

TL80 series

- Selectable green or red LED light source
- 9 or 18 mm scanning distance (interchangeable lens)
- Large depth of field
- Version with long distance scanning (28 mm)
- Fibre optic version available with a wide range of fibres
- Dark/light pulse and timer selection in all versions
- Easy to adjust
- Protection class IP67
- Analogue output voltage from 0 to 5 V

GENERAL DESCRIPTION

The **TL80** colour mark scanner series is extremely versatile, and thanks to its simple configuration, it can respond to an extensive range of application requirements. All the most important electronic functions are easily set by the user, i.e. type of output, type of output pulse, timer, and light source.

The **TL80** can be equipped with an analogue output that supplies a signal proportional to the contrast level detected. This may be used, for example, to ease installation while monitoring the maximum focal point. The device is also characterised by a high switching frequency, which allows it to interface with high speed automatic machines.

A wide range of lenses is offered with the **TL80**: 9, 18 or 28 mm. There is also a fibre optic version available that allows a choice of light sources, and is equipped with a wide range of fibres capable of performing in limited space situations or in harsh environmental conditions.

The **TL80** is characterised by a large depth of field. This allows considerable tolerance to target vibration and the ability to compensate for irregularities in materials to be detected.

Adjustment of the contrast threshold is via a rear mounted thumbwheel assisted by 2 LEDs which indicate the direction to turn.

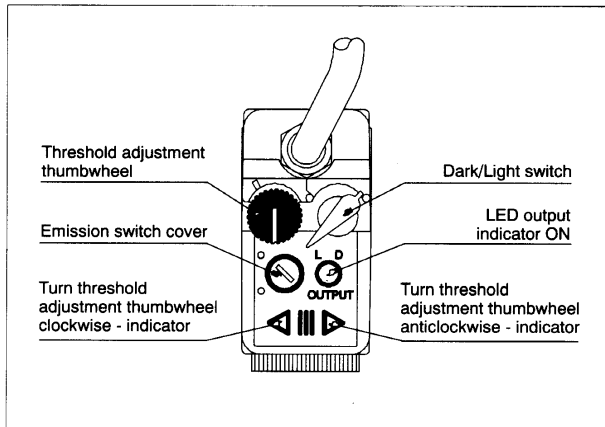
The different connection permutations provided by the **TL80** colour mark scanner allows it to be fully compatible with the TL7 and the TL8.

APPLICATIONS

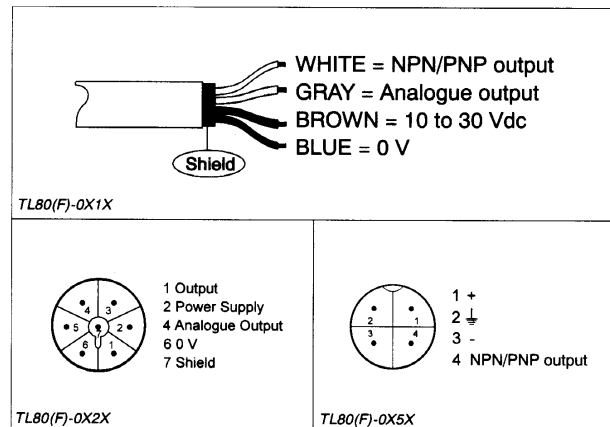
- Colour mark detection in packaging machines
- Print centering on packages
- Plastic bag positioning in heat-sealing machines
- Code reading in the pharmaceutical and cosmetics industry
- Tube positioning in filling and casing machines
- Registration control in the direction of travel
- Colour contrast detection
- Sorting of objects according to colour contrast detection



