



Series 1700 - Miniaturised proportional pressure regulator - Size 0 - 1 - 3

Modern industrial applications constantly require more sophisticated and better performing pneumatic components.

Flexibility and adaptability are key factor when designing a machine. The possibility to change the application parameter during operation such as for example the speed of a cylinder or the force generated by a rotary actuator are beneficial to the designer.

In the past it was necessary to design complicated pneumatic circuits based on pneumatic logic elements which required a lot of space and complicated set up, today, thanks to the electronic proportional regulators such operations are extremely easy to achieve and offer even more flexibility.

Pneumax miniaturized proportional regulators series integrates all the main features of the 521 series with the exclusion of the display and analogue/digital output.

High precision in pressure regulation, fast response speed, assembling options and reduced dimensions are the main advantages.

Pneumatic characteristics		
Fluid		Air filtered at 5 micron and dehumidified
Minimum inlet pressure		Desired outlet pressure + 1 bar
Maximum inlet pressure		10 bar
Outlet pressure	Ordering code	009
	Pressure value	0 ... 9 bar
Nominal flowrate from 1 to 2 (6 bar Δp 1 bar)		7 NI /min
Discharge flowrate (at 6 bar with 1 bar overpressure)		7 NI /min
Air consumption		M5 / Ø4
Operating connection		M5 / Ø4
Exhaust connection		M5 / Ø4
Maximum fitting tightening		3 Nm

Electrical characteristics		
Supply voltage		24VDC $\pm$ 10% (stabilised with ripple <1%)
Standby current consumption		55 mA
Current consumption with solenoid valves on		145 mA
Reference signal	Voltage*	0 ... 10 V
	Current*	4 ... 20 mA
Input impedance	Voltage	10 K Ω
	Current	250 Ω
Analog outputs voltage		0,2 ... 10 V (10 V to 9 bar)
Connector		M8 4 poles

Operational characteristics	
Linearity	< $\pm$ 0,3 % F.S.
Hysteresis	<0,3 % F.S.
Repeatability	< $\pm$ 0,5 % F.S.
Sensitivity	< $\pm$ 0,5 % F.S.
Assembly position	Indifferent
Protection degree	IP65 (with casing fitted)
Environment temperature	-5°C ... 50°C / 23°F ... 122°F

Construction characteristics	
Body	Technopolymer
Seals	NBR
Cover for electrical part	Technopolymer
Weight	60 g

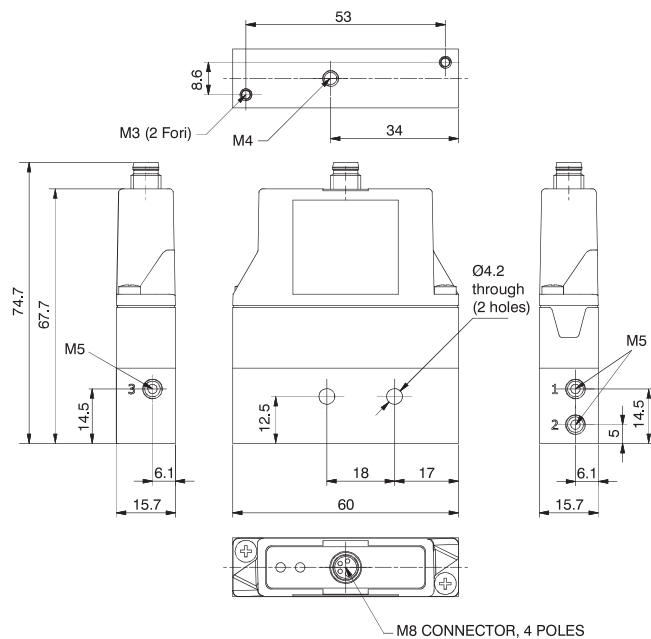
* Request during ordering process

PARAMETER 18 - Protection mode

If during operation in "standard" mode the desired pressure cannot be reached (for example, there is no compressed-air supply or it is insufficient) or the discharge conduit is blocked or closed, the regulator continues to work on the solenoid valves to try to reach the desired pressure. This parameter allows the automatic switch-off of the control solenoid valves for up to 20 seconds to be enabled. This function is used to safeguard the solenoid valves over time. The protection is triggered if the desired pressure is not reached and the outlet pressure does not undergo significant variations within a 4-seconds control of the solenoid valves. A significant variation is defined as a variation that is greater than the defined insensitivity value, parameter P1. After the 4 seconds have elapsed in which the regulator attempts to reach the desired pressure, the protection is triggered. This protection switches off the solenoid valves for a maximum of 20 seconds. If the 20 seconds have elapsed or if during the 20 seconds during which the solenoid valves are switched off the required pressure (reference) varies or the outlet pressure varies the regulator will again start to control the solenoid valves for another 4 seconds, trying to reach the desired pressure.

If this does not occur, the protection is reactivated. From this point on 4 seconds of controlling the solenoid valves and 20 seconds of switch-off alternate cyclically.

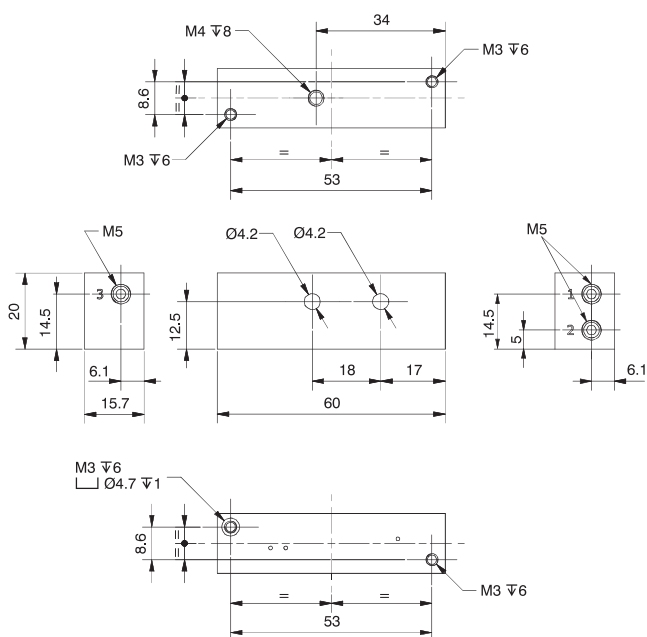
Proportional Pressure Regulator c/w M5 In-Line Single Base



