SENSOPART

FL 64
INSTRUCTIONS MANUAL

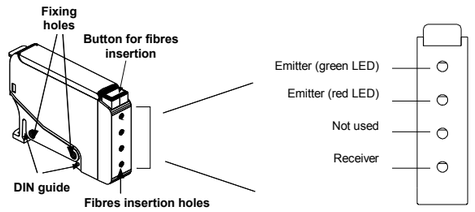
FL 64 RG	red or green LED selectable	5000 Hz
FL 64 R	red LED	1500 Hz

GENERAL FEATURES

Optic fibre amplifiers with NPN or PNP output, connector or cable.

INSTALLATIONS

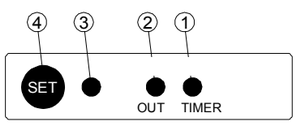
Mount the sensor using the DIN guide or through the fixing holes.



Optic fibre installation:
Please, keep the button pressed and insert completely the fibres, overcoming the first resistance produced by the O-ring seal.

CONTROL 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.



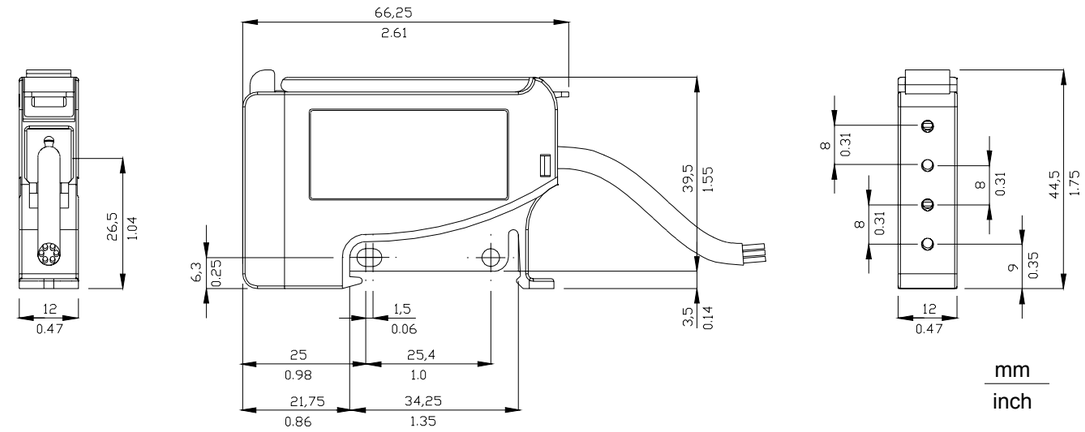
① **TIMER LED (green LED)**
OFF: Inactive timer
ON: Active timer

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

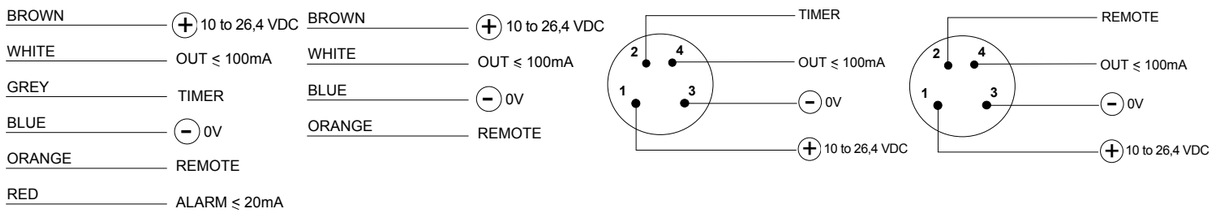
③ **SET LED (two colour green/red LED)**
OFF: Acquisition and setting of data is in progress: *wait for the end of these operations without moving anything.*
Fast Flashing Orange: The sensor alignment procedure is active: *the signal received by the sensor is bad.*
Slow Flashing Orange: The sensor alignment procedure is active: *the signal level received by the sensor is good.*
Flashing Green: The sensor is waiting for the inactive output acquisition procedure: *the output is not active.*
Flashing Green/Red: The settings or the acquisition of data are incorrect: *the contrast between the mark and the background is insufficient or the fibres optic are not correctly mounted.*
The sensor is not operative; repeat the setting again if necessary changing the colour of emitter source.
ON Orange: Acquisition and setting of data is correct: *the reader is fully operative with low* contrast (only for FL 64 RG).
ON Green: Acquisition and setting of data is correct: *the reader is fully operative with high contrast.*