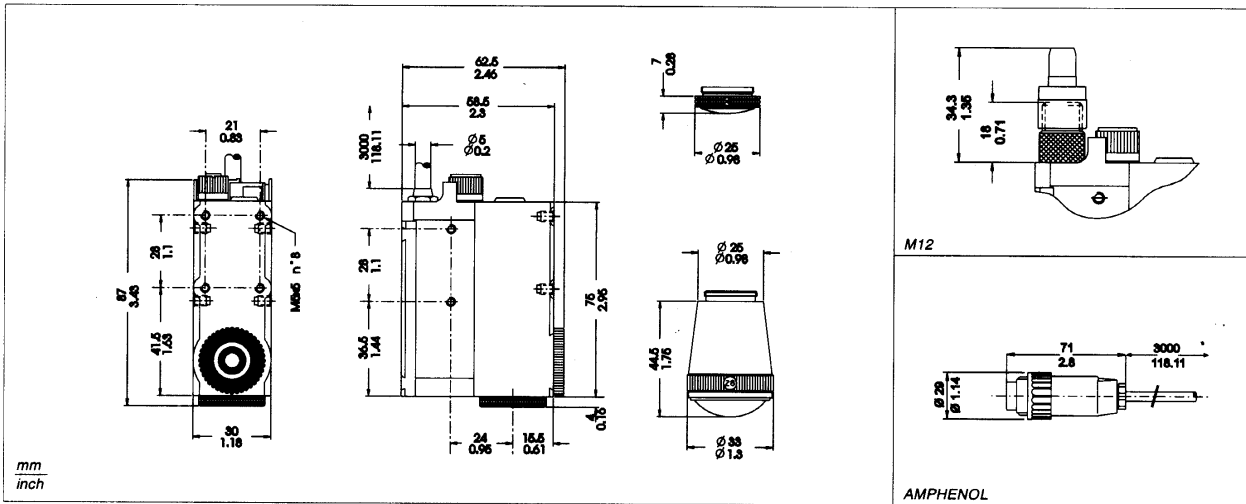
CONTROL PANEL



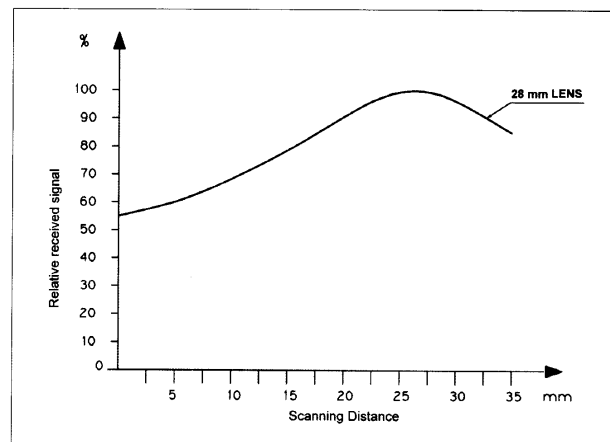
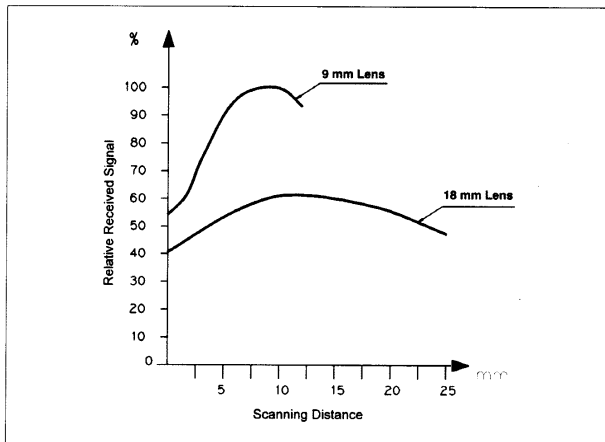
CONNECTIONS





OVERALL DIMENSIONS



SCANNING DIAGRAMS (Lens Models)



MODELS AND ACCESSORIES

TYPE	OPERATING DISTANCE			SPOT		CONNECTIONS			ORDER NUMBER
	9 mm	18 mm	28 mm			Cable without connector	Cable/Amphenol connector	M12 connector	
TL80-011	●			●		●			964051000
TL80-011L	●				●	●			964051010
TL80-012	●			●			●		964051020
TL80-012L	●				●		●		964051030
TL80-015	●			●				●	964051040
TL80-015L	●				●			●	964051050
TL80-021			●	●		●			964051060
TL80-021L			●		●	●			964051070
TL80-022			●	●			●		964051080
TL80-022L			●		●		●		964051090
TL80-025			●	●				●	964051100
TL80-025L			●		●			●	964051110
TL80-061		●		●		●			964051180
TL80-061L		●			●	●			964051190
TL80-062		●		●			●		964051200
TL80-062L		●			●		●		964051210
TL80-065		●		●				●	964051220
TL80-065L		●			●			●	964051230