Weight: 110 g

Ordering code	
170EPM.V.M.G.FO	
(P)	PROTECTION 0 = Parameter 18 active 2 = Parameter 18 not active
(V)	VERSION T = Voltage signal C = Current signal
(G)	PRESSURE RANGE 001= Range 0 ... 1 bar 005= Range 0 ... 5 bar 009= Range 0 ... 9 bar

M5 In-Line Single Base

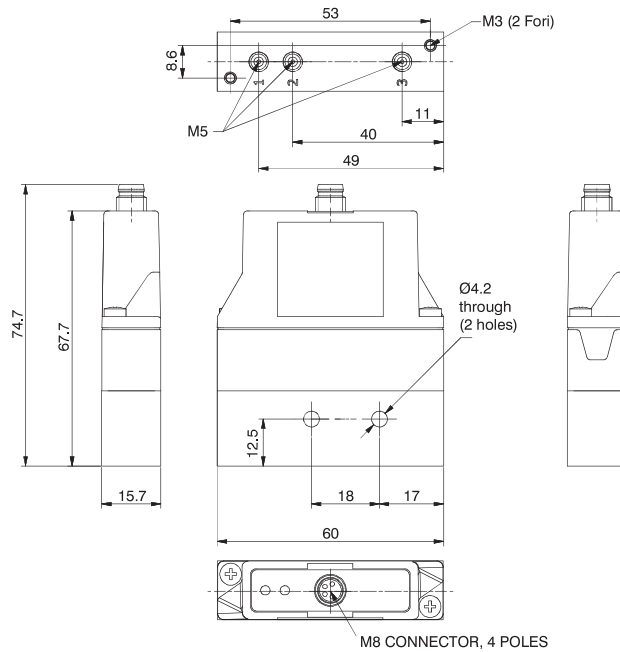


Weight: 50 g

Ordering code
170M1.FO



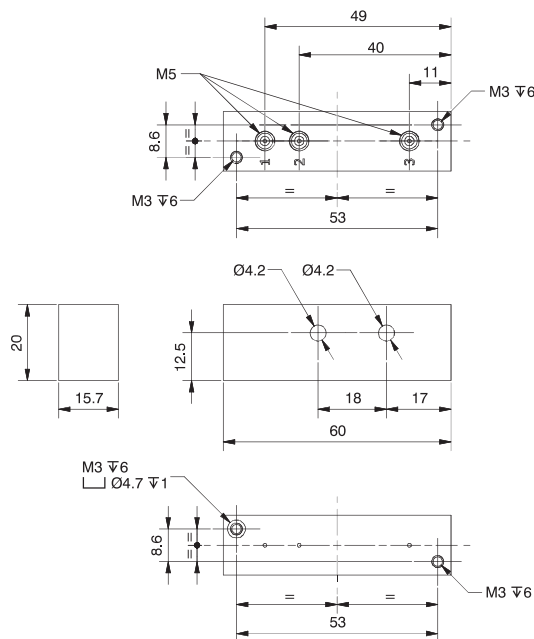
Proportional Pressure Regulator c/w M5 Bottom Entry Base



Ordering code	
170EPM.V.M.G.FV	
PROTECTION	
P 0 = Parameter 18 active	
2 = Parameter 18 not active	
VERSION	
V T = Voltage signal	
C = Current signal	
PRESSURE RANGE	
G 001 = Range 0 ... 1 bar	
005 = Range 0 ... 5 bar	
009 = Range 0 ... 9 bar	

Weight: 110 g

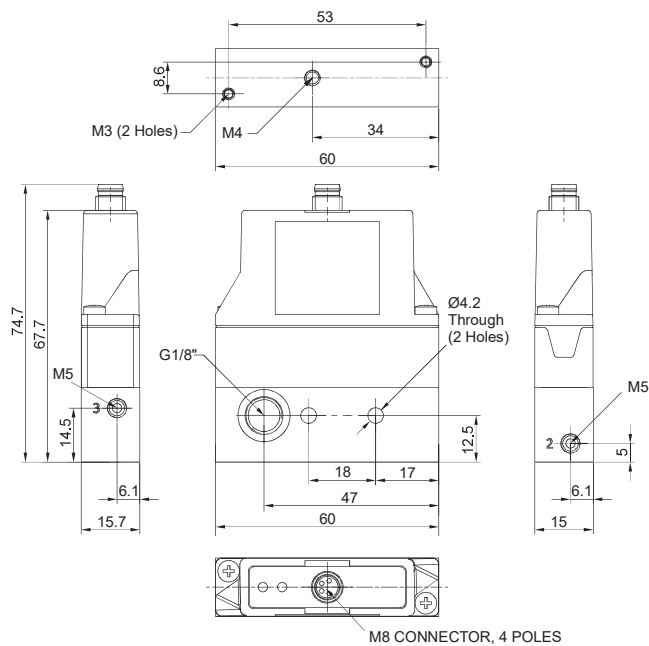
M5 Bottom Entry Single Base



Ordering code	
170M1.FV	

Weight: 50 g

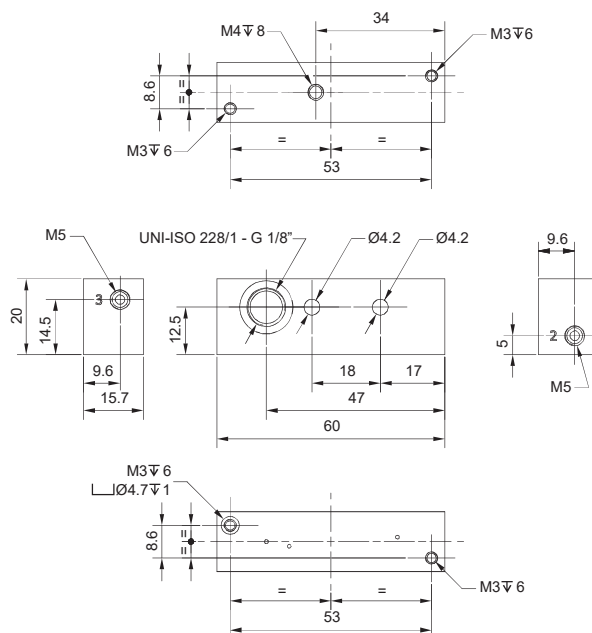
Proportional Pressure Regulator c/w Modular In-Line Base



