

PHOTOELECTRIC SENSORS FORK TYPE

HM 1301



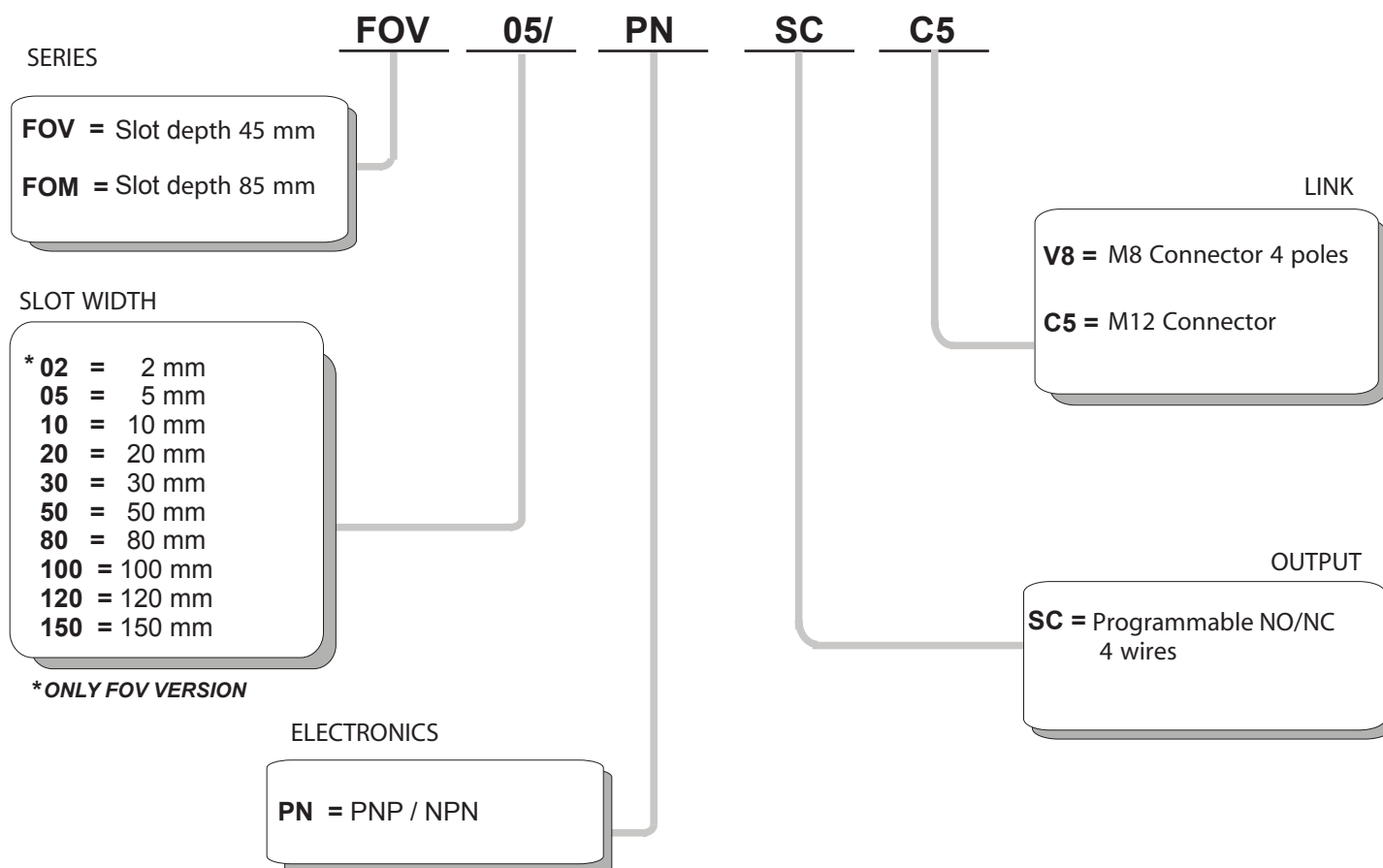
ADJUSTABLE AND MULTIFUNCTION WITH TEACH-IN BUTTON

PHOTOELECTRIC MULTIFUNCTION
FORK TYPE SENSORS WITH AUTOCALIBRATION
WITH TEACH-IN BUTTON
TWO VERSION: SLOT DEPTH 45 mm AND 85 mm
AVAILABLE GAP WIDTH 2, 5, 10, 20, 30, 50, 80, 100, 120 or 150 mm.
M8/M12 PLUG-IN CONNECTOR.
METAL HOUSING.

DESCRIPTION

The FOV and FOM fork, thanks to its construction and mechanical size, are particularly suitable to control labels, passing and presence control in the demanding applications of the working area. High speed detection and high immunity from optical noises keeps them reliable. The housing, totally metal made, assures an excellent mechanic strenght.

HOW TO ORDER



ELECTRICAL FEATURES

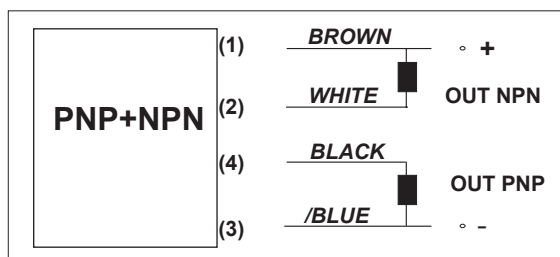
SLOT WIDTH	02, 05, 10, 20, 30 mm	50, 80, 100, 120 150 mm
SUPPLY VOLTAGE	10 ÷ 30 Vdc	
RIPPLE	≤ 10%	
POWER CONSUMPTION	< 30 mA	< 35 mA
MAXIMUM LOAD	250 mA	
VOLTAGE DROP	1.5V@200mA	
SHORT CIRCUIT PROOF	YES	
POLARITY REVERSAL PROTECTION	YES	
CE COMPLIANCE	EN 60947-5-2	

