DIN RAIL MOUNTING μP BASED SENSORS

FIBRE-OPTIC SENSORS

- *Models with low response time: 100 μs*
- *Sensor guided fibre alignment and Teach-in setting*
- *M8 connector or cable with Remote function*
- *Patent-covered CLEARLOCK™ fibre fixing system*

TEN SERIES

The **TEN** series has been developed to guarantee the best performances with the extremely various plastic fibre-optic accessories.

Different models are available: models with 1.5 kHz switching frequency for the longer operating distances, or 5 kHz models with only 100 μs response time and double red/green selectable emission, that can be also used as contrast sensors to detect coloured marks.

The setting is obtained by means of a SET push-button and thanks to a tri-colour LED that guides the operations, signalling the correct optic fibre alignment.

Moreover a 2 bit anti-interference system that, within the response time, uses another confirmation pulse before switching the output and a special high-sensitivity amplification circuit to also detect transparent objects are present.

The exclusive patent-covered *CLEARLOCK™* solution allows the visible verification of the correct fibre-optic insertion, as well as the identification of the light sources.

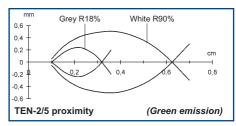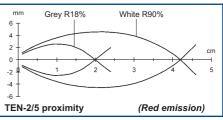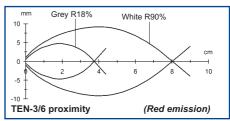**DATASENSOR**
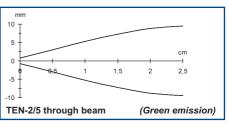*value through detection*

DATASENSOR

TECHNICAL DATA

Power supply: .... 12 **...** 24 Vdc ±10%, reverse polarity
protection

Consumption: .... 60 mA max.

Light emission: .... selectable green 565 nm or red 660 nm
only red 660 nm (TEN 3/6)

Diffuse proximity operating distance: .... 1 **...** 6 mm (TEN2/5 green emission)
1 **...** 40 mm (TEN2/5 red emission)
0 **...** 75 mm (TEN3/6 red emission)

Through beam operating distance: .... 0 **...** 25 mm (TEN2/5 green emission)
0 **...** 180 mm (TEN2/5 red emission)
0 **...** 300 mm (TEN3/6 red emission)

Setting: .... automatic with SET push-button
Remote by cable

Indicators: .... yellow OUTPUT LED
3 colour SET/ERROR LED
green TIMER LED (TEN 2/5)

Output type: .... NPN or PNP, open collector

Saturation voltage: .... 1 V max. (NPN vers.)
2 V max. (PNP vers.)

Output current: .... 100 mA max., short-circuit protection

Response time: .... 100 μs max. (TEN 2/5)
333 μs max. (TEN 3/6)

Switching frequency: .... 5 KHz max. (TEN 2/5)
1.5 KHz max. (TEN 3/6)

Timing function: .... 40 ms minimum output ON (TEN2/5)

Operating mode: ....dark/light selectable

Connection: .... M8 4-pole connector (TEN 5/6)
2 m Ø 4.5 mm cable (TEN 2/3)

Electrical protection: ....class 2

Mechanical protection: IP65

Housing material: .... polycarbonate

Weight: .... 30 g max. (connector vers.)
115 g max. (cable vers.)

Operating temperature: .... -10 **...** +55°C

Storage temperature: .... -25 **...** +70°C

Reference standard: .... EN 60947-5-2

Certifications: .... CE c(UL)us LISTED

DETECTION DIAGRAMS

TEN-2/5 proximity   *(Green emission)*

TEN-2/5 proximity   *(Red emission)*

TEN-3/6 proximity   *(Red emission)*

TEN-2/5 through beam   *(Green emission)*

TEN-2/5 through beam   *(Red emission)*
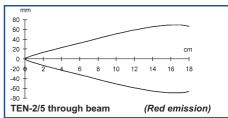

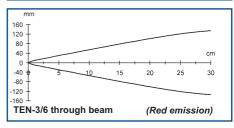**TEN-3/6 through beam**   *(Red emission)*

*The operating distances indicate the detection distance with standard fibre-optics (refer to **OF** series) and excess gain 2.*

