

ADVANCED PRESSURE CONTROLLER DATASHEET



Module Basic

Type 1 : 0/200 mbar
Type 2 : 0/2000 mbar
Type 3 : 0/8000 mbar



Module Dual

Type 4 : -900/1000 mbar
Type 5 : -900/6000 mbar

Elveflow Advanced Pressure Controller is a one channel pressure regulator module, with one sensor connection.

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General specifications

Dimensions (mm)	124 x 99 x 70 mm
Weight (g)	Type 1 / 2 / 3 : 750 g Type 4 / 5 : 1000 g
Control Center connection	M12 8 pins (shielded cable 25 cm recommended)
Sensor communication	I2C, analog
Sensor connection	M8 4 pins (shielded cable 1 m recommended), or Terminal block (4 wires)
Sensor compatibility	Elveflow sensors (MFS, MPS, bubble detector and MFP), Analog sensors with 0/10 V input signal and with up to 24 V supply
Number of sensor connections	1
Casing material	Aluminium
Mounting orientation	Any

Pneumatic specifications (same as OB1 MK4)

Channel pressure range	0 to 200 mbar (0 to 2.9 psi)	0 to 2000 mbar (0 to 29 psi)	0 to 8000 mbar (0 to 116 psi)	-900 to 1000 mbar (-13 to 14.5 psi)	-900 to 6000 mbar (-13 to 87 psi)
Pressure stability	0.015 % FS	0.005% FS	0.006 % FS	-900 to 500 mbar : 0.005 % FS 500 to 1000 mbar : 0.007% FS	-900 to 2000 mbar : 0.005 % FS 2000 to 6000 mbar : 0.007% FS
Response time	Down to 10 ms				
Settling time	Down to 50 ms				
Minimum pressure increment	0.006 % FS	0.006 % FS	0.006 % FS	0.0064 % FS	0.0061 % FS
Input pneumatic connector	6 mm push-in				
Output pneumatic connector	4 mm push-in				
Pressure supply	1.5 bar (or Max pressure + 0.5 bar) to 10 bar Non corrosive, non explosive, dry and oil-free gases, e.g. air, argon, N2, CO2, ...				
Vacuum supply	/			From -0.7 to -1 bar Compatible with vacuum pump or vacuum line	

Electrical specifications

Maximum power (W)	5 W
Typical power (W)	1.7 W
Digital sensor supply voltage (V)	5 V
Analog sensor supply voltage (V)	5 to 24 V
Maximum sensor power (W)	2 W

Communication specifications

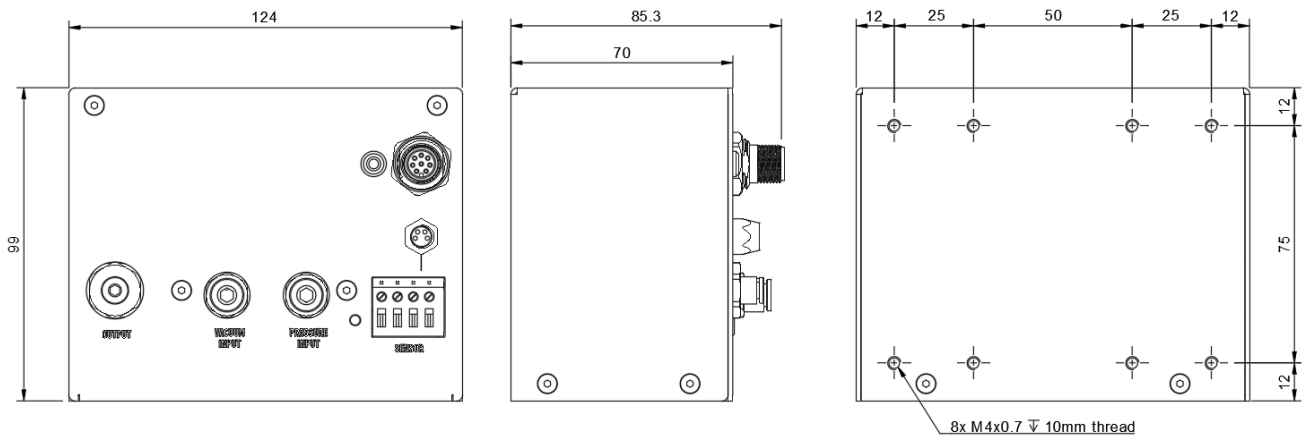
Interface	M12 8 pins
Communication type	Universal Asynchronous Receiver-Transmitter (UART)
Serial communication speed	230400 bauds

