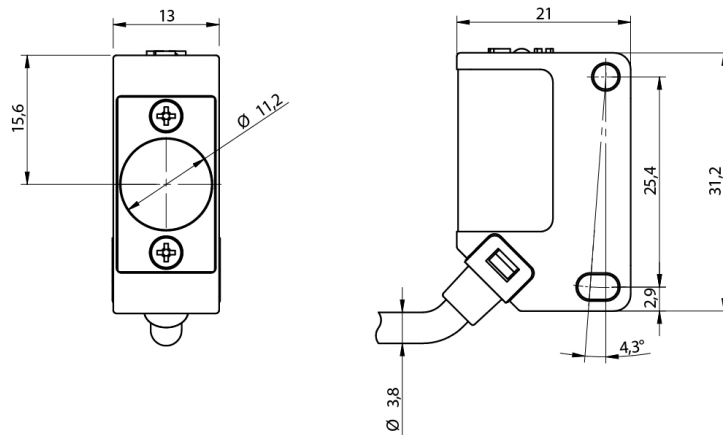


Connector

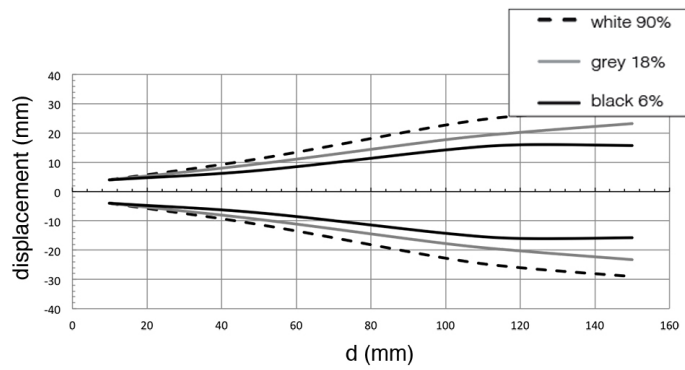


OTHERS

Dimensions



Response curves



**Datasensing
S.r.l.**

Strada S.Caterina, 235
41122 Modena (MO)
Tel. 059 420411
Fax 059 253973
E-mail
info@datasensing.com

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