Weight: 110 g

Ordering code	
170EPM.V.M.G.FP	
	PROTECTION
P	0 = Parameter 18 active 2 = Parameter 18 not active
	VERSION
V	T = Voltage signal C = Current signal
	PRESSURE RANGE
G	001= Range 0 ... 1 bar 005= Range 0 ... 5 bar 009= Range 0 ... 9 bar

Single Modular In-Line Base

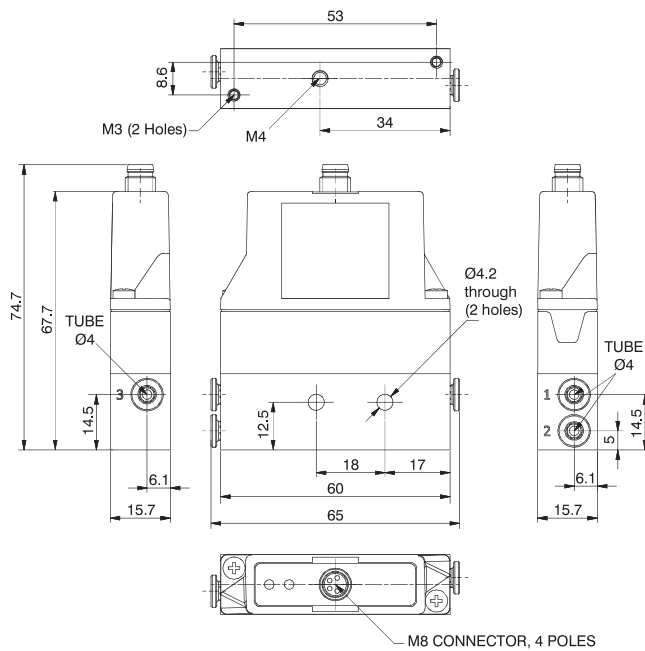


Weight: 50 g

Ordering code
170M1.FP



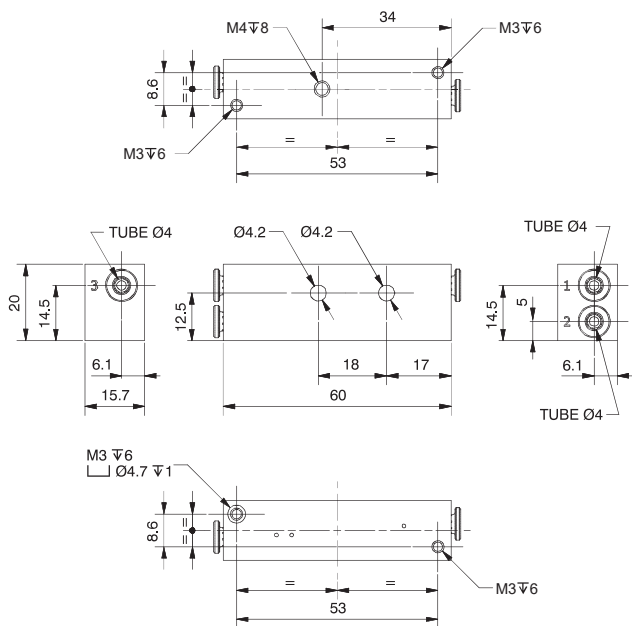
► Proportional Pressure Regulator c/w 4mm In-Line Single base



Ordering code	
170EPM.V.M.G.TO	
PROTECTION	
P	0 = Parameter 18 active 2 = Parameter 18 not active
VERSION	
V	T = Voltage signal C = Current signal
PRESSURE RANGE	
G	001 = Range 0 ... 1 bar 005 = Range 0 ... 5 bar 009 = Range 0 ... 9 bar

