SENSOPART

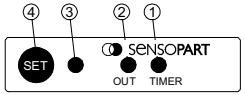
FL 64 C
INSTRUCTION MANUAL

GENERAL FEATURES

Optic fibre sensor for colour recognition; NPN or PNP output, connector or cable models available.

OPERATING PANEL

The control panel is situated under the cover.
The transparent cover which protects the control panel can be opened and closed again; or else it can be removed by a light traction while it is completely open.



① **TIMER LED (green LED)**
- **OFF:** Inactive timer
- **ON:** Active timer

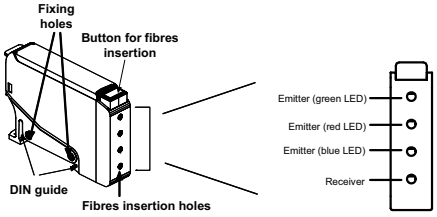
② **OUTPUT LED (yellow LED)**
- **OFF:** Output OFF
- **ON:** Output ON

③ **SET LED (two colour green/red LED)**
- **OFF:** Acquisition and setting of data is in progress: *wait to the end of these operations without moving anything.*
- **Flashing green:** The sensor is waiting for acquisition procedure: *the output is not active.*
- **Flashing green/red:** The settings or the acquisition of data are incorrect: *the optic fibres are not correctly mounted or positioned or the colour to recognize is too far apart or too dark. The sensor is not operative; repeat the acquisition procedure.*
- **ON green:** Acquisition and setting of data is correct: *the reader is fully operative.*

④ **SET (Set button)**

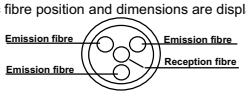
SENSOR INSTALLATION

Mount the sensor using the DIN guide or through the fixing holes.



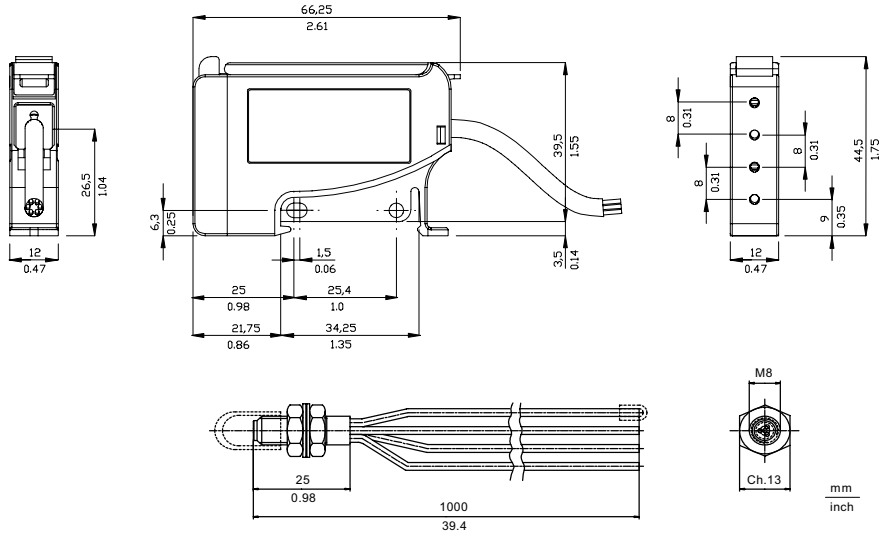
OPTIC FIBRES INSTALLATION

The optic fibre position and dimensions are displayed in the following figures:



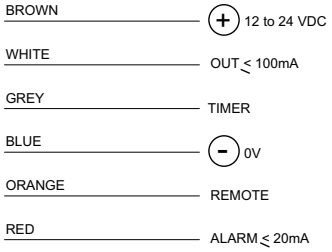
Please, keep the button pressed and insert completely the fibres, overcoming the first resistance produced by the O-ring seal.
The hole position is displayed in the previous figure for the sensor installation.