TECHNICAL FEATURES

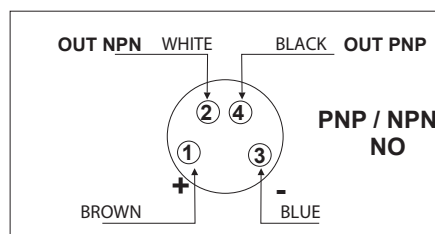
SLOT WIDTH	02, 05, 10, 20, 30 mm	50, 80, 100, 120, 150 mm
EMISSION	PULSED IR 880 nm	
MAXIMUM WORKING FREQUENCY	2 KHz	500 Hz
WORKING TEMPERATURE	0°C ÷ 50°C	
STORAGE TEMPERATURE	-25°C ÷ 70°C	
METAL BODY MATERIAL	ALLUMINIUM	
LENSES MATERIAL	PMMA	
PROTECTION RATING	IP54	

CONNECTIONS

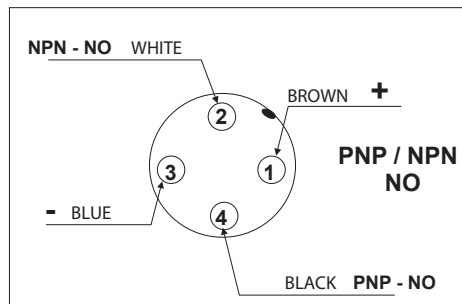
4 WIRES D.C.



M8 CONNECTOR - 4 POLES



M12 CONNECTOR - 4 POLES



CALIBRATION MODE

FOV02 +FOV30

FOM05 +FOM30

FOV 02 - FOV 05 - FOV 10 - FOV 20 - FOV 30 FOM 05 - FOM 10 - FOM 20 - FOM 30

Photoelectric forked sensor for the label detecting with teach-in button.

WORKING MODE

The FOV - FOM series photoelectric forked sensors for label detecting with teach-in button, verify the opacity difference between the label and the bearer, driving the two outputs and the led in base of the parameters stored with the calibration. In working mode the sensor tests continually the absence of short-circuit on the outputs. In case of short-circuit the sensor stops the emission, switch-off the outputs and shows the anomaly with a fast blink on the led.

CALIBRATION MODE

The calibration is made by the **teach-in** button, placed in the upper part of the fork. The calibration parameters are stored on the internal non volatile memory, so they are reloaded on successive power-on.

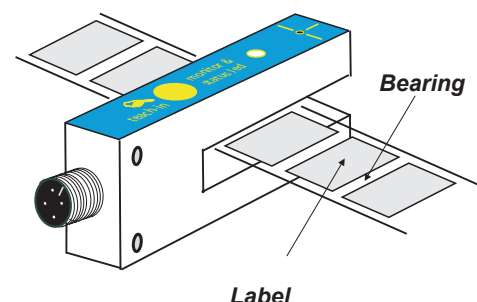
The calibration procedure for the NO function is explained in the following table. To have the NC function, exchange the operations showed at the step 1 and 4.

Step	Operation	Led	Sensor
1	Place the label in the fork.	It follows the output status.	In working mode.
2	Push the button for more than 1 s.	It is turned on and turned off after 1 s.	It checks the button time.
3	Release the button and wait the end of the calibration.	It blinks at 4 Hz.	It starts the calibration.
4	Place the bearer in the fork.	It blinks at 1 Hz.	It waits the 2° calibration.
5	Push the button for more than 1 s.	It is turned on and turned off after 1 s.	It checks the button time.
6	Release the button and wait the end of the calibration.	It blinks at 4 Hz.	It starts the calibration.
7	Restart the job.	It follows the output.	It stores the calibration parameters and returns in working mode.

The calibration fails if the difference of opacity between the label and the bearer is few. This error condition is shown by a fast blinking led (10 Hz). To skip from the error mode press the button briefly, the sensor picks up the last valid calibration.

NO OUTPUT: outputs and led activation at the label detection.

NC OUTPUT: outputs and led activation at the bearing detection.



CALIBRATION MODE

FOV50 +FOV150

FOM50 +FOM150

FOV 50 - FOV 80 - FOV 100 - FOV 120 - FOV 150

FOM 50 - FOM 80 - FOM 100 - FOM 120 - FOM 150

Photoelectric forked sensor with teach-in button

WORKING MODE

The photoelectric forked sensors FOV - FOM series change the output status detecting the object stored during the calibration. They can detect also semi-transparent targets (ex. semitransparent sheets, glass, plexiglass, ...) from the free space.

The sensors have two outputs, PNP type and NPN type, protected from shortcircuit.

In working mode the multifunction led shows the output status.

The shortcircuit condition is shown on the led with a fast blink.

CALIBRATION MODE

The calibration is made by the **teach-in** button, placed in the upper part of the fork. The calibration parameters are stored on the internal non volatile memory, so they are reloaded on successive power-on.

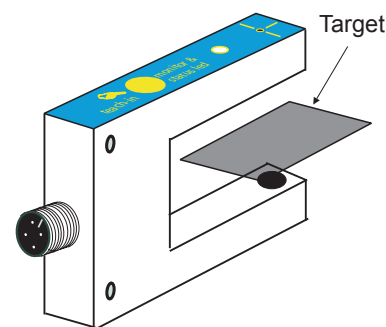
The calibration procedure for the NO function is explained in the following table. To have the NC function, exchange the operations showed at the steps 1 and 4.

Step	Operation	Led	Sensor
1	Place the target in the fork.	It follows the output status.	In working mode.
2	Push briefly the button.	It is turned on.	It checks the button time.
3	Wait the end of the calibration.	It is turned off.	It does the calibration.
4	Remove the target from the fork.	It blinks at 1 Hz.	It waits the 2° calibration.
5	Push briefly the button.	It is turned on.	It checks the button time.
6	Wait the end of the calibration.	It is turned off.	It does the calibration.
7	Restart the job.	It does a pulse of 100 ms, then it follows the output.	It stores the calibration parameters and returns in working mode.

The sensor goes in error condition if the difference of opacity between the two calibrations is few. This condition is shown by a fast blinking led (10 Hz). To skip from the error mode press the button briefly, the sensor reloads the last valid calibration.