Weight: 110 g

► Single 4mm In-Line Base



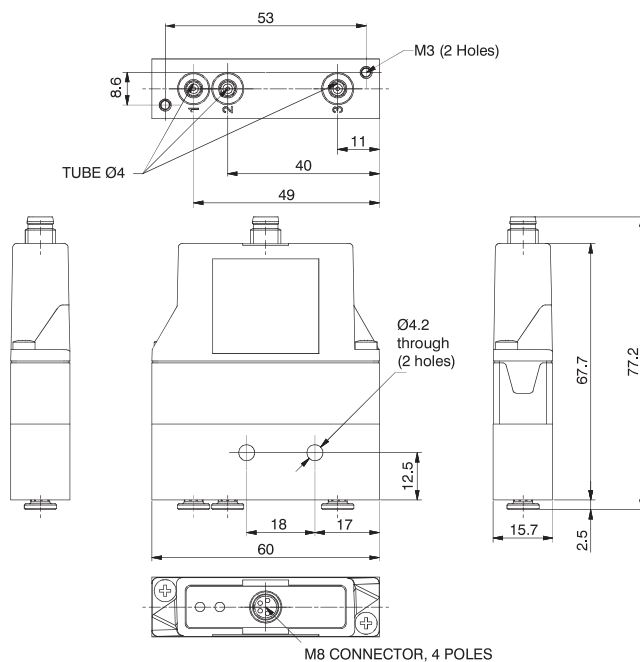
Ordering code	
170M1.TO	

Weight: 50 g

2

AIR TREATMENT

Proportional Pressure Regulator c/w 4mm Bottom Entry Single Base



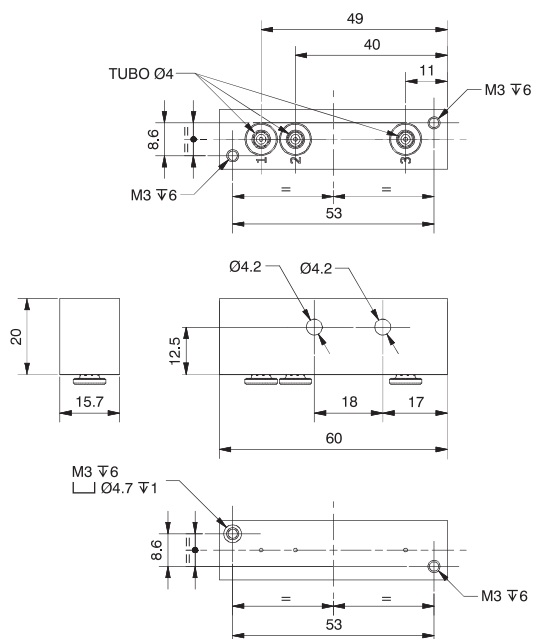
Ordering code

170EPM.0.M.0.TV

PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 ... 1 bar
	005 = Range 0 ... 5 bar
	009 = Range 0 ... 9 bar

Weight: 110 g

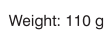
Single 4mm Bottom Entry Base



Ordering code

170M1.TV

Weight: 50 g



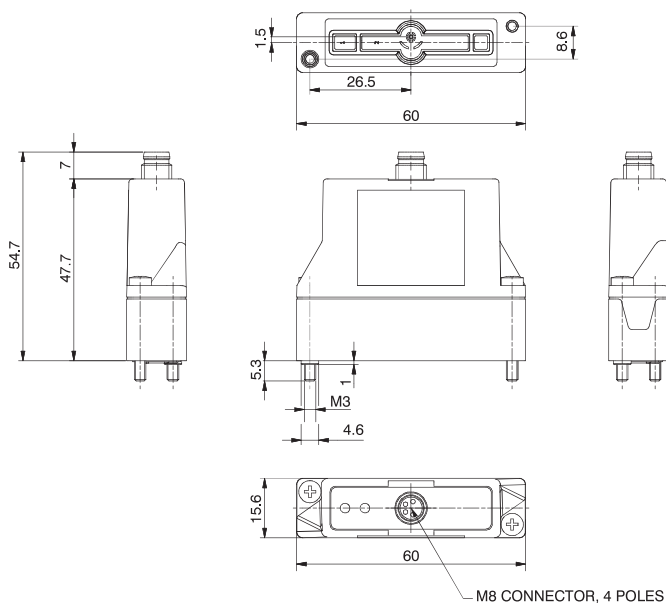
Ordering code	
170EPM.V.M.G.TP	
P	PROTECTION 0 = Parameter 18 active 2 = Parameter 18 not active
V	VERSION T = Voltage signal C = Current signal
G	PRESSURE RANGE 001= Range 0 ... 1 bar 005= Range 0 ... 5 bar 009= Range 0 ... 9 bar