DIMENSIONS

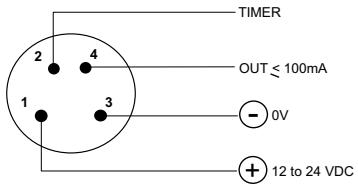


CONNECTIONS

FL64C 6 WIRE CABLE



FL64C M8 CONNECTOR



TECHNICAL DATA

	FL64C (cable version)	FL64C (connector version)
Power supply:	10 to 26,4 Vdc (limiting values) with protection against polarity inversion	
Max. ripple voltage:	2 Vpp max.	
Consumption output current excluded):	60 mA	
Output (open collector):	NPN or PNP	
NPN/PNP output current max.:	100 mA with short circuit protection	
ALARM output current (open collector):	20 mA without protection	-
Saturation voltage:	1V max for NPN output version 2V max for PNP output version (at maximum output current)	
Response time:	0.9 ms	
Timing delay (TIMER):	40 ms minimum output ON	
Sensitivity adjustment:	automatic via push button; also via wire (REMOTE)	automatic via push button
Indicators:	OUT led (YELLOW) ALARM led (RED) TIMER led (GREEN) SET led (two colour RED/GREEN)	
Retention data:	NON volatile EEPROM memory	
Operating temperature:	-10 to +55 °C (+14 to +131°F)	
Storage temperature:	-20 to +70 °C (-4 to +158°F)	
Electrical shock protection	Class I device	
Emission type:	RED (660nm), BLUE (470 nm) and GREEN (525nm) led	
Rejection to ambient light	3000 lux with incandescent lamp 10000 lux with sunlight	
Housing material:	polycarbonate	
Protection class:	IP65	
Connections:	2m (6.5 ft), ∅ 4,5 mm (0.18 in) cable (6 wires plus shield)	M8 4 pin connector
Dimensions:	66,25 x 43 x 12 mm (2.65 x 1.72 x 0.48 in)	
Weight:	40 g. max. (1.4 oz)	

REMOTE FUNCTION (cable versions only)

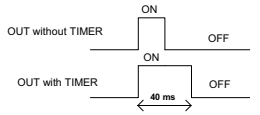
It is possible to remotely set the sensor using this function.
Each time the REMOTE wire is connected to + Vdc, it is the same as pressing the SET button to set the sensor.

ALARM FUNCTION (cable version only)

This function activates an alarm signal if a short circuit takes place on the sensor output.
The ALARM output remains ON until the cause of short circuit is removed.
Maximum current 20 mA without short circuit protection.

TIMER FUNCTION

It is possible to enable a delay function (TIMER) which extends the ON output active period to a minimum of 40ms. An operating example follows:



To enable the delay function, the TIMER signal must be connected to +VDC before powering the sensor.
If the delay function is active, the green timer led is ON.

REGOLATIONS

Insert the optic fibres into the sensor following the procedure previously described.

The sensor setting consists of the acquisition of the colour associated with the output activation.

During the acquisition procedure, the sensor stores the data of the colour to recognize into an EEPROM memory, therefore it is not necessary to repeat every time the sensor is powered on.

Use one colour sample or two samples at the extremes of the colour range to recognize for this procedure.

The colour acquisition is composed of the following steps:

1) Place the first colour sample under the optic fibre head.
   The sample surface must be perpendicular to the optic fibre head and must completely include the fibre emission spot area.
2) Press the SET button and wait (without moving anything) for the green blinking of the SET led.
3) Place the second colour sample under the optic fibre head.
   If you do not have two samples at the extreme of the colour range to recognize, place the colour sample previously used at point 1.
   Also in this case the sample surface must be perpendicular to the optic fibre head and must completely include the fibre emission spot area.
4) Press the SET button and wait (without moving anything), for the SET led to be continuously on green (acquisition OK).
   If the SET led is blinking green/red alternatively, the acquisition has failed and all the operations from point 1 must be repeated.

TYPES

connection:	connector		cable	
output:	PNP	NPN	PNP	NPN
type:	FL64C-PSTM4	FL64C-NSTM4	FL64C-PSTK6	FL64C-NSTK6
part no.:	914-51000	914-51001	914-51002	914-51003

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