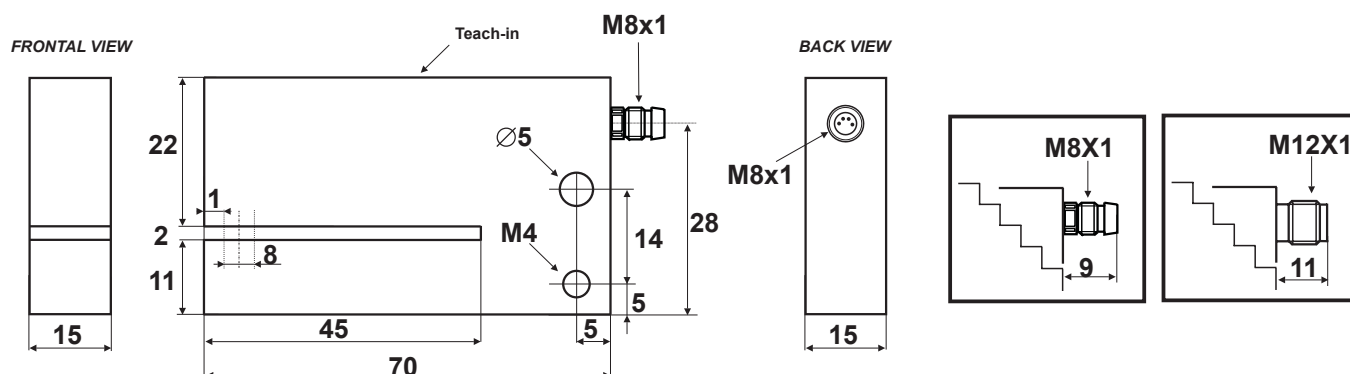
NO OUTPUT: outputs and led activation at the target detection.

NC OUTPUT: outputs and led activation at the space detection.

