

# AVENTICS™ PROPORTIONAL VALVE SENTRONIC<sup>PLUS</sup> WITH EXTERNAL PRESSURE SUPPLY

- SENTRONIC<sup>PLUS</sup> is a highly dynamic 3/2-way proportional valve with digital control
- SENTRONIC<sup>PLUS</sup> stands for:
  - Digital communication and control
  - Direct operated valve
  - Dynamic behaviour (high speed)
  - Exhausting without power supply
- A special feature of the Sentronic<sup>PLUS</sup> is its DaS software supplied for optimum adjustment over PC and viewing of setpoint and feedback signals. Other functions are valve diagnostics, parameter setting and maintenance.



General Valve Information	
Fluids	Compressed air or inert gases, compressed air according to ISO 8573-1:2010 [7:4:4]
Ports	G/NPT 1/8 - 1/4 - 1/2 - 1
Max. allowable pressure	see "How to Order"
Pressure range	see "How to Order"
Fluid temperature	0...60 °C
Ambient temperature	0...60 °C
Setpoint - analog	0 - 10 V (impedance 100 KΩ) 0 - 20 mA/4 - 20 mA (impedance 250 Ω)
Hysteresis	0.5 % of span
Linearity / pressure measurement	± 0.5 % of span
Repeatability	± 0.5 % of span

Explosion Safety	
Safety code	Ⓜ II 3D Ex tc IIIC T135°C Dc X Ⓜ II 3G EX ec IIC T4 Gc X, 0 ≤ Ta ≤ +50 °C

Construction	
Body	see "How to Order"
Internal parts	Stainless steel and brass
Seals	FKM and NBR
Note on materials	RoHS compliant

Electrical Characteristics						
Nominal Diameter DN	Voltage *	Max. Power (W)	Max. Current (mA)	Insulation Class	Degree of Protection	Electrical Connection
1	24VDC +/-10%	12	500	F	IP65	7-pin M16 connector (included) or 5-pin connector M12 (to be ordered separately)
3		12	500			
6		24 (2)	1000 (2)			
12		34	1400			
20		44	1800			

\* Max. ripple: 10 %

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Specifications				
Pipe Size	Orifice Size	Flow at 6 bar		
	mm (inches)	Coefficient		(l/min)
		Kv (m <sup>3</sup> /h)	Cv	
G/NPT 1/8	1	0.05	0.06	55
G/NPT 1/8	3	0.18	0.21	210
G/NPT 1/4	6	0.60	0.69	700
G/NPT 1/2	12	1.20	1.39	1400
G/NPT 1	20	4.80	5.55	5600

## How To Order

### Catalog Number

**6 1 4 3 5 9      B A S I D P P**

#### B: CONTROL PANEL

- A = M12 without display - non-explosionproof
- D = M12 with display - non-explosionproof
- E = M12 without display - explosionproof (ATEX)
- F = M16 connector, 7-pin, with display - non-explosionproof
- G = M16 connector, 7-pin without display - non-explosionproof

#### A: VERSION (ports), body

- |                         |                                  |
|-------------------------|----------------------------------|
| 0 = DN6 (G 1/4), Alu    | 7 = DN3 (G 1/8), Brass           |
| 1 = DN12 (G 1/2), Alu   | 8 = DN6 (G 1/4), Brass           |
| 2 = DN20 (G 1), Alu     | 9 = DN3 (NPT 1/8), Brass         |
| 4 = DN6 (NPT 1/4), Alu  | A = DN6 (NPT 1/4"), Brass        |
| 5 = DN12 (NPT 1/2), Alu | C = DN6 (G 1/4), Stainless Steel |
| 6 = DN20 (NPT 1), Alu   | H = DN6 (G 1/4), Brass 2)        |
|                         | J = DN1 (G1/8), Brass            |

#### S: SETPOINT

- 0 = 0 ... 10 Volt
- 1 = 0 ... 20 mA
- 2 = 4 ... 20 mA

#### I: FEEDBACK

- 1 = Feedback output 0 ... 10 Volt
- 2 = Feedback output 0 ... 20 mA
- 3 = Feedback output 4 ... 20 mA

