



FD-XS1

Sensor head Maximum rated flow rate 1 L/min



*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model				FD-XS1
Supported pipe materials				Metal pipes, Plastic pipes (soft/hard) *1
Supported fluids				Liquids (water, oil, adhesive, grease, chemical solutions, etc.) *1
Supported fluid temperature				0 °C (no freezing on the pipe surface) to 100 °C 32 to 212 °F (Pipe surface temperature)
Clamp set model	Plastic pipe/tube attachment			FD-XC1R1, FD-XC1R2
	Metal pipe attachment			FD-XC1M*2
Maximum rated flow rate				0 to 1000 mL/min
Zero cut flow rate				20 mL/min*3 (variable, default)
Display resolution	Instantaneous flow rate			0.1/1/10 mL/min (Displayed on controller)
	Shot amount			0.001/0.01/0.1/1 mL (Displayed on controller)
Repeatability	Plastic pipe/tube attachment	Response time: 50 ms	F.S.	± 0.6 %*4*5
		Response time: 500 ms	Instantaneous flow rate	±6 mL/min*4*5
				±1.9 mL/min*4
	Metal pipe attachment	Response time: 50 ms	F.S.	± 1 %*4*5
		Response time: 500 ms	Instantaneous flow rate	±10 mL/min*4*5
				±3.2 mL/min*4
Hysteresis				Variable
Integrated unit display				0.1/1/10/100/1000/10000 mL (displayed on controller)
Display method				Status indicator
Environmental resistance	Enclosure rating			IP65/IP67 (IEC60529) , IP68G (JIS C0920) *6
	Ambient temperature			0 to 60 °C (No freezing) 32 to 140 °F
	Relative humidity			35 % to 85 %RH (No condensation)
	Vibration resistance			10 to 55 Hz, double amplitude 1.5 mm 0.06 ", 2 hours each for X,Y,Z direction
	Shock resistance			50 G 11 ms 3 times each for X,Y,Z direction
Material	Sensor head			Head body: PPS/PPSU, in-cable amplifier: PPS, cable: PVC, controller connector: PPS/PBT/POM
	Clamp set	For plastic pipe		Body, fixing screw: PPS, detection surface: special rubber, pipe support rubber: FKM, sensor head fixing screw: SUSXM7
		For metal pipe		Metal: SUS304/SUSXM7, detection surface: special rubber, clamp support rubber: FKM, sensor head fixing screw: SUSXM7
Weight				Approx. 230 g

*1 Liquid must allow for the passage of an ultrasonic pulse, as well as not contain large air pockets or excessive bubbles. Readings may become unstable depending on the type of pipe.

*6 The connector part of the sensor head cable is IP65/IP67.

* Download CAD file or product manual for larger image/text and more detail.

Technical drawing of the In-cable Amplifier, showing front, side, and detail views with dimensions and callouts.

Front View Dimensions:

- Overall width: 79.9
- Distance from left edge to center: 10.8
- Distance from center to right edge: 16
- Top mounting hole spacing: 102.5
- Distance from top edge to mounting holes: 83.5
- Distance from bottom edge to mounting holes: 22
- Bottom mounting hole spacing: 10.7max.
- Distance from bottom edge to mounting holes: 18.3
- Distance from bottom edge to mounting holes: 20.3

Side View Dimensions:

- Overall height: 24
- Distance from top edge to mounting holes: 6.6
- Distance from top edge to mounting holes: 2.2
- Distance from top edge to mounting holes: 12.7
- Distance from top edge to mounting holes: 12.7
- Distance from top edge to mounting holes: 19
- Distance from top edge to mounting holes: 30

Callouts:

- M3 thread x4 (P0.5, length 20mm, SUSXM7)
- $\phi 5.1 \times 2, 300\text{mm}$
- M3 thread hole x 2 (exist at the same position of the rear side) (P0.5, length 6mm)