AIR TREATMENT



Proportional pressure regulator with external feedback



Ordering code

170EPM.V.M.G.E

PROTECTION

- P** 0 = Parameter 18 active
2 = Parameter 18 not active

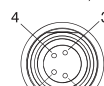
VERSION

- V** T = Voltage signal
C = Current signal

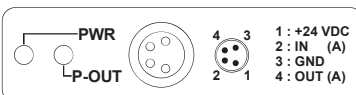
PRESSURE RANGE

- G** 001 = Range 0 ... 1 bar
005 = Range 0 ... 5 bar
009 = Range 0 ... 9 bar

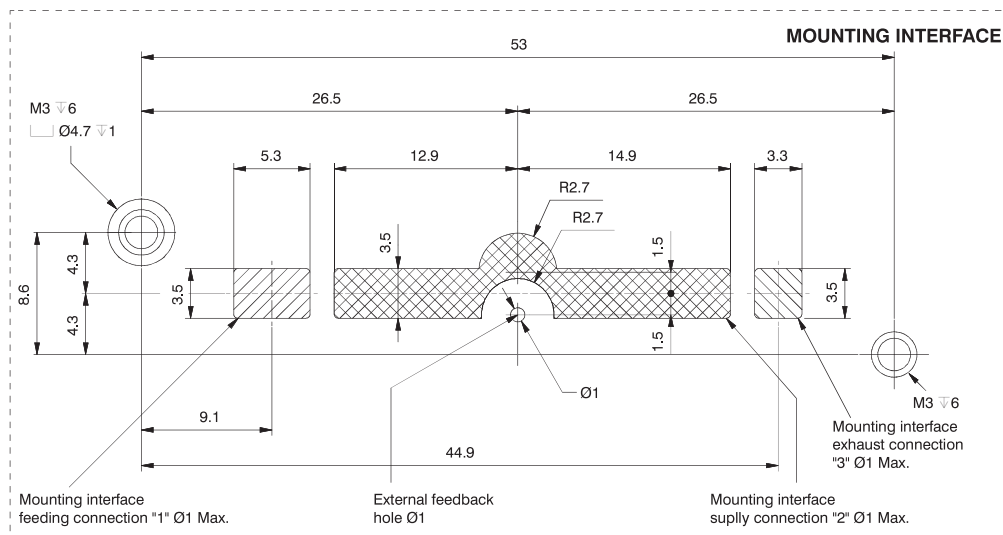
M8 CONNECTOR, 4 POLES



PIN	DESCRIPTION
1	+24 VDC
2	ANALOG INPUT
3	GND
4	ANALOG OUTPUT

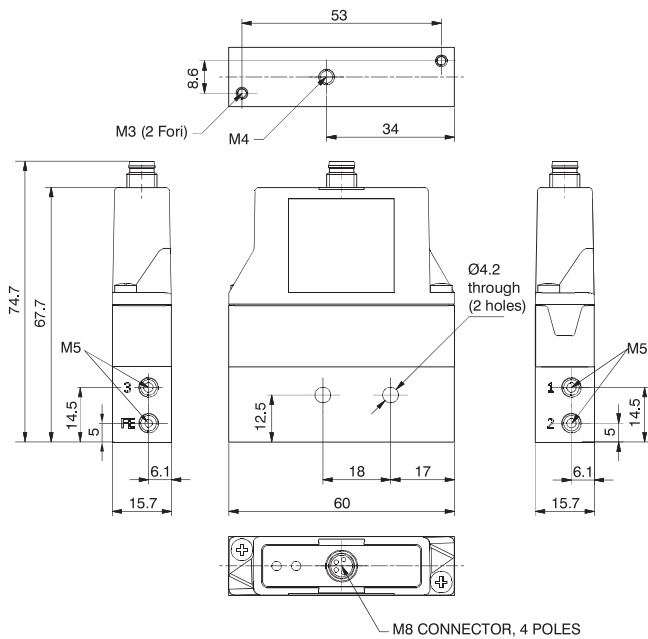


PWR	Green Led: The regulator is properly powered
P-OUT	Green Led: lights up when the outlet pressure is higher than the desired pressure minus 0.2 bar and less than the desired pressure more 0.2 bar





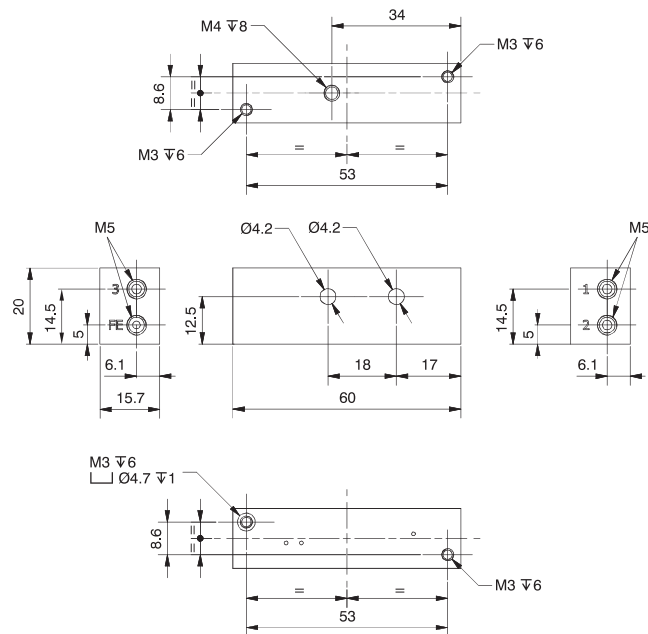
► Proportional Pressure Regulator c/w M5 In-Line Single Base with External Feedback



Ordering code	
170EPM.V.M.G.EFO	
PROTECTION	
P	0 = Parameter 18 active 2 = Parameter 18 not active
VERSION	
V	T = Voltage signal C = Current signal
PRESSURE RANGE	
G	001 = Range 0 ... 1 bar 005 = Range 0 ... 5 bar 009 = Range 0 ... 9 bar

Weight: 110 g

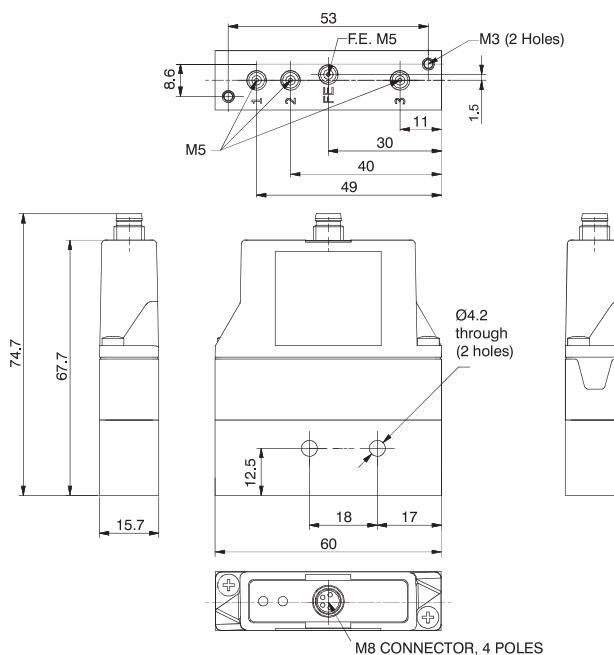
► Single M5 In-Line Base with External Feedback



Ordering code	
170M1.EFO	

Weight: 50 g

Proportional Pressure Regulator c/w M5 Bottom Entry Base with External Feedback



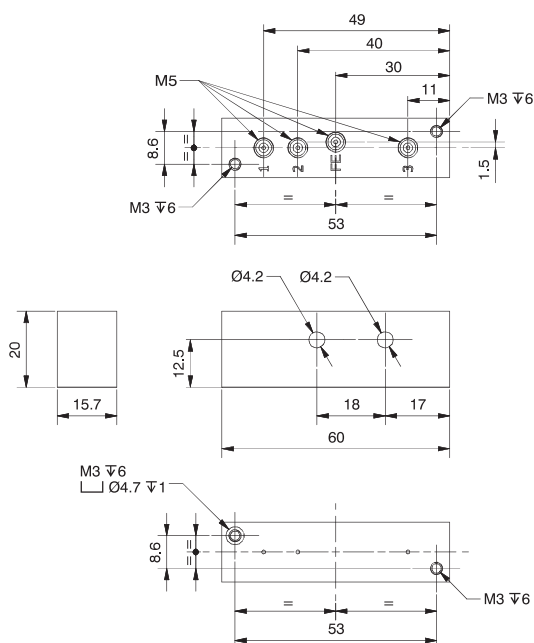
Ordering code

170EPM.V.M.G.EFV

P	PROTECTION
	0 = Parameter 18 active 2 = Parameter 18 not active
V	VERSION
	T = Voltage signal C = Current signal
G	PRESSURE RANGE
	001 = Range 0 ... 1 bar
	005 = Range 0 ... 5 bar
	009 = Range 0 ... 9 bar