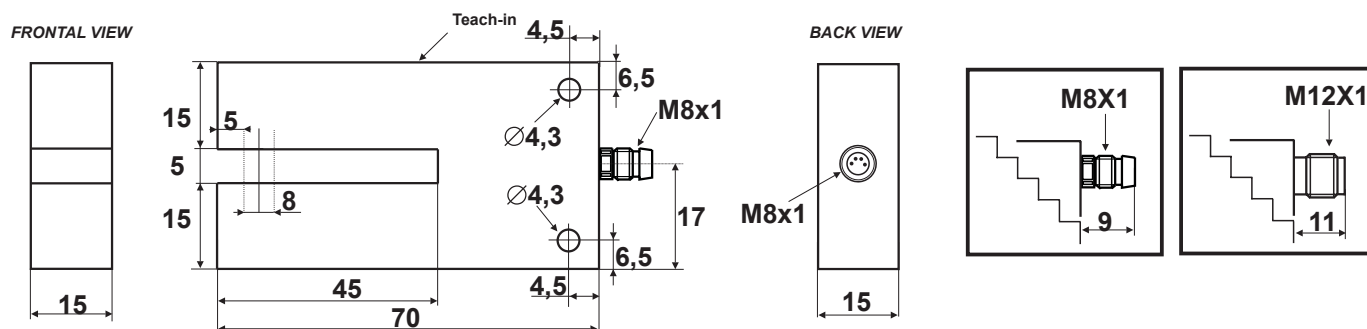


PRODUCTS LIST

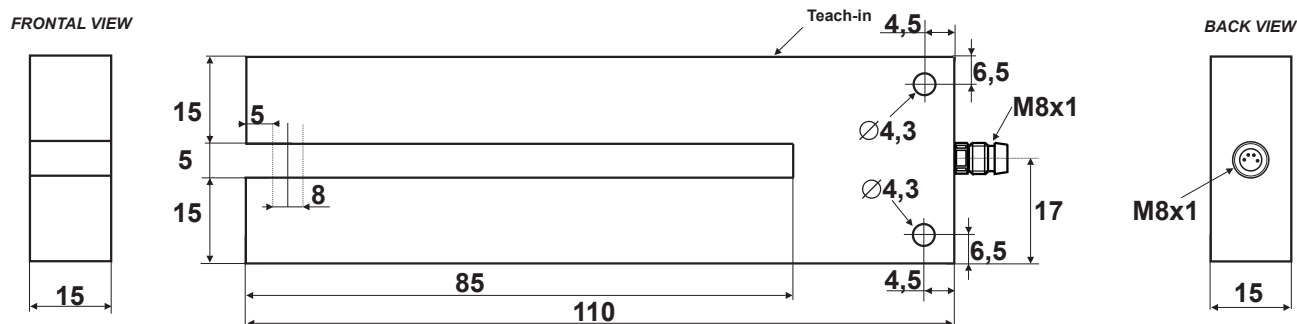
FOV02



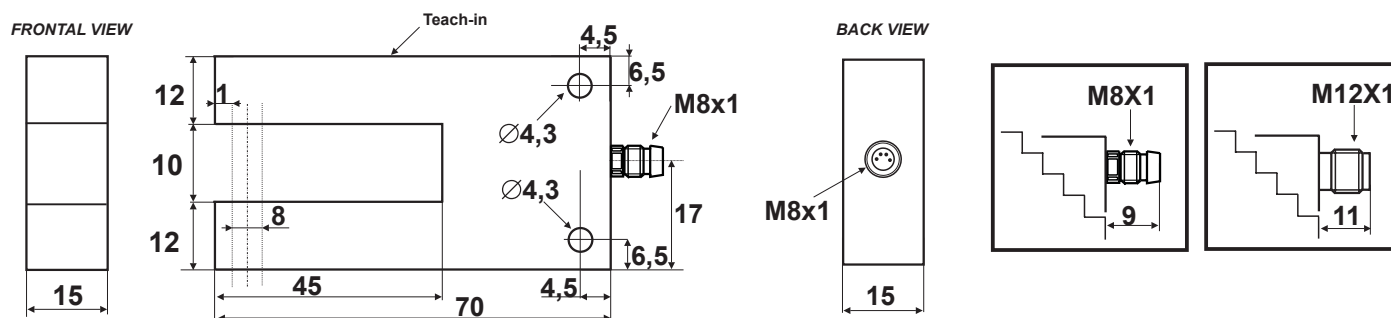
FOV05



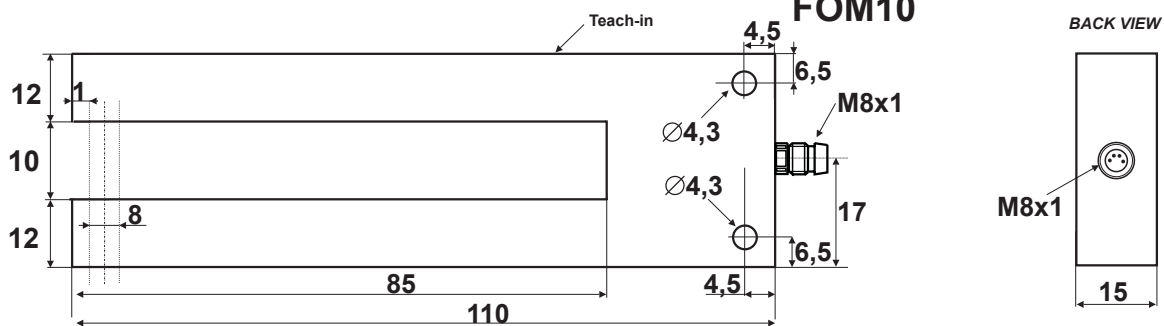
FOM05



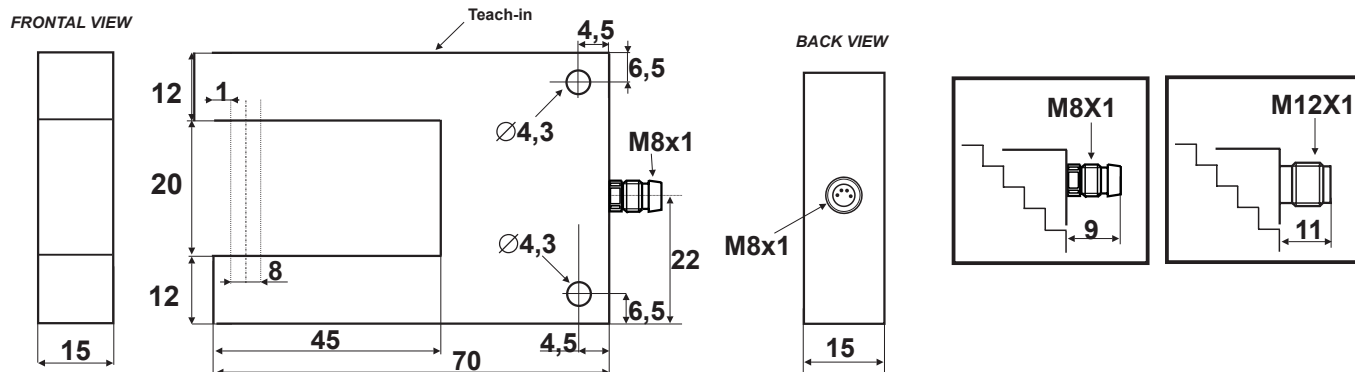
FOV10



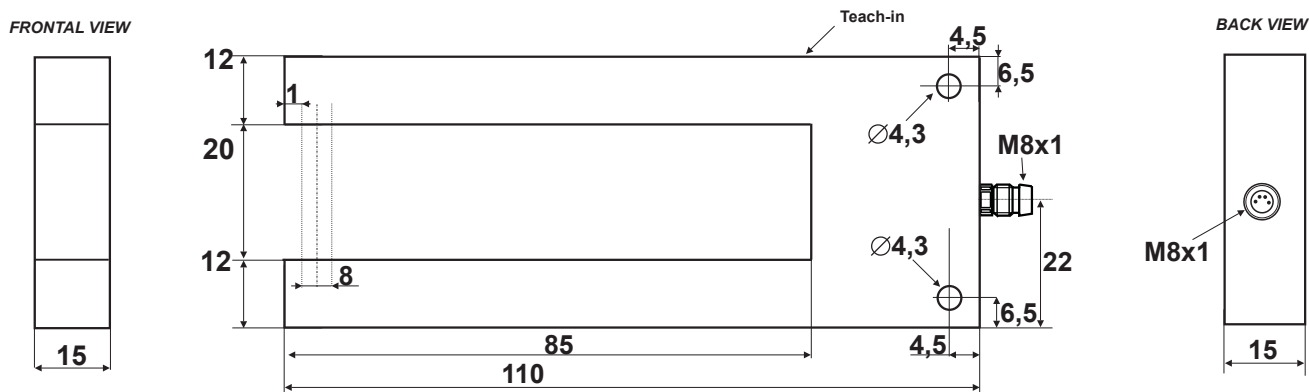
FOM10



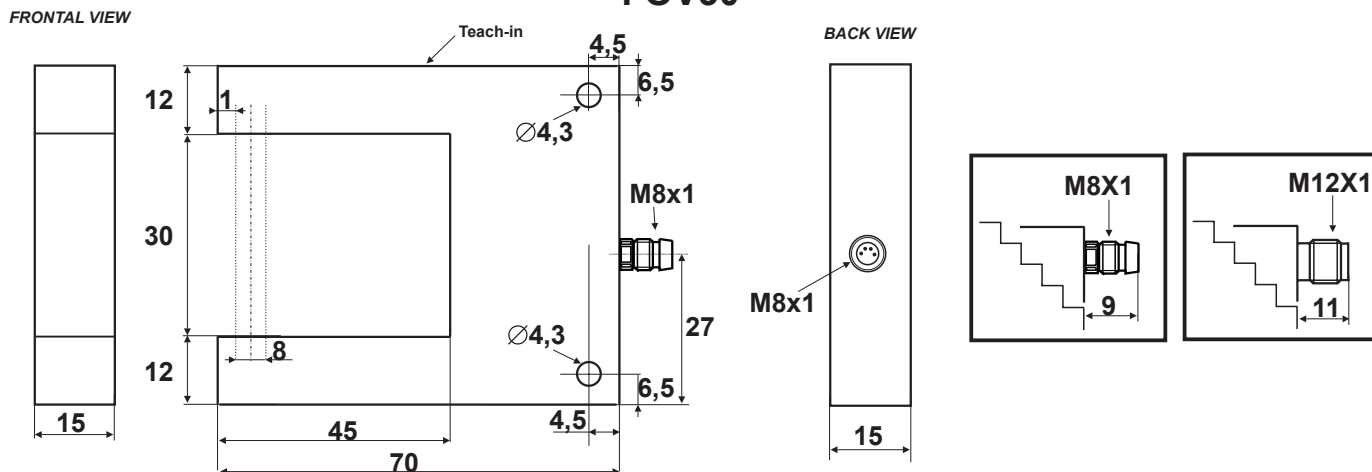