SPECIFICATIONS

POWER SUPPLY	10 to 30 Vdc (ripple 2 Vpp) (Protection against reverse polarity)	SWITCHING FREQUENCY	10 KHz (3 KHz, TL80-02XX) (Light/dark ratio = 1:1)
CONSUMPTION	80 mA max.	SWITCHING THRESHOLD	Adjustable by an external thumbwheel
EMISSION	Green LED (565 nm) or red (635 nm) TL80F-05X Red LED (635 nm) or infrared (880 nm)	DARK/LIGHT FUNCTION	Selectable through an external switch
EMISSION SELECTION	Through an internal selector	ANALOGUE OUTPUT	0 (no reflection) to 5 Vdc (total reflection) with RL=10 Kohm
OUTPUT	NPN or PNP, internal selection (pull up/down resistance=10 Kohm)	RIPPLE	35 mVpp max.
OUTPUT CURRENT	200 mA max. with short-circuit protection	HOUSING MATERIAL	ZAMA
SATURATION VOLTAGE	1.2 V (NPN), 2.2 V (PNP) at maximum output current	PROTECTION CLASS	IP67
TIMING DELAY	20 ms, selected internally	OPERATING TEMP.	-10 to 55 °C (14 to +131 °F)
OPERATING DISTANCE		STORAGE TEMP.	-20 to 70 °C (-4 to +158 °F)
TL80-01XX	9 mm ± 2 mm	CONNECTIONS	
TL80-06XX	18 mm ± 2 mm	TL80(F)-0X1X	3 m cable (4 wires + screen)
TL80-02XX	28 mm ± 3 mm	TL80(F)-0X2X	3 m cable with an Amphenol connector
TL80F-04X	0.5 to 5 mm (proximity scanner) 0 to 15 mm (emitter/receiver)	TL80(F)-0X5X	M12 connector
TL80F-05X	0.5 to 8 mm (proximity scanner, Red emission) 0.5 to 30 mm (proximity scanner, IR emission) 0 to 25 mm (emitter/receiver, Red emission) 0 to 60 mm (emitter/receiver, IR emission)	CABLE DIAMETER	5 mm
SPOT DIMENSION		WEIGHT	550 g max.
TL80-01XX	1.5 x 5 mm ² at 9 mm	FIBRE OPTICS	
TL80-06XX	2 x 7 mm ² at 18 mm	MATERIAL	Glass core covered in stainless steel
TL80-02XX	3 x 10 mm ² at 28 mm	LENGTH	1 m
RESPONSE TIME	50 μs (166 μs, TL80-02XX)	OPERATING TEMP.	-30 to 150 °C (-22 to 356 °F)
		MIN. BEND RADIUS	40 mm