Weight: 110 g

Single M5 Bottom Entry Base with External Feedback



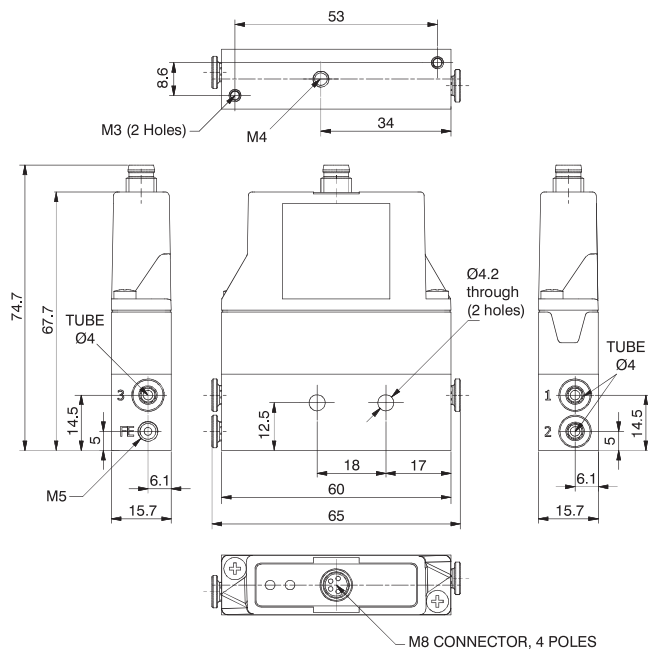
Ordering code

170M1.EFV

Weight: 50 g



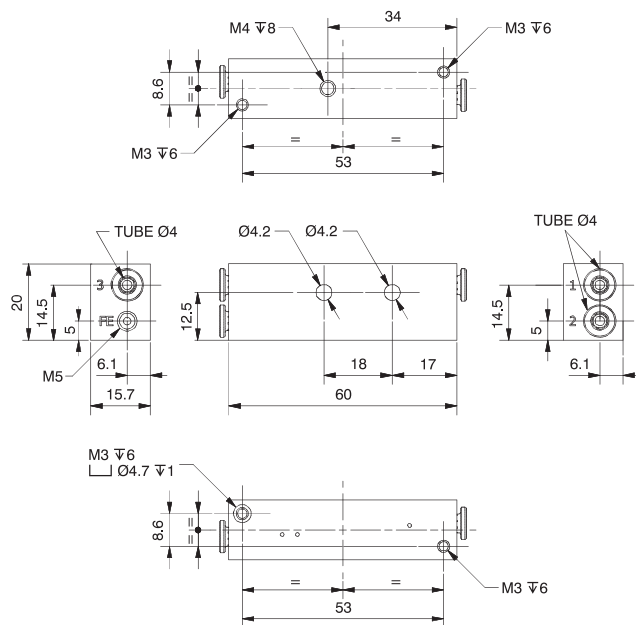
► Proportional Pressure Regulator c/w 4mm In-Line Single Base with External Feedback



Ordering code	
170EPM.V.M.G.ETO	
PROTECTION	
P	0 = Parameter 18 active
	2 = Parameter 18 not active
VERSION	
V	T = Voltage signal
	C = Current signal
PRESSURE RANGE	
G	001 = Range 0 ... 1 bar
	005 = Range 0 ... 5 bar
	009 = Range 0 ... 9 bar

Weight: 110 g

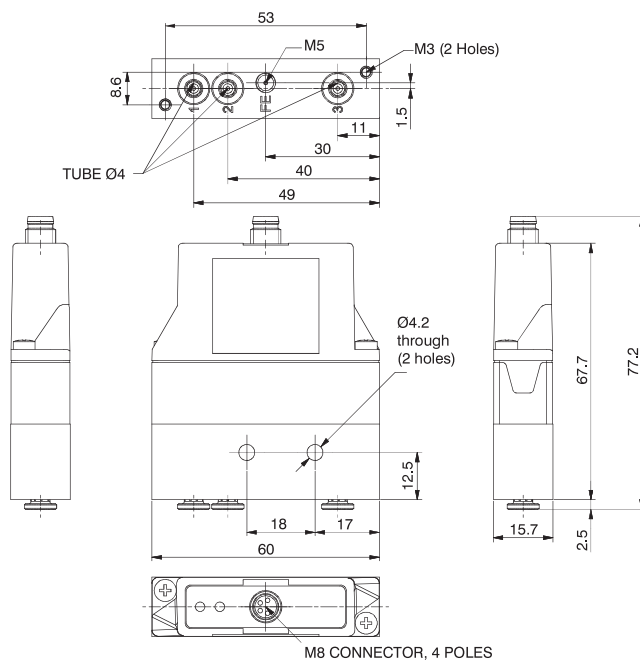
► Single 4mm In-Line Base with External Feedback



Ordering code	
170M1.ETO	

Weight: 50 g

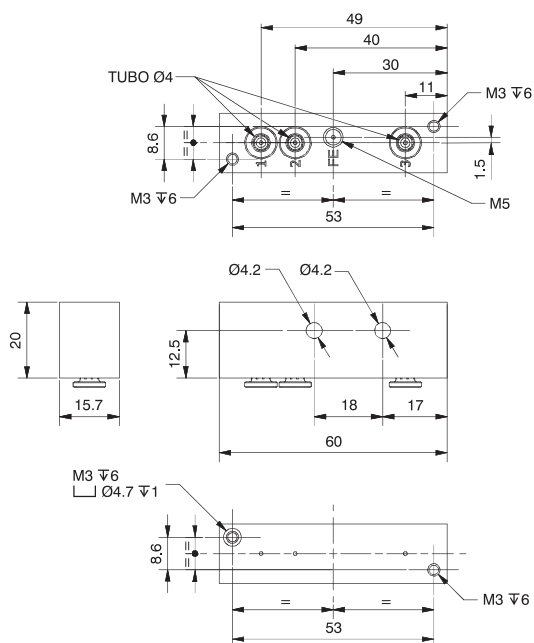
Proportional Pressure Regulator c/w 4mm Bottom Entry Single Base with External Feedback