FOV20



FOM20

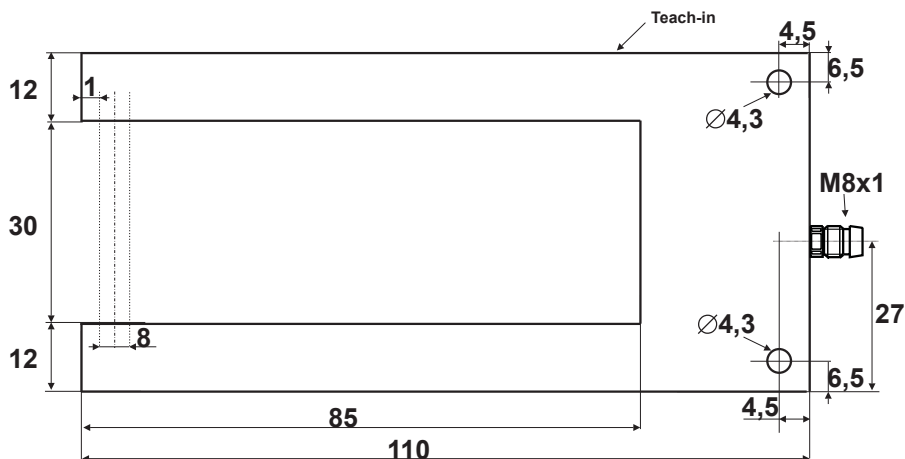


FOV30

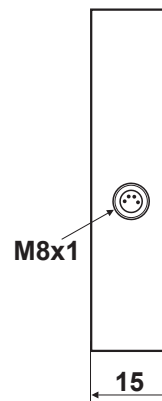


FOM30

FRONTAL VIEW

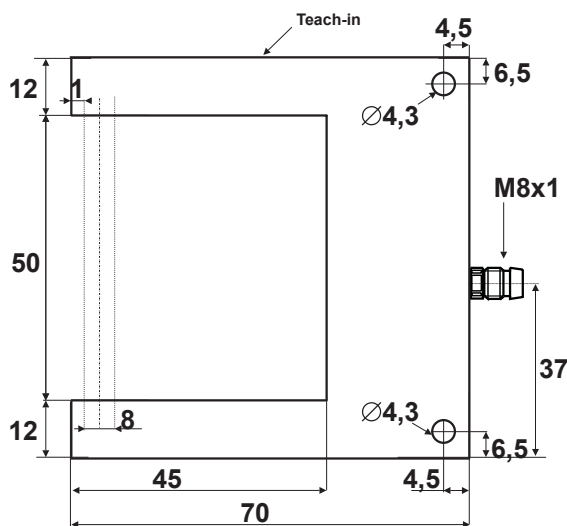


BACK VIEW

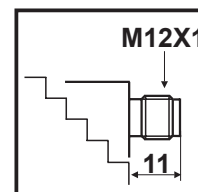
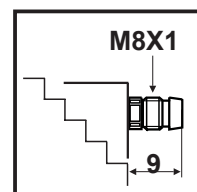
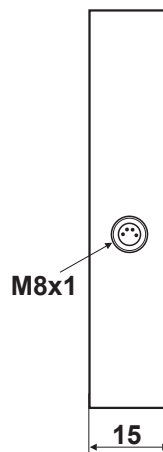