④ **SET (Set button)**

DIMENSIONS



CONNECTIONS



FL 64 RG-XSTK6
6 WIRE CABLE

FL 64 R-XSK4
4 WIRE CABLE

FL 64 RG-XSTM4
M8 CONNECTOR

FL 64 R-XSM4
M8 CONNECTOR

TECHNICAL DATA

	FL 64 RG-XSTK6	FL 64 RG-XSTM4	FL 64 R-XSK4	FL 64 R-XSM4
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		55 mA	
Output (open collector):	NPN (FL 64 RG-NX) PNP (FL 64 RG-PX)	NPN (FL 64 RG-NX) PNP (FL 64 RG-PX)	NPN (FL 64 R-NX) PNP (FL 64 R-PX)	NPN (FL 64 R-NX) PNP (FL 64 R-PX)
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:	100 µs		333 µs	
Timing delay (TIMER):	40 ms minimum output ON		-	-
Sensitivity adjustment:	automatic via push button; also via wire (REMOTE)	automatic via push button	automatic via push button; also via wire (REMOTE)	automatic via push button; also via wire (REMOTE)
Indicators:	OUT led (YELLOW) ALARM led (RED) TIMER led (GREEN) SET led (two colour RED/GREEN)		OUT led (YELLOW) SET led (two colour RED/GREEN)	
Retention data:	NON volatile EEPROM memory			
Operating temperature:	-10 ÷ +55 °C (+14 to +131°F)			
Storage temperature:	-20 ÷ +70 °C (-4 to 158°F)			
Electrical shock protection:	Class 2 device (VDE 0106)			
Operating distance (red/green emission):	proximity 60 mm/8 mm emitter/receiver 180 mm/25 mm		proximity 100 mm emitter/receiver 300 mm	
Emission type:	selectable by choosing GREEN (565nm) or RED (660nm)		RED (660 nm)	
Rejection to ambient light:	3000 lux with incandescent lamp 10000 lux with sunlight			
Housing material:	polycarbonate			
Protection Class:	IP 65			
Connections:	2 m (6.5 ft), ∅ 4,5 mm (0.18 in) cable (6 wires plus shield)	M8 4 pin connector	2 m (6.5 ft), ∅ 4,5 mm (0.18 in) cable (4 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 (not FL 64 RG-XSTM4)

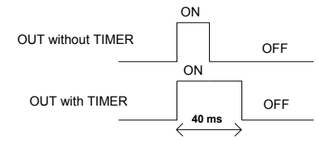
It is possible to remotely set the sensor using this function.
Each time the REMOTE wire is connected to + Vdc, it is the same as pressing the SET button to set the sensor.

ALARM FUNCTION (only FL 64 XSTK6)

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.
This output is NPN type for NPN version, PNP type for PNP version, maximum current 20 mA without short circuit protection.

TIMER FUNCTION (only FL 64 RG)

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.

SETUP

Insert the emitter fibre into the hole corresponding to the selected emission (red or green).
Insert the receiver fibre into the corresponding hole.
The sensor setting is composed of three steps:

Alignment
1) Press the SET button. The SET led flashes orange. The flashin frequency gives information about the received signal level.
Through-beam configuration: if the led flashes fast, the fibres are not aligned or are too far apart. Align the fibres optic or reduce the distance of the target, till the led flashes slowly or very slowly. To detect transparent target, the fibre optic position must be such as to produce a very slow flashing of the led.
Proximity configuration: place the target: the led must flash slowly or very slowly. If the led flashes fast, it means that the object is too far apart or too dark.

Output ON condition acquisition
2) Place the target or the background which has to activate the output.
3) Press the SET button and wait (without moving anything) for the green flashing of the SET led.

Output OFF condition acquisition
4) Place the background or the target which has to deactivate the output.
5) Press the SET button and wait (without moving anything) for the SET led to be continuously ON green (acquisition OK with high contrast) or range (acquisition OK with low contrast). If the SET led is flashing green/red alternatively, the acquisition failed and all operations must be repeated from point 1.

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