#### PP: PRESSURE RANGE

Relative pressure	Max. allowable pressure (bar)	Vacuum (relative)
40 = 0 - 100 mbar	2	V1 = 0 ... -1 bar shut-off valve
50 = 0 - 500 mbar	2	(vacuum at port 3)
60 = 0 - 1 bar	2	V2 = 0 ... -1 bar Bypass version
02 = 0 - 2 bar	3	V3 = 0 ... -1 bar shut-off valve
03 = 0 - 3 bar	8	(vacuum at port 1)
05 = 0 - 5 bar	8	
06 = 0 - 6 bar	12	
10 = 0 - 10 bar	12	
12 = 0 - 12 bar	14	
16 = 0 - 16 bar 1)	18	
20 = 0 - 20 bar 1)	22	
3H = 0 - 30 bar 2)	40	
5H = 0 - 50 bar 2)	60	
PA = 0-50 psi	116 psi	
PB = 0-100 psi	125 psi	
PC = 0-150 psi	174 psi	
PD = 0-200 psi 1)	261 psi	
PE = 0-250 psi 1)	275 psi	
PF = 0-300 psi 1)	319 psi	
PG = 0-350 psi 2)	377 psi	

#### D: DIGITAL OUTPUT

- 1 = Pressure switch output PNP ± 5 %

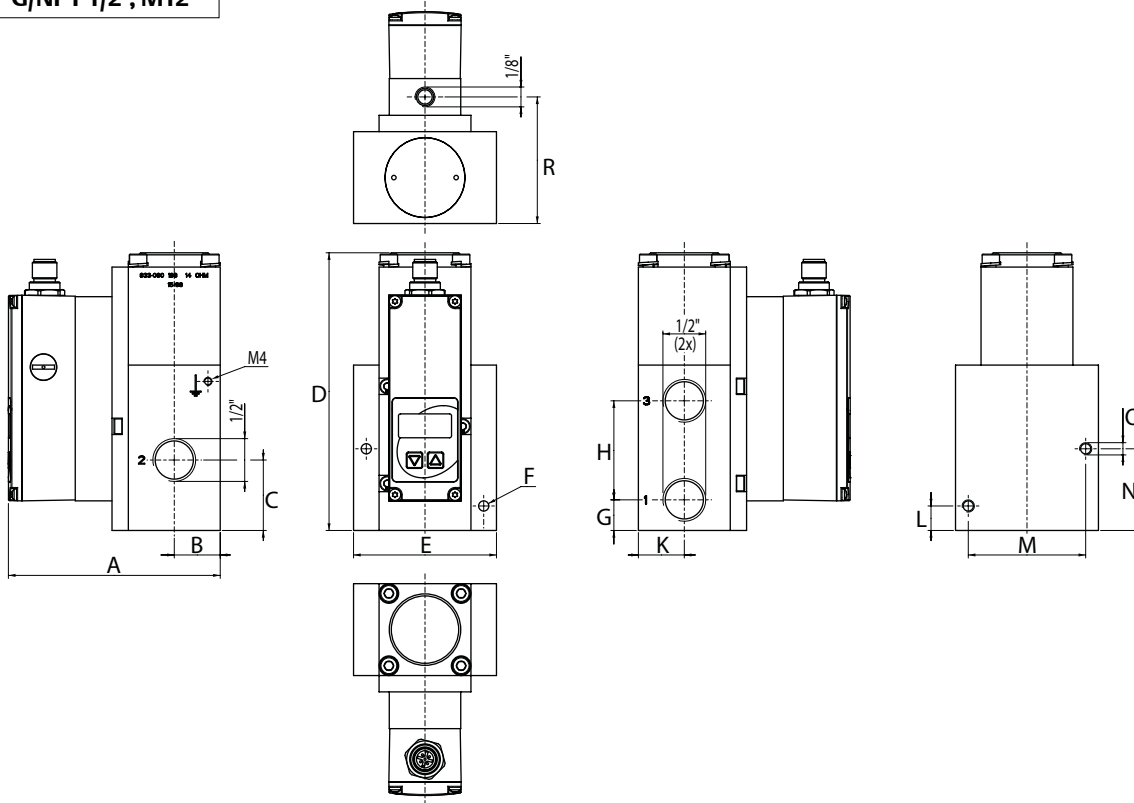
#### Notes:

- 1) Only for DN3 and DN 6
- 2) Only for DN6, brass / 1,8 A 44 W  
Other versions available on request.