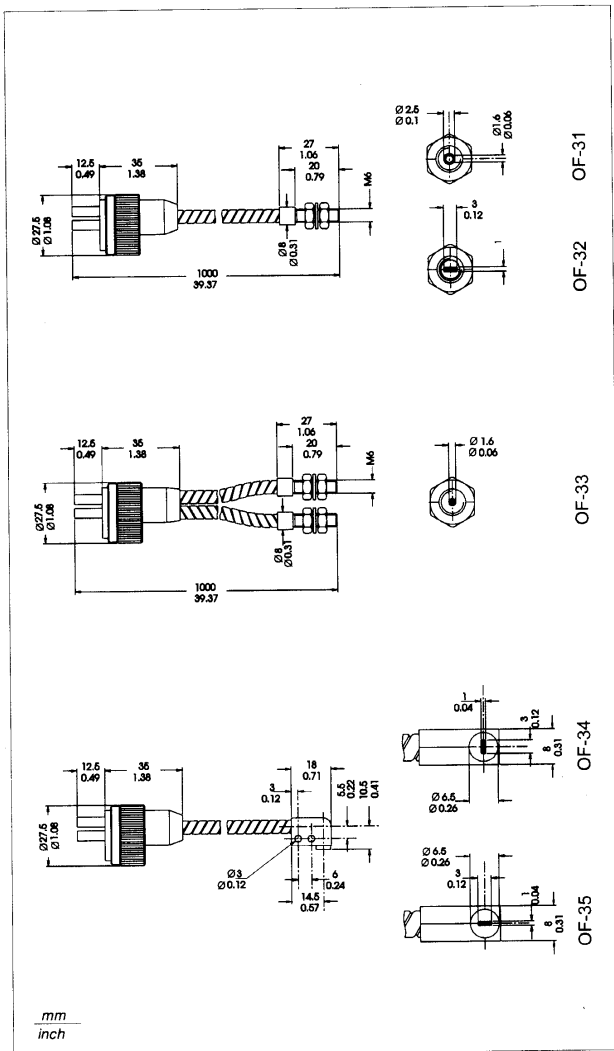
FIBRE OPTIC MODELS

TYPE	EMISSION		CONNECTIONS			ORDER NUMBER
	Red/Green	Red/Infrared	Cable without connector	Cable/Amphenol connector	M12 connector	
TL80F-041	•		•			964051120
TL80F-042	•			•		964051130
TL80F-045	•				•	964051140
TL80F-051		•	•			964051150
TL80F-052		•		•		964051160
TL80F-055		•			•	964051170

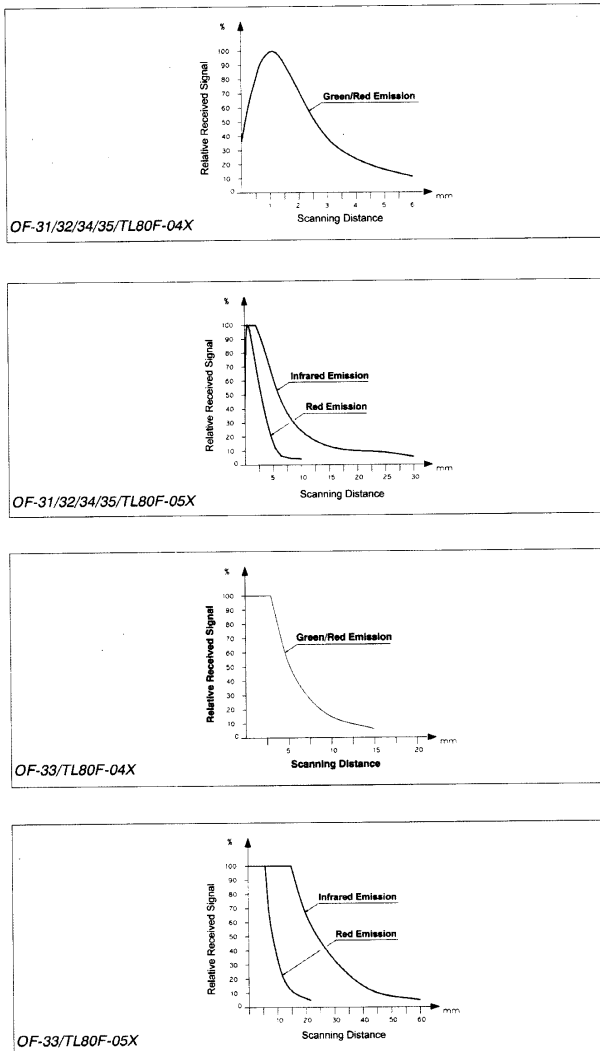
FIBRE OPTICS

TYPE	DESCRIPTION	ORDER NO.
OF-31	Proximity fibre optics with coaxial emission	96B201000
OF-32	Proximity fibre optics with rectangular spot emission	96B211000
OF-33	Emitter/Receiver fibre optics	96B221000
OF-34	Proximity fibre optics with 90° horizontal rectangular spot emission	96B231000
OF-35	Proximity fibre optics with 90° vertical rectangular spot emission	96B241000

FIBRE OPTIC DIMENSIONS



READING DIAGRAMS (Fibre Optic Models)



We reserve the right to make modifications and improvements

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