Ordering code	
1700PM.V.M.G.ETV	
PROTECTION	
P 0 = Parameter 18 active	
2 = Parameter 18 not active	
VERSION	
V T = Voltage signal	
C = Current signal	
PRESSURE RANGE	
G 001 = Range 0 ... 1 bar	
005 = Range 0 ... 5 bar	
009 = Range 0 ... 9 bar	

Weight: 110 g

Single 4mm Bottom Entry Base with External Feedback



Ordering code	
170M1.ETV	

Weight: 50 g



Coding For Proportional Pressure Regulator Modular Manifold

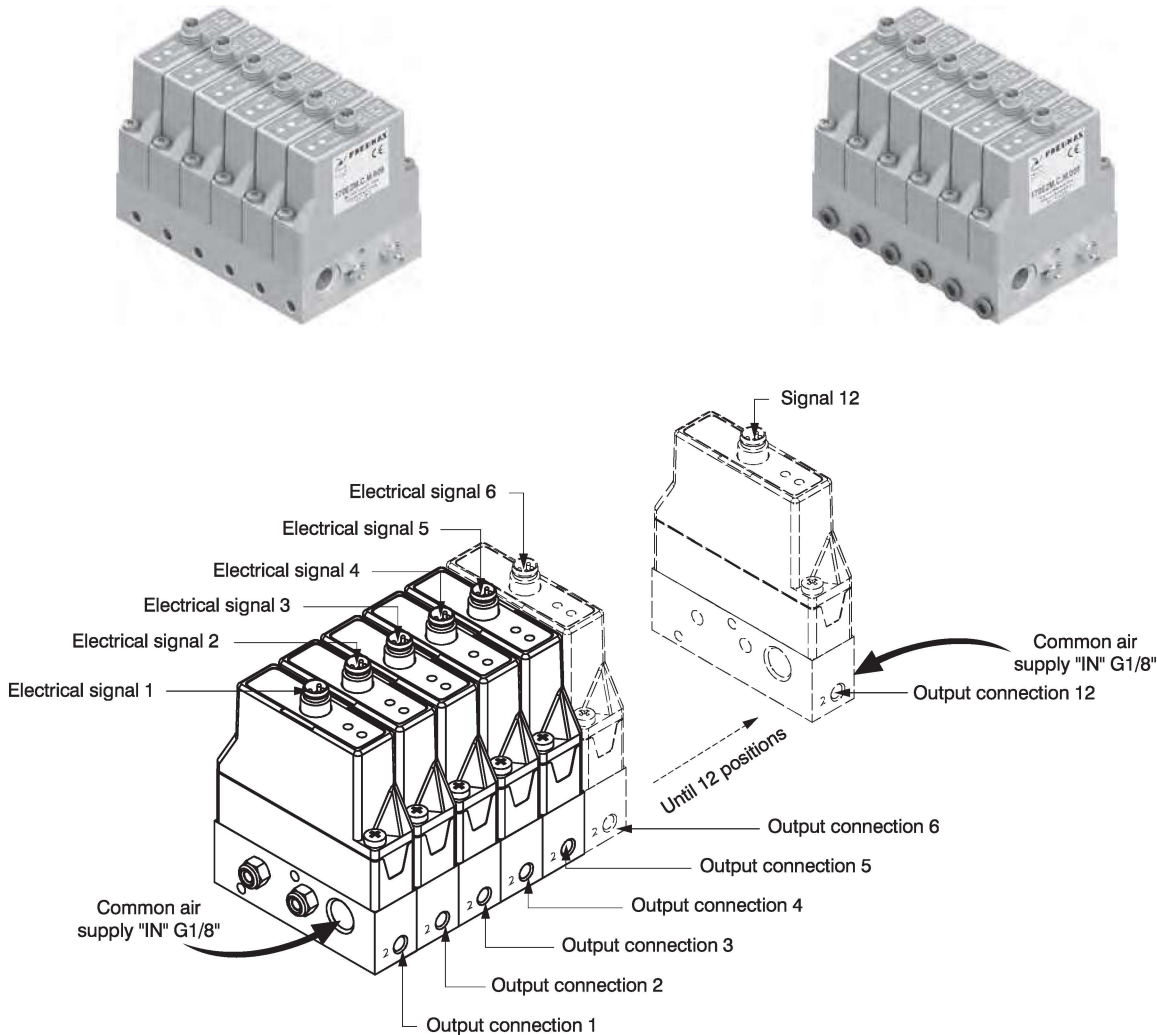
It is possible to assemble a manifold of Miniature Proportional Regulators to a maximum of 12 Regulators.
For the coding of the Manifold, refer to the configuration Table below.
The Regulators are feed by a single supply pressure via the G1/8" connection. In the Manifold, the Pressure Regulators operate independently, the output pressure is supplied via the M5 or 4mm output connection depending on the model requested. The electrical signal is controlled via the M8 connector.
There are also configured single bases up to a maximum of 12 positions with power supplies and independent consumptions (See following pages).

G	1	7	0	-	-	-	M	-	-	-	-	P	-
Group	Series	Size	Parameter 18	N. Places	Control Type	Electrical connection	Pressure range	Connection	Version	Options			
			0=Eco P18 On	A=02	T=Voltage		001=0 - 1 bar	T=Tube Ø4		= Standard *			
			2=Eco P18 Off	B=03	C=Current		005=0 - 5 bar	F=M5 Thread		E= External feedback			
				C=04			009=0 - 9 bar			* no additional letter required			
				D=05									
				E=06									
				F=07									
				G=08									
				H=09									
				I=10									
				L=11									
				M=12									