Dimensions: mm (inches)

G/NPT 1/2", M12

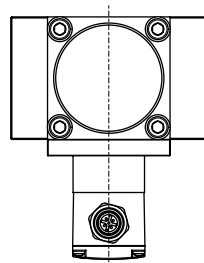
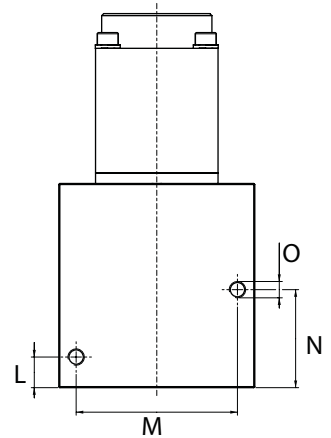
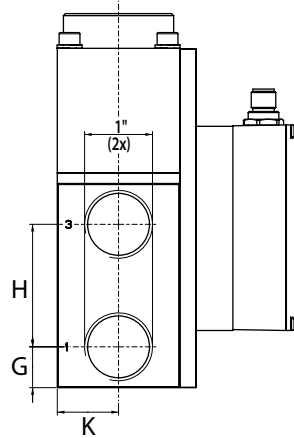
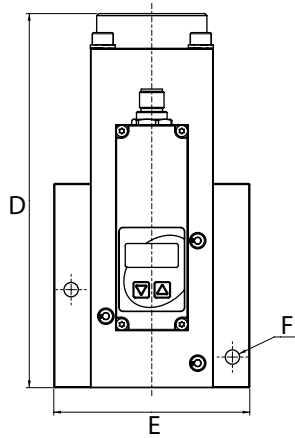
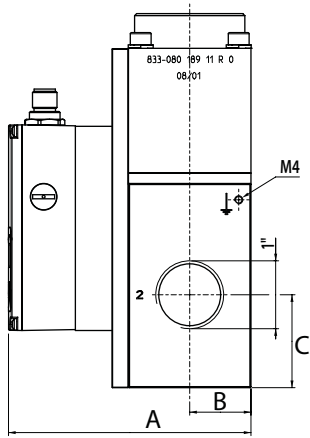
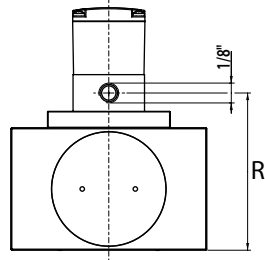


A	B	C	D	E	F	G	H	K	L	M	N	O	R	Weight kg
103.75 (4.085)	22.5 (0.886)	34.5 (1.358)	136 (5.354)	70 (2.756)	Ø5 (0.197) (2x)	15 (0.591)	48.5 (1.909)	22.5 (0.886)	12 (0.472)	57.5 (2.264)	40 (1.575)	M6x10 (0.394) (2x)	62 (2.441)	1.8

**AVENTICS™ PROPORTIONAL VALVE SENTRONIC<sup>PLUS</sup>**  
WITH EXTERNAL PRESSURE SUPPLY

Dimensions: mm (inches)

