

## S40-PR SERIES INSTRUCTION MANUAL

### CONTROLS

#### LED DI USCITA

The yellow LED the output status. (LED ON indicates the the output activation).

#### READY/ERROR LED

The green LED ON during functioning indicates that the received signal has a safety margin respect to the output switching value. Please refer to the "SETTING" paragraph for procedure indications during automatic setting.

#### POWER ON LED (S40-PR-x-G00)

The green LED signal indicates the sensor functioning.

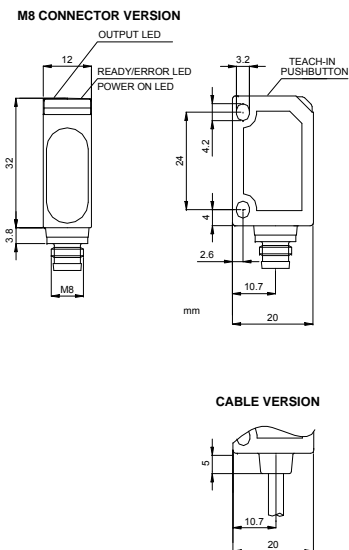
#### TEACH-IN PUSHBUTTON

A long pressure on the pushbutton activates the self-setting procedure. The REMOTE input allows the external TEACH-IN control.

### REMOTE FUNCTION

The REMOTE wire connected to +Vdc is equal to pressing the TEACH-IN pushbutton.

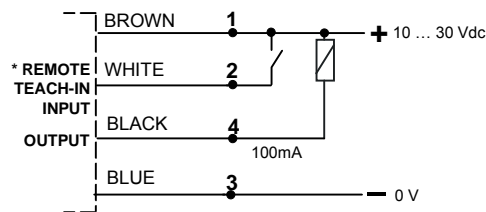
### DIMENSIONS



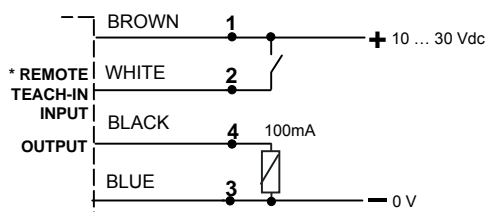
### CONNECTIONS

#### S40-PR-x-A03/B03/T03/C03/F03/M03

##### NPN OUTPUT

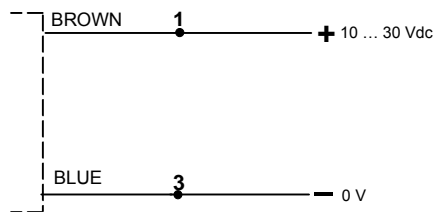


##### PNP OUTPUT

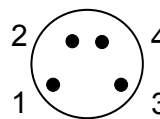


\* Connect REMOTE wire to 0V if not used

#### S40-PR-x-G00



#### M8 CONNECTOR



### TECHNICAL DATA

FUNCTION	Retroreflex S40-PR-x-A03	Polarized retroreflex S40-PR-x-B03	Retroreflex for transparent S40-PR-x-T03	Diffuse proximity S40-PR-x-C03	Through beam S40-PR-x-FG3	Background suppression S40-PR-x-M03
Power supply:	10 ... 30 Vdc (reverse polarity protection)					
Ripple:	10% max					
Consumption (output current excluded):	35 mA max.					
Outputs:	NPN or PNP, 22 KΩ pull down/up resistance (short-circuit protection)					
Output current:	100 mA max.					
Output saturation voltage:	2.4 V max.					
Response time:	0.5 ms max.					
Switching frequency:	1 kHz					
Data retention:	EEPROM non volatile memory					
Indicators:	OUTPUT LED (YELLOW) READY/ERROR LED (GREEN) POWER ON LED (GREEN) S40-x-G mod.					
Setting:	TEACH-IN via pushbutton and wire					
Operating temperature:	-20 ... +60 °C					
Storage temperature:	-20 ... +80 °C					
Electrical protection:	Class 2					
Operating distance (minimum values):	refer to TAB.1	0.1 ... 0.7 m	0.5 ... 30 cm	0.1 ... 6 m	20...100 mm	
Emission type:	RED (660nm)					RED (640nm)
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)					
DARK/LIGHT selection:	automatic with fine detection					
Housing material:	ABS UL 94V-O					
Lens material:	Methacrylic PMMA					
Mechanical protection:	IP67					
Connections:	2 m Ø 3.5 mm cable / M8 4-pole connector					
Weight:	40 g. max. max. cable vers. / 10 g. max. connector vers.					

### SETTING

#### EASY TOUCH™

The sensor uses the patent-covered EASY TOUCH™ technology that allows a rapid and safe self-setting of the product.

Two different setting possibilities are available:

- **EASY TOUCH™**; press for 2 sec. of the TEACH-IN pushbutton allows self-setting.
- **FINE DETECTION**; to be used only in particularly critical conditions. This setting procedure is used only when the EASY TOUCH™ is not sufficient.

#### EASY TOUCH™ (standard detection)

**A03/B03/T03 mod.:** place sensor and reflector on opposite sides;  
**C03 mod.:** place object to detect inside the operating range;

**M03 mod.:** place the background or the object to be suppressed inside the operating range;  
place the sensors on opposite sides.

#### FG3 mod.:

Press the TEACH-IN pushbutton until the READY/ERROR LED turns OFF, release the pushbutton: the sensor is now ready to detect all objects in the operating field. The DARK mode is automatically selected for the A03/B03/T03/F03 mod., the LIGHT mode for the C03/M03 mod.

#### FINE DETECTION

**A03/B03/T03 mod.:** insert object to detect between sensor and reflector;

**C03/M03 mod.:** place object to detect in front of the sensor at the desired distance;

**FG3 mod.:** place the sensors on opposite sides, insert object to detect between sensors.

Press the TEACH-IN pushbutton and wait for the blinking of the green LED, without moving the object. Release the pushbutton.

**B03 mod.:** remove the object to detect;

**C03 mod.:** move away or remove the object to detect;

**M03 mod.:** place the background to be suppressed;

**FG3 mod.:** remove object to detect

Press the TEACH-IN pushbutton until the READY/ERROR LED turns OFF, release the pushbutton.

The sensor selects the best operating conditions according to the acquired points and adjusts itself in the DARK mode condition for the A03/B03/T03/F03 mod., or in the LIGHT mode for the C03/M03 mod.

The given acquisition sequence has to be inverted to select the opposite operating modes. If the OUTPUT LED and the READY/ERROR LED blink contemporarily the detection has failed due to insufficient contrast and the procedure has to be repeated from the beginning.

TAB.1: Max. operating distances for S40-PR-x-A03/B03 (meters)

	REFLECTOR					
	R1	R2	R3	R4	R5	R6
-A03	1.8	3.0	2.4	3.6	3.1	4.2
-B03	1.5	2.6	2.0	3.2	2.7	3.5

#### WARRANTY

DATALOGIC AUTOMATION warrants its products to be free from defects.

DATALOGIC AUTOMATION will repair or replace, free of charge, any product found to be defective during the warranty period of 36 months from the manufacturing date.

This warranty does not cover damage or liability deriving from the improper application of DATALOGIC AUTOMATION products.

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