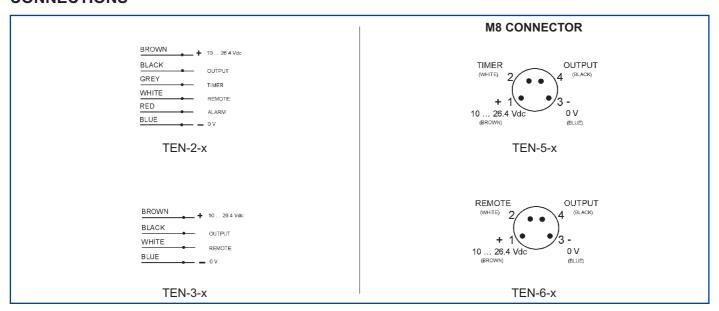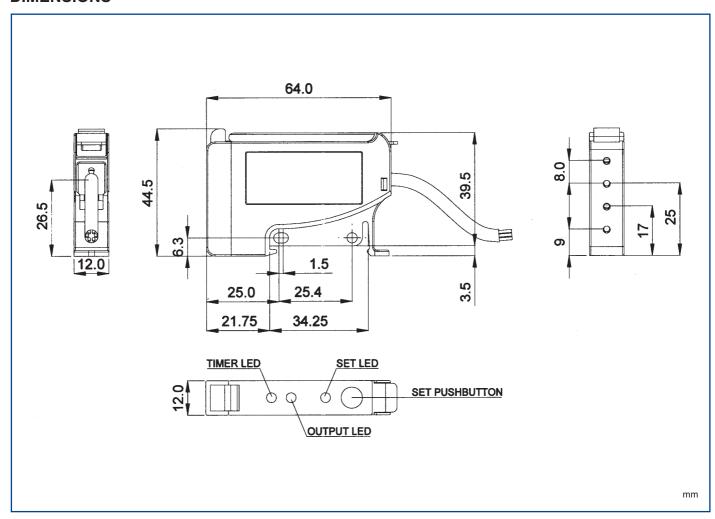*The detection diagrams indicate the typical operating distance with excess gain 1.*

![DATASENSOR]

CONNECTIONS

TEN-2-x

BROWN — + 10 ... 26.4 Vdc
BLACK — OUTPUT
GREY — TIMER
WHITE — REMOTE
RED — ALARM
BLUE — − 0 V

TEN-3-x

BROWN — + 10 ... 26.4 Vdc
BLACK — OUTPUT
WHITE — REMOTE
BLUE — − 0 V

M8 CONNECTOR

TEN-5-x

TIMER (WHITE) 2   OUTPUT (BLACK) 4
+ 1   3 −
10 ... 26.4 Vdc (BROWN)   0 V (BLUE)

TEN-6-x

REMOTE (WHITE) 2   OUTPUT (BLACK) 4
+ 1   3 −
10 ... 26.4 Vdc (BROWN)   0 V (BLUE)

DIMENSIONS

64.0
44.5
39.5
26.5
12.0
6.3
1.5
25.0
25.4
21.75
34.25
3.5
8.0
9
17
25
12.0

TIMER LED
SET LED
SET PUSHBUTTON
OUTPUT LED

mm

MODEL SELECTION AND ORDER INFORMATION

MODEL	CONNECTION	OUTPUT	FREQUENCY	CODE N°
TEN-2-N	6-pole cable	NPN	5 KHz	950451000
TEN-2-P	6-pole cable	PNP	5 KHz	950451010
TEN-3-N	4-pole cable	NPN	1.5 KHz	950451040
TEN-3-P	4-pole cable	PNP	1.5 KHz	950451050
TEN-5-N	M8 4-pole connector	NPN	5 KHz	950451020
TEN-5-P	M8 4-pole connector	PNP	5 KHz	950451030
TEN-6-N	M8 4-pole connector	NPN	1.5 KHz	950451060
TEN-6-P	M8 4-pole connector	PNP	1.5 KHz	950451070

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	CODE N°
ST-505	1 pc 'L' shaped fixing bracket	95ACC1300
CRD-5000	1 pc DIN rail fixing bracket	95ACC1290

Please refer also to Sensor Accessories

FIBRE-OPTIC SENSORS

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