FOV50

FRONTAL VIEW

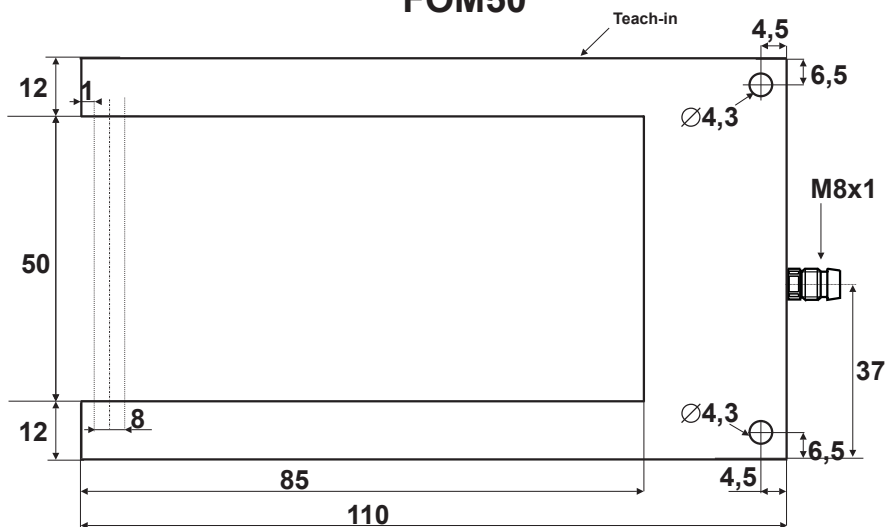


BACK VIEW

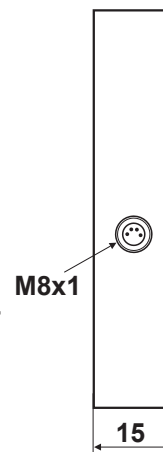


FOM50

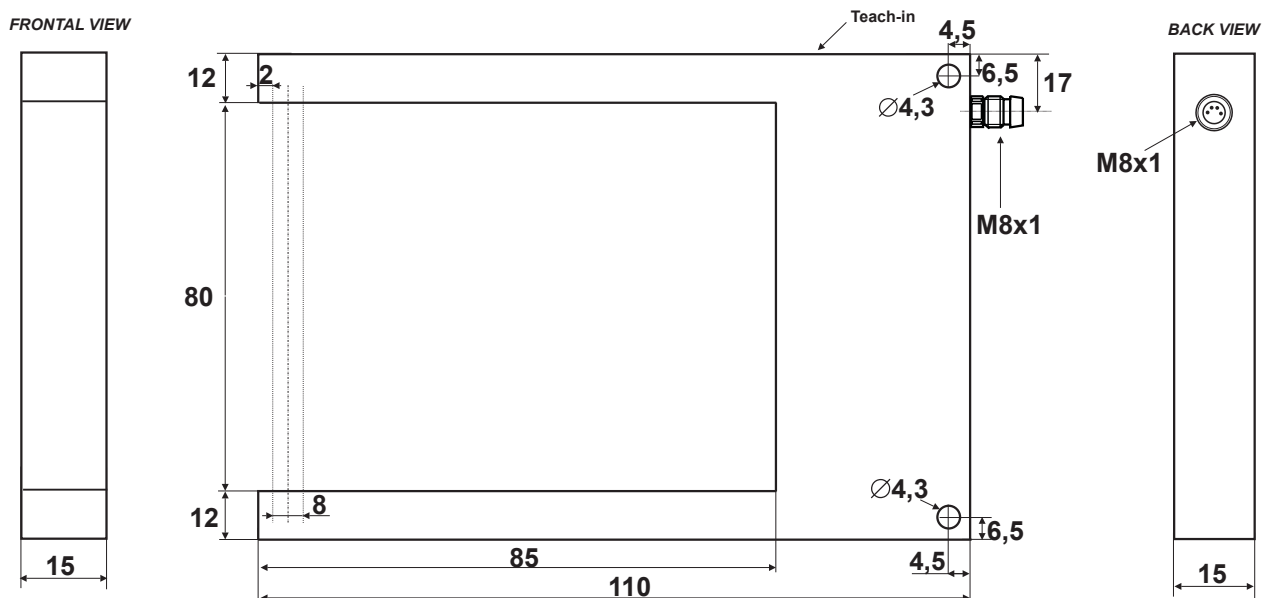
FRONTAL VIEW



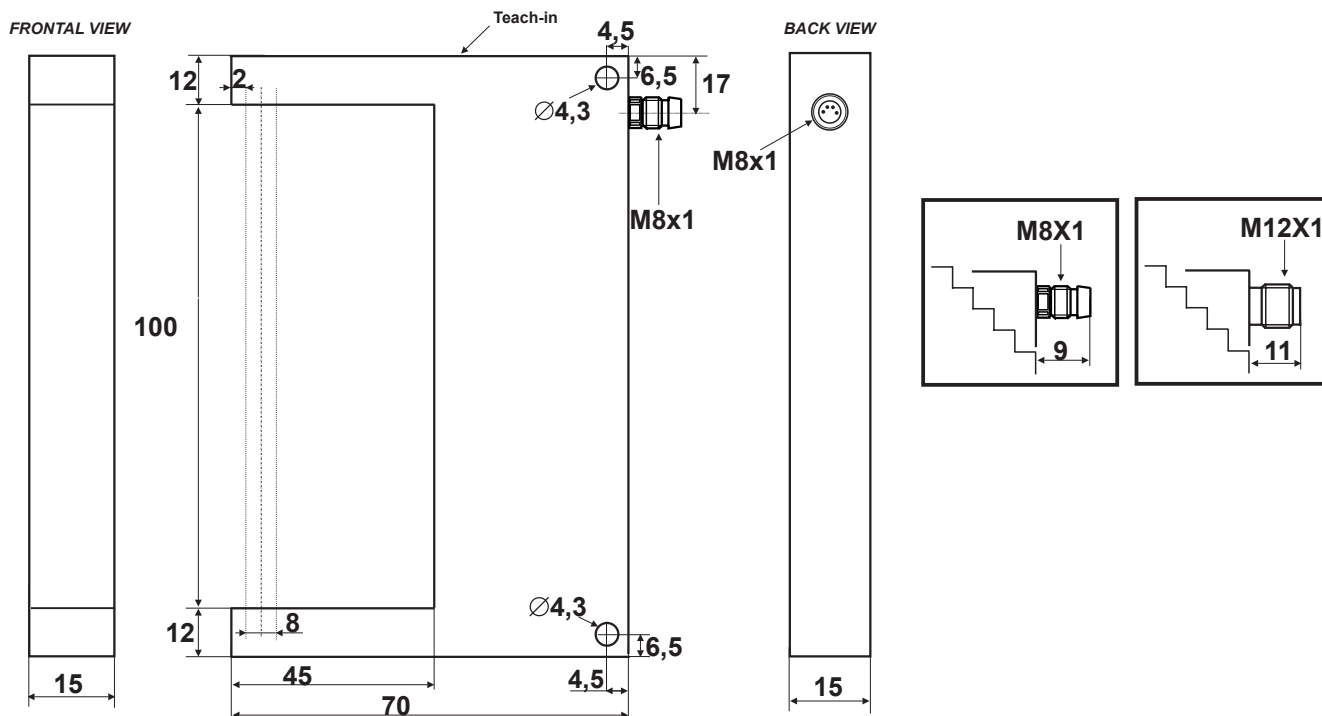
