DATALOGIC™

S7-7/8 SERIES
INSTRUCTION MANUAL

CONTROLS

OUTPUT LED
The yellow LED on indicates that the N.O. (normally open) output is closed.

STABILITY LED
The green LED ON indicates that the received signal has a reserve greater than 30% compared to the output switching value.

TRIMMER
The trimmer 12 turns can be used to adjust sensitivity; the operating distance increases turning the trimmer clockwise.
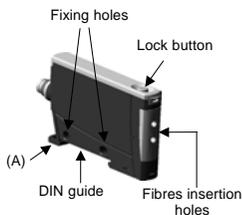

INSTALLATION

The transparent command protection cover rotates more than 130° in order to have an easy access.
It can be removed opening it completely and pulling it slightly, with a slight pression it can be replaced back.
Mount the sensor on a DIN rail or using to fixing holes and screws (M3x20 or longer).
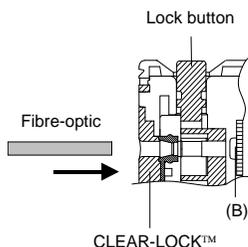For mounting on DIN rail, insert first part (A).

Fixing holes
Lock button
(A)
DIN guide   Fibres insertion holes

Installation of the fibre-optics:
Press the lock pushbutton and keep it pressed until all the fibres has been completely inserted.
Insert the fibres in the corresponding holes as described in the dimension drawing.
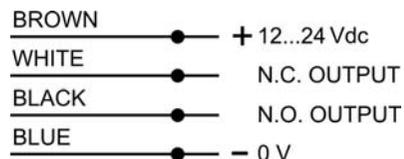The transparent CLEAR-LOCK™ fixing block allows to easily check that the fibres are correctly inserted.
The insertion resistance is due to the O-ring seal; please insert the fibres for about 6mm deeper until they touch the photoelements (B).
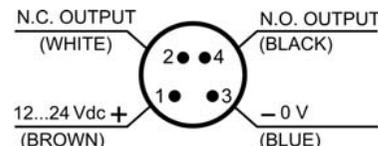
Lock button
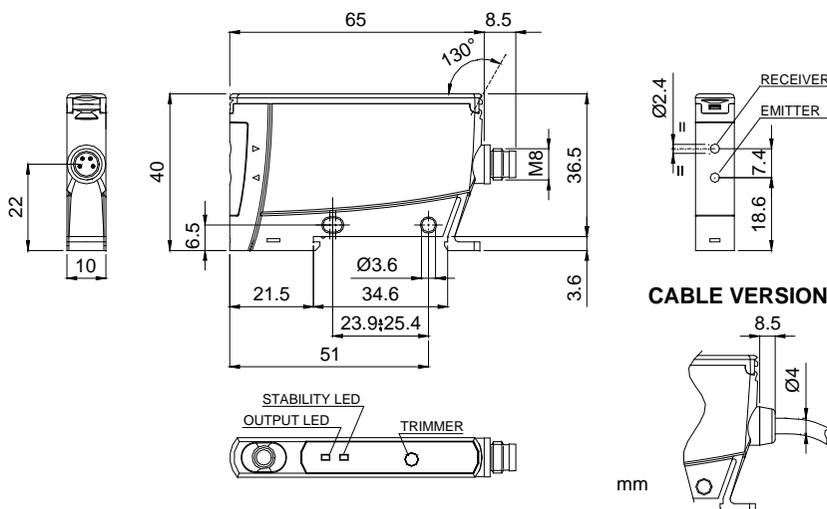Fibre-optic
(B)
CLEAR-LOCK™

CONNECTIONS

Cable version

BROWN ●——— + 12...24 Vdc
WHITE ●——— N.C. OUTPUT
BLACK ●——— N.O. OUTPUT
BLUE ●——— − 0 V

M8 connector

N.C. OUTPUT (WHITE)   N.O. OUTPUT (BLACK)
2 ● ● 4
1 ● ● 3
12...24 Vdc + (BROWN)   − 0 V (BLUE)

DIMENSIONS

STABILITY LED
OUTPUT LED   TRIMMER

RECEIVER
EMITTER

CABLE VERSION

mm

TECHNICAL DATA

Power supply:	12 … 24 Vdc ±10% (reverse polarity protection)
Ripple:	2 Vpp max.
Consumption (output current excluded):	30 mA max. (no load)
Outputs:	NPN (S7-x-N) or PNP (S7-x-P)
Output current:	100 mA max.
Output saturation voltage:	1.2 V max.
Response time:	500 µs max.
Indicators:	OUTPUT LED (YELLOW) and READY/ERROR LED (GREEN/RED)
Setting:	12 multiturn trimmer
Operating temperature:	-10 … 55 °C
Storage temperature:	-25 … 70 °C
Insulation resistance	between live and dead parts: 20MΩ (minimum,with 500Vdc)
Dielectric strength:	between live and dead parts: AC 500V (50Hz), 1 minute
Operating distance (typical values):	proximity (with OF-xx-ST fibre optic) 0 … 100 mm
	through beam (with OF-xx-ST fibre optic) 0 … 300 mm
Emission type:	red (670 nm)
Ambient light rejection:	according to EN 60947-5-2
Vibrations:	0.5 mm amplitude, 10 … 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance:	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material:	ABS
Mechanical protection:	IP60
Connections:	2 m ∅ 4 mm cable (S7-7-x) / M8 4-pole M8 connector (S7-8-x)
Weight:	115 g. max. cable vers. / 30 g. max. connector vers.

SETTING

Setting with OF-43 (P/R fibre-optics)
Position the sensors (fibre terminals) on opposite sides.
Turn the sensitivity trimmer to maximum: moving the sensors both vertically and horizontally and determine the turning on and off points of the yellow LED (OUT) and then fix the sensors in the middle of the points defined.
Optimum operation is obtained when both LEDs are ON.
If necessary, reduce sensitivity using the trimmer, in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

Setting with OF-42 (proximity fibre)
Turn the sensitivity trimmer to minimum: the green LED is ON, the yellow LED is OFF.
Position the target to detect in front of the sensor or of the fibre terminals. Turn the sensitivity trimmer clockwise until the yellow LED turns ON.
Remove the target, the yellow LED turns OFF.