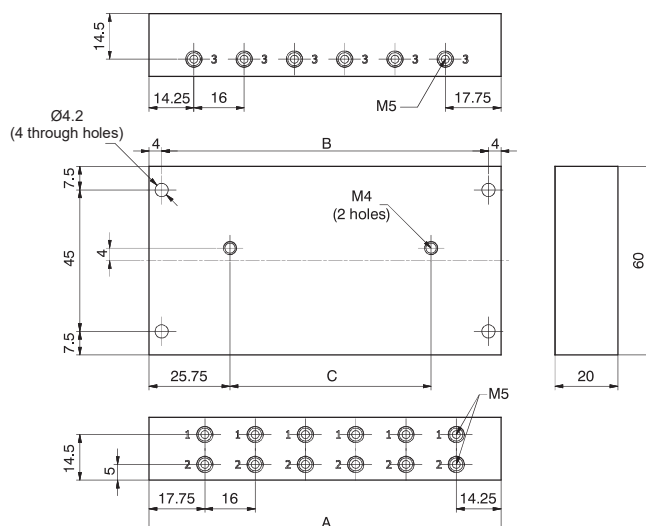
Example

Code: G1700ITM009FP

Description: 10 Position Miniature Proportional Pressure Regulator, Voltage controlled with M5 Outputs



Multiple M5 In-Line Base



Ordering code

170M^N.FO

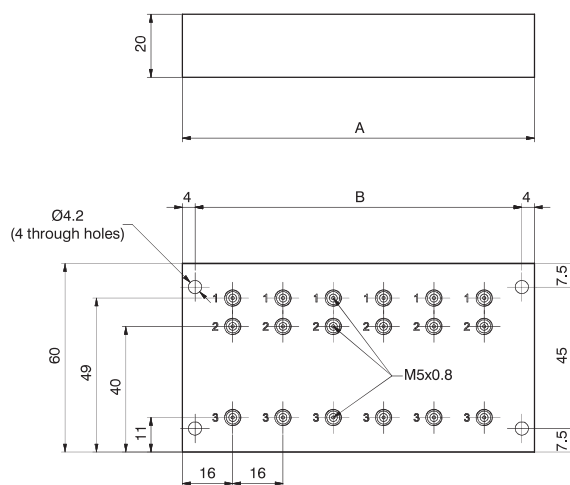
NO. POSITIONS

2 = 2 positions (weight 100 g)
3 = 3 positions (weight 150 g)
4 = 4 positions (weight 200 g)
5 = 5 positions (weight 250 g)
6 = 6 positions (weight 300 g)
7 = 7 positions (weight 350 g)
8 = 8 positions (weight 400 g)
9 = 9 positions (weight 450 g)
10 = 10 positions (weight 500 g)

N

Dimensions	No. positions								
	2	3	4	5	6	7	8	9	10
A	48	64	80	96	112	128	144	160	176
B	40	56	72	88	104	120	136	152	168
C	0	16	32	48	64	80	96	112	128

Multiple M5 Bottom Entry Base



Ordering code

170M^N.FV

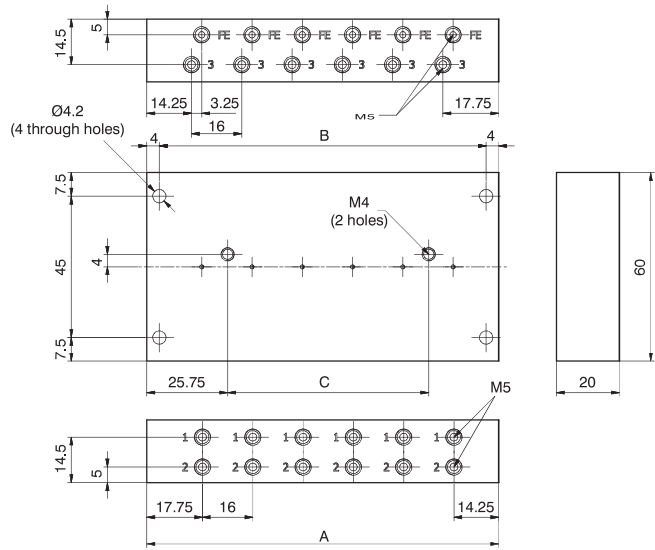
NO. POSITIONS

2 = 2 positions (weight 100 g)
3 = 3 positions (weight 150 g)
4 = 4 positions (weight 200 g)
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N

Dimensions	No. positions								
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A	48	64	80	96	112	128	144	160	176
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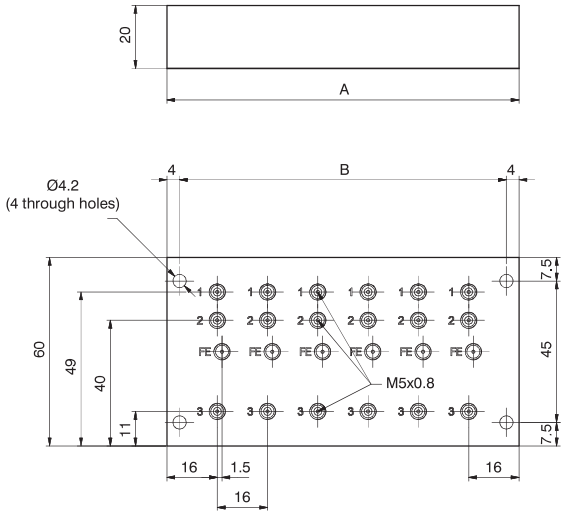
► Multiple M5 In-Line Base with External Feedback



Dimensions	No. positions								
	2	3	4	5	6	7	8	9	10
A	48	64	80	96	112	128	144	160	176
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10	10 positions (weight 500 g)

► Multiple M5 Bottom Entry Base with External Feedback



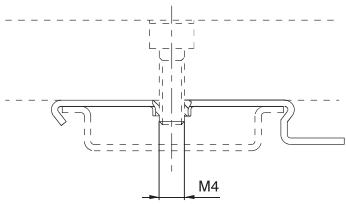
Dimensions	No. positions								
	2	3	4	5	6	7	8	9	10
A	48	64	80	96	112	128	144	160	176
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170M^N.EFV	
NO. POSITIONS	
2	2 positions (weight 100 g)
3	3 positions (weight 150 g)
4	4 positions (weight 200 g)
5	5 positions (weight 250 g)
6	6 positions (weight 300 g)
7	7 positions (weight 350 g)
8	8 positions (weight 400 g)
9	9 positions (weight 450 g)
10	10 positions (weight 500 g)

► Clip



Weight g 5



Ordering code	
800.00	