BACK VIEW



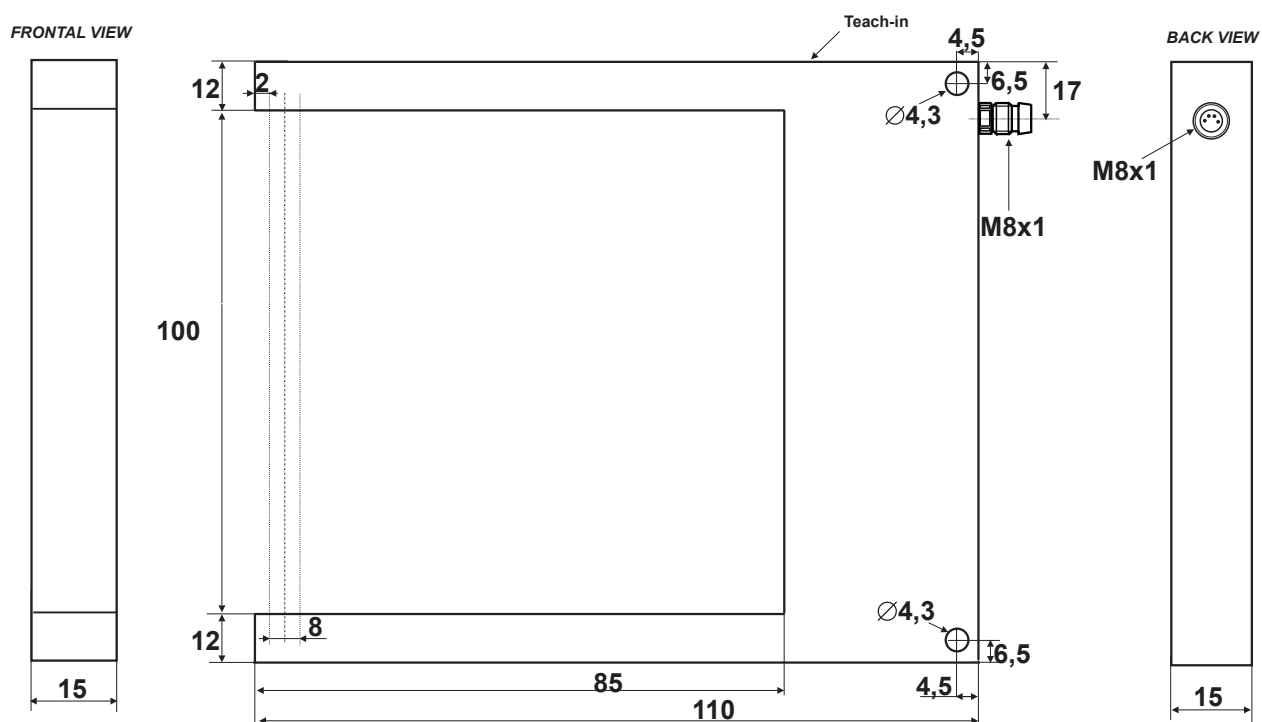
FOM80



FOV100

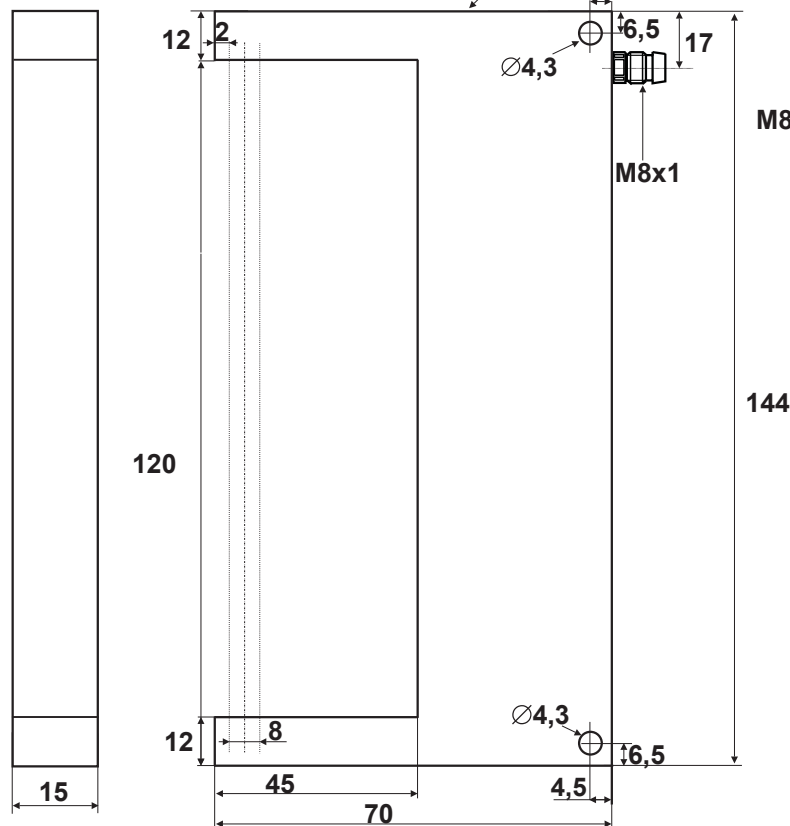


FOM100

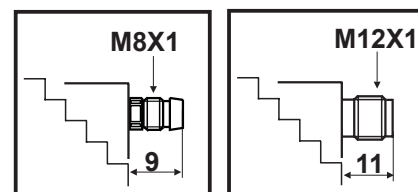
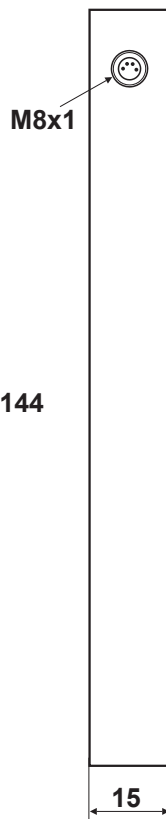