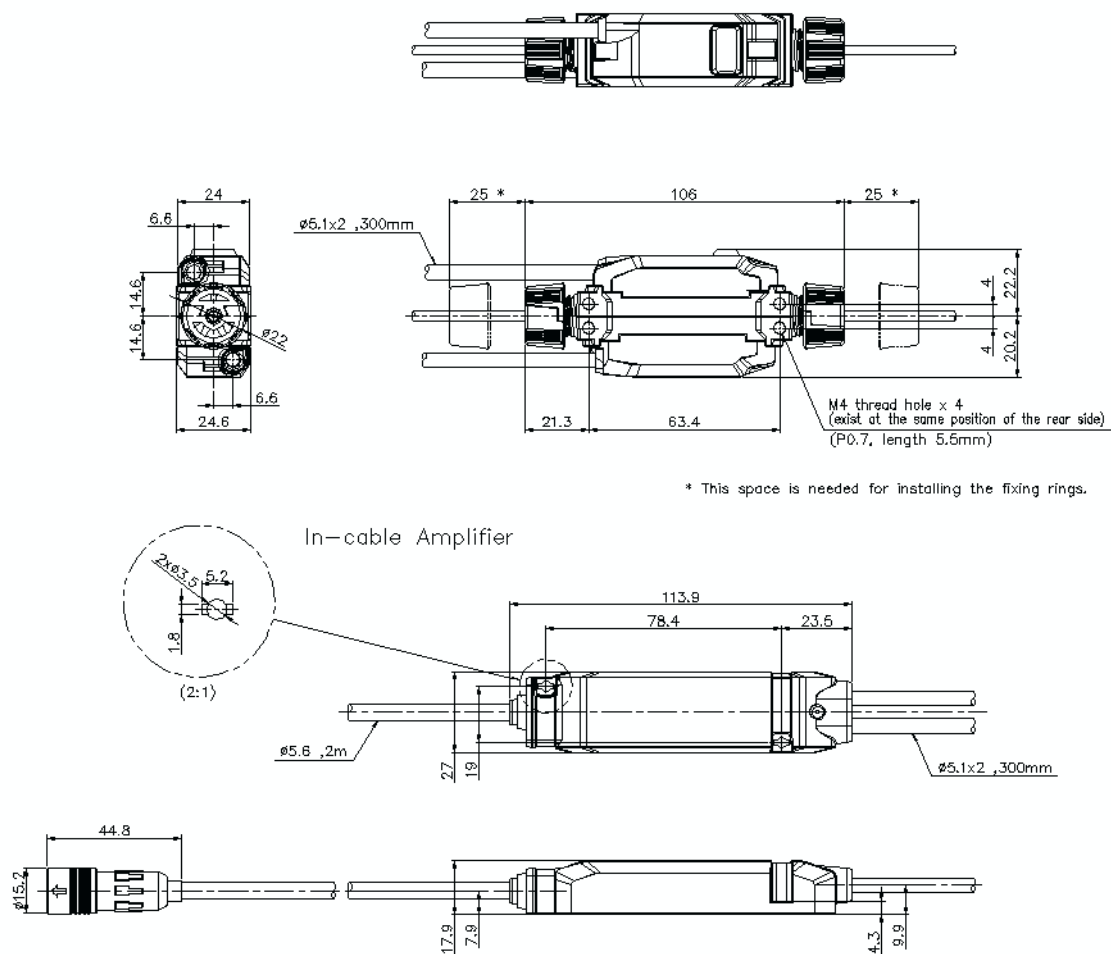
Detail View (2:1):

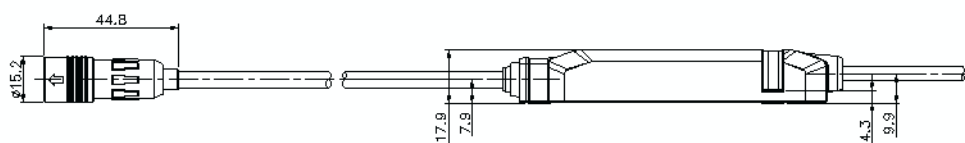
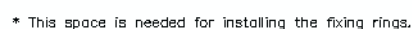
- Overall width: 113.9
- Distance from left edge to center: 78.4
- Distance from center to right edge: 23.5
- Distance from left edge to center: 27
- Distance from left edge to center: 19
- Distance from left edge to center: 17.9
- Distance from left edge to center: 7.9
- Distance from left edge to center: 4.3
- Distance from left edge to center: 9.9

Other Dimensions:

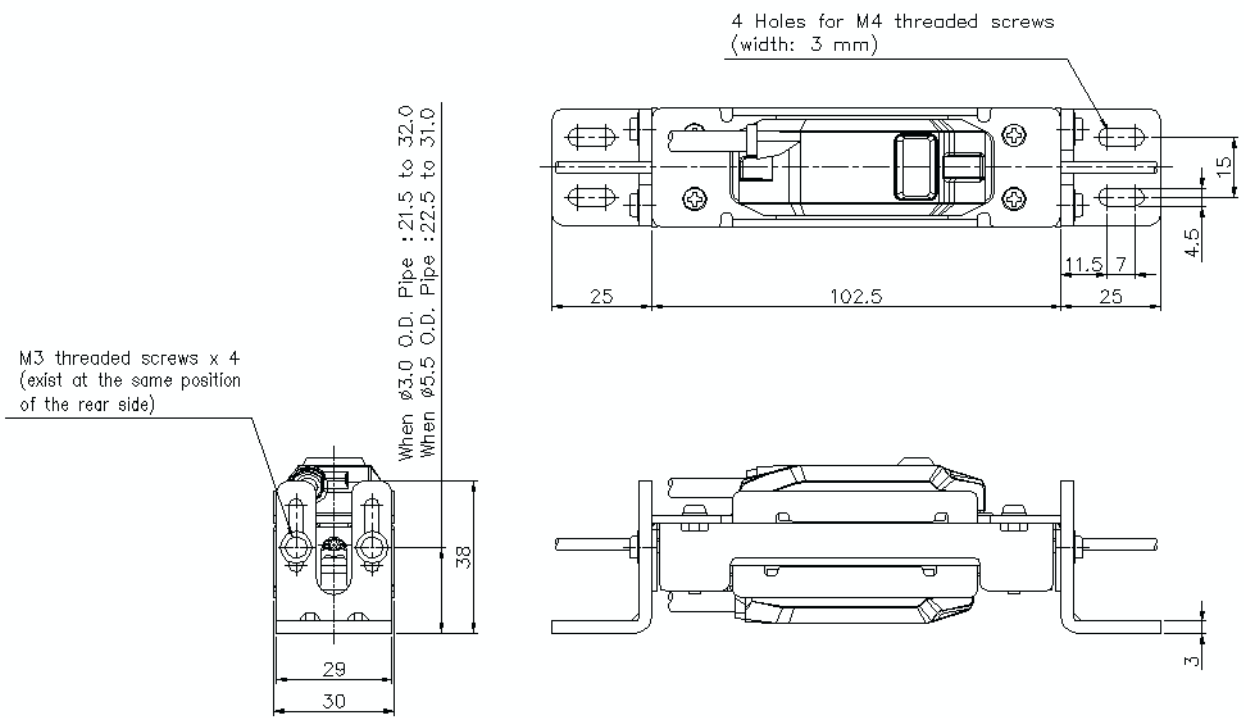
- $\phi 5.6, 2\text{m}$
- $\phi 5.1 \times 2, 300\text{mm}$
- 44.8
- $\phi 15.2$

FD-XS1+FD-XC1R1

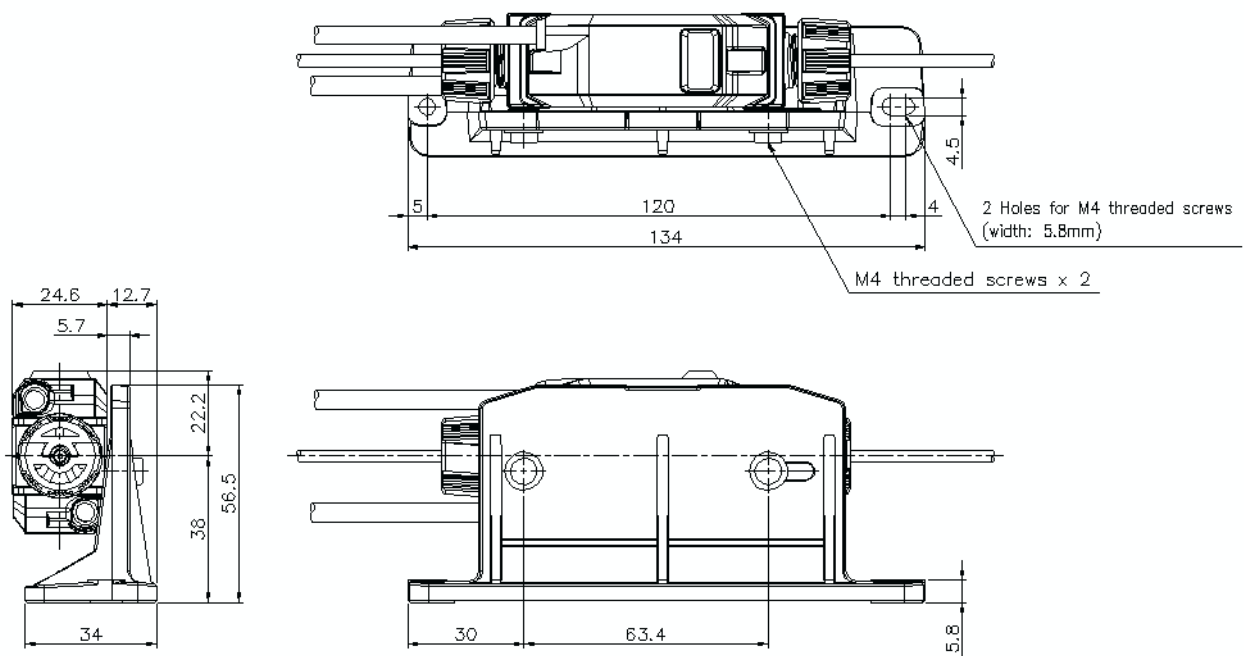




FD-XS1+FD-XC1M+OP-88297



FD-XS1+FD-XC1R1+OP-88294



FD-XS1+FD-XC1R2+OP-88294