Control and monitoring

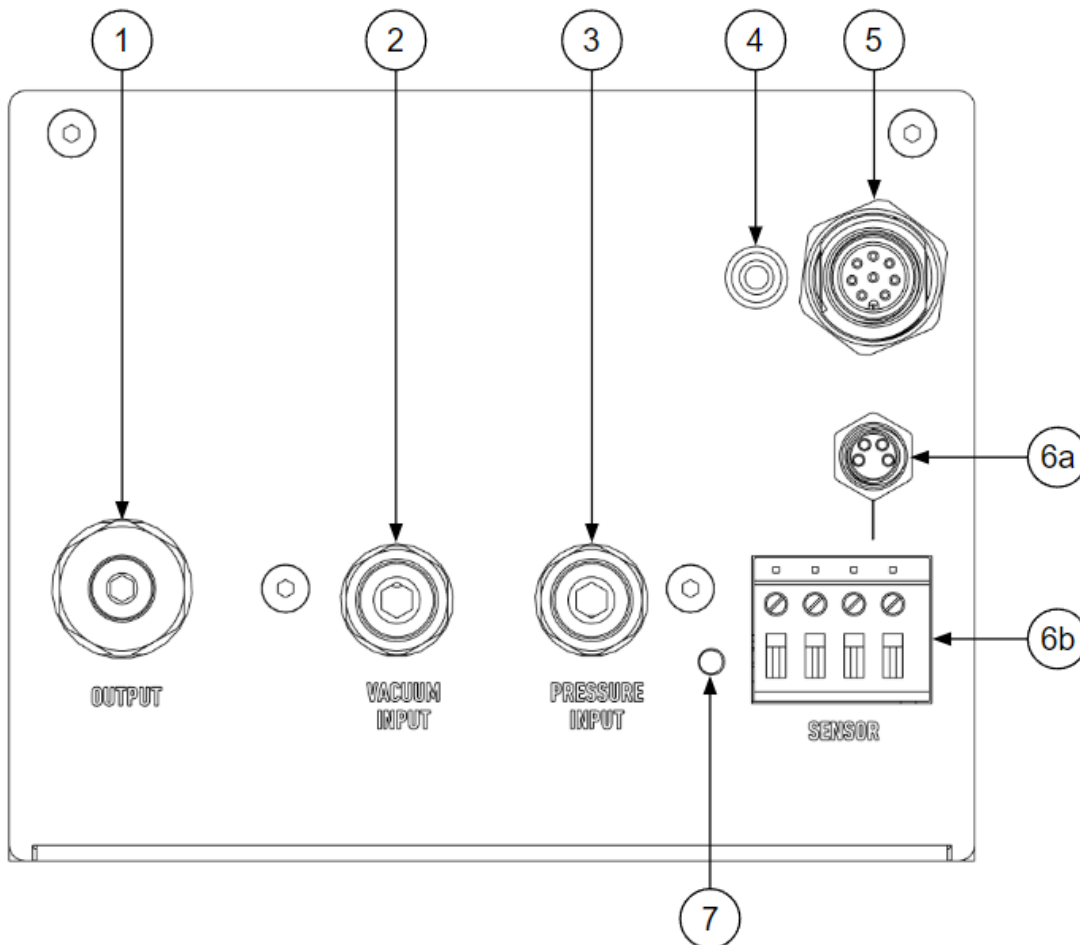
UART commands	Pressure regulation/ Flow regulation by feedback loop with flow sensor/ Volume injection with flow sensor/ Sensor configuration & monitoring
Software control	ESI via a Advanced Control Center only
Data management	Custom pressure regulation waveform : <ul style="list-style-type: none"> - 4 available custom waveforms - 10 ms time step - 6000 available points per waveform
Distributed PI regulation between a regulators module and a sensor on another module	Yes

Dimensional drawing

(Dimensions in mm)