FOV120

FRONTAL VIEW

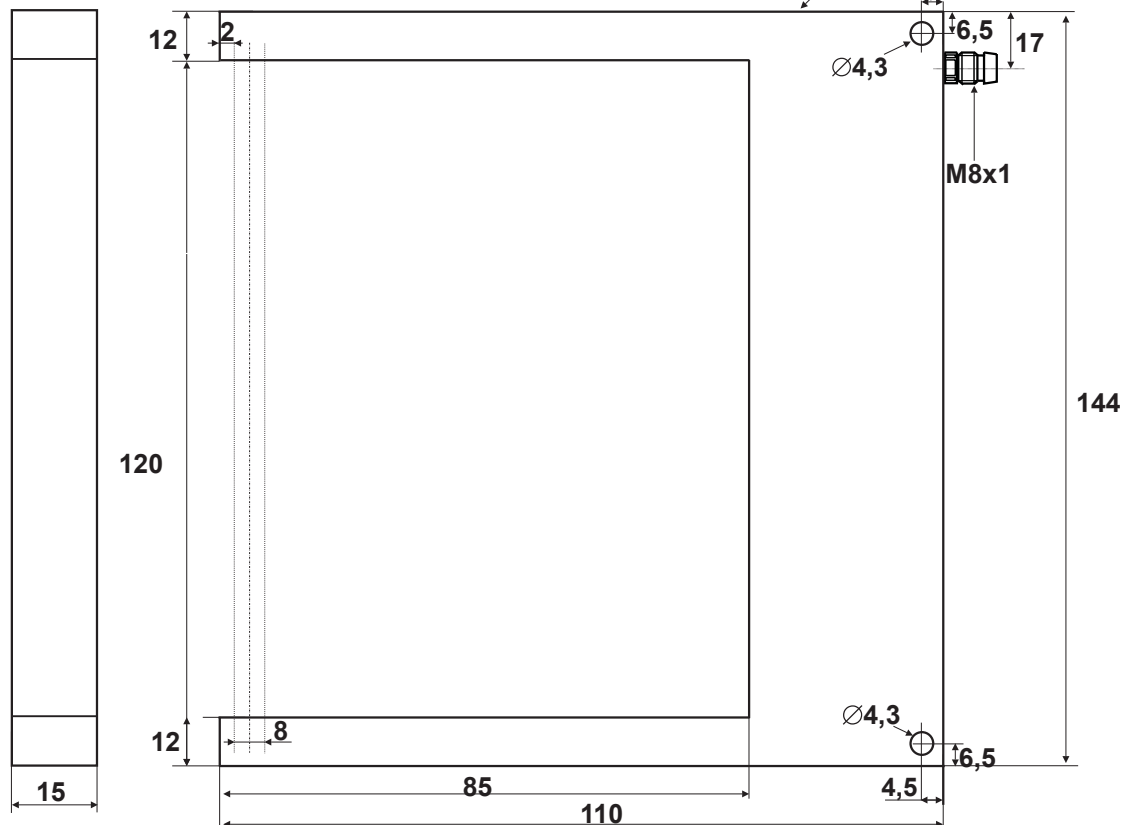


BACK VIEW

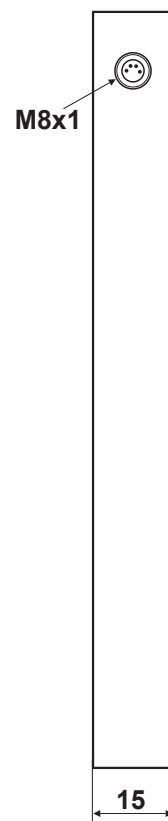


FOM120

FRONTAL VIEW

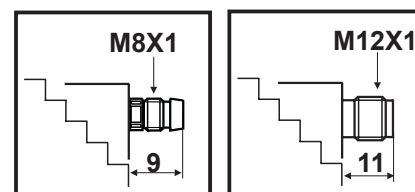
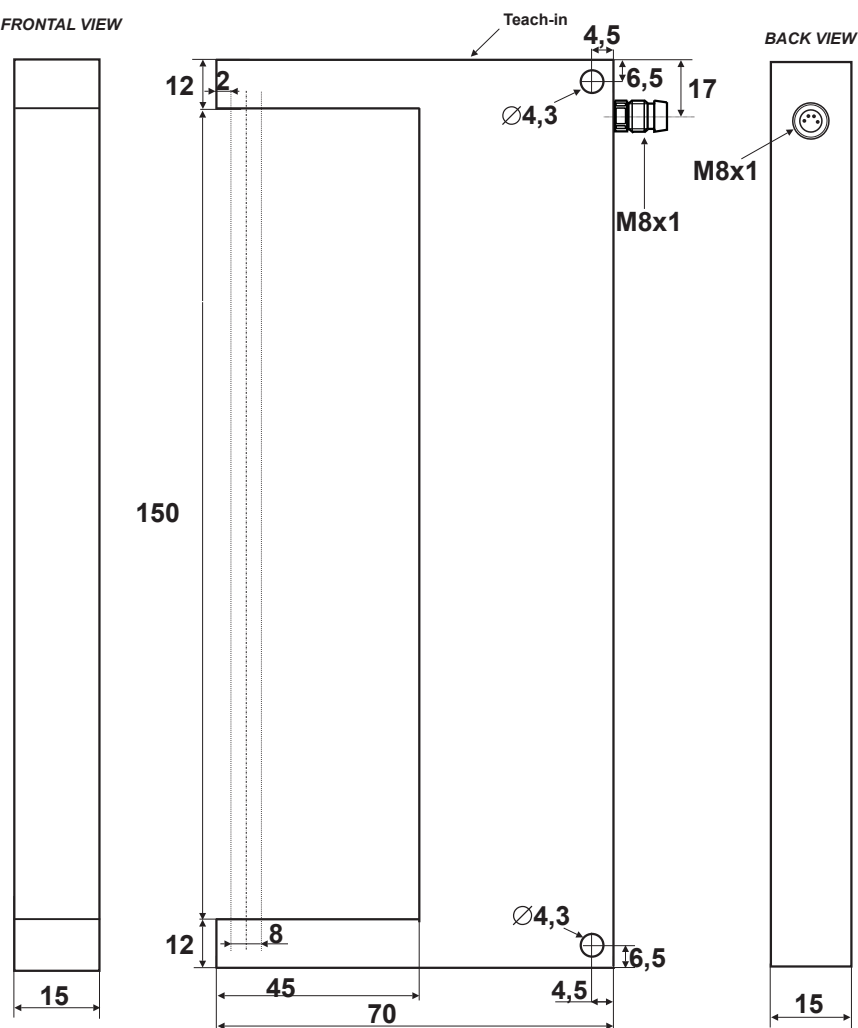


BACK VIEW



FOV150

FRONTAL VIEW



FOM150

FRONTAL VIEW

BACK VIEW