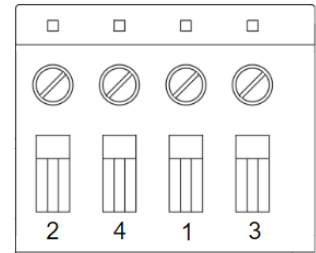
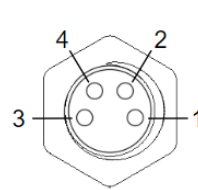
Connections



1	Pressure output	4mm push-in (or any G1/4 connector)
2	Vacuum input (modules type 4 and 5 only)	6mm push-in (or any G1/8 connector)
3	Pressure input (10 bar max)	6mm push-in (or any G1/8 connector)
4	Communication LED	Green LED - ON when communicating
5	Connection to Advanced Control Center (or Advanced Hub)	M12 male - 8 pins
6	Sensor connection	6a : M8 female 4 pins
		6b : Terminal block 4 pins
7	Sensor LED	Green LED - ON when sensor is communicating

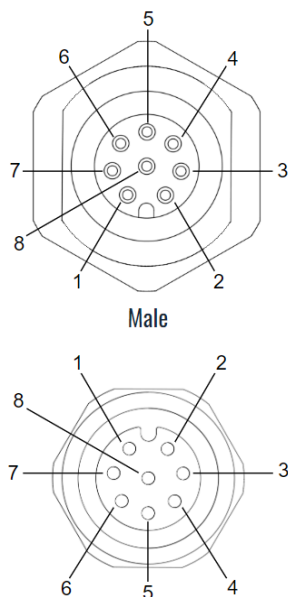
Sensor wiring

1	Vcc 5-24V (power supply)
2	SCL (clock line for I2C)
3	Ground
4	Data line (Analog signal / SDA for I2C)



M12 Pin out

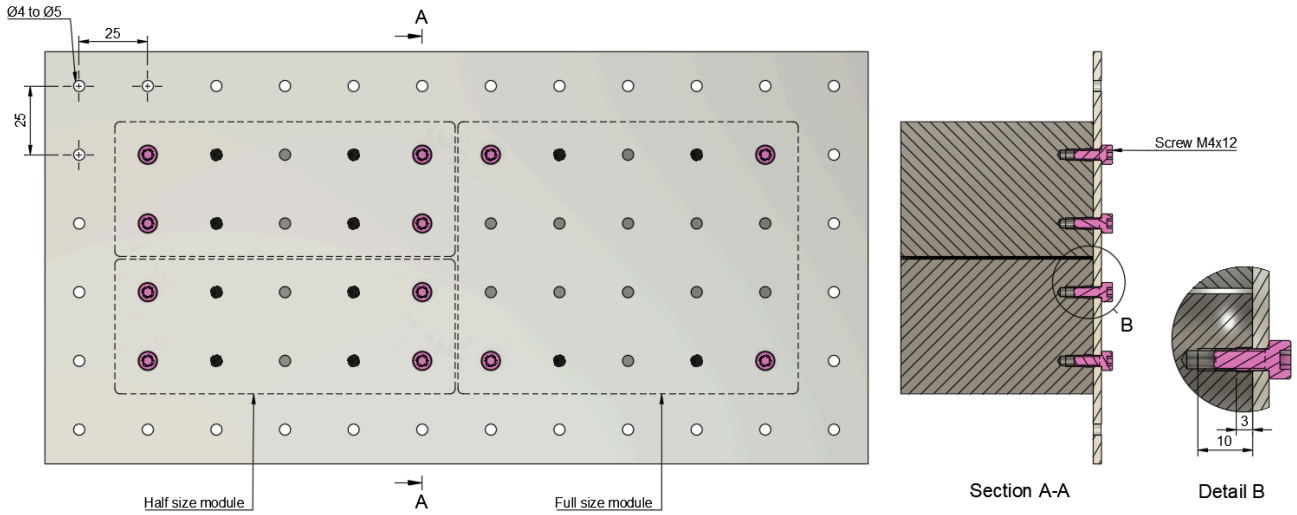
1	RX
2	TX
3	Ground
4	/
5	5V DC
6	/
7	Ground
8	24V DC



Assembly recommendations

The module can be used in any orientation.

Assembly on standard perforated sheet metal



Assembly with brackets

Brackets are Elveflow custom parts that can be purchased with an Advanced system to assemble the modules together (see Advanced Assembly kit).