G/NPT 1", M12

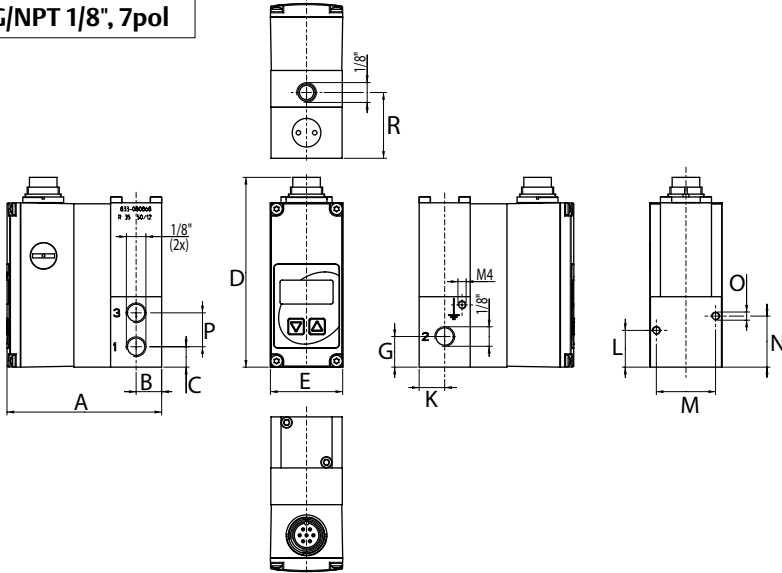


A	B	C	D	E	F	G	H	K	L	M	N	O	R	Weight kg
118.75 (4.675)	30 (1.181)	45.5 (1.791)	183.2 (7.213)	96 (3.780)	Ø7 (0.276) (2x)	20 (0.787)	60 (2.362)	30 (1.181)	15 (0.591)	79 (3.110)	48 (1.890)	M8x15 (0.591) (2x)	77 (3.032)	3.55

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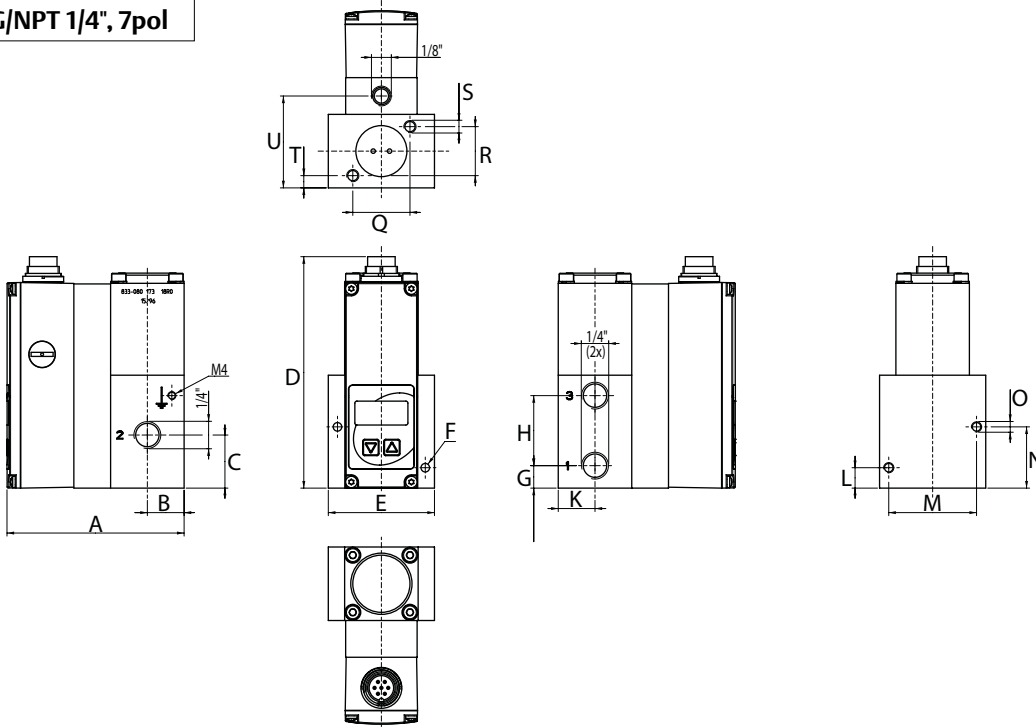
**Dimensions: mm (inches)**

**G/NPT 1/8", 7pol**



A	B	C	D	E	G	K	L	M	N	O	P	R	Weight kg
75.75 (2.982)	12.5 (0.492)	10 (0.394)	92.95 (3.659)	35.4 (1.394)	15 (0.591)	12.5 (0.492)	18 (0.709)	29 (1.142)	25 (0.984)	M4x10 (0.394) (2x)	16.6 (0.654)	32.2 (1.268)	0.700

**G/NPT 1/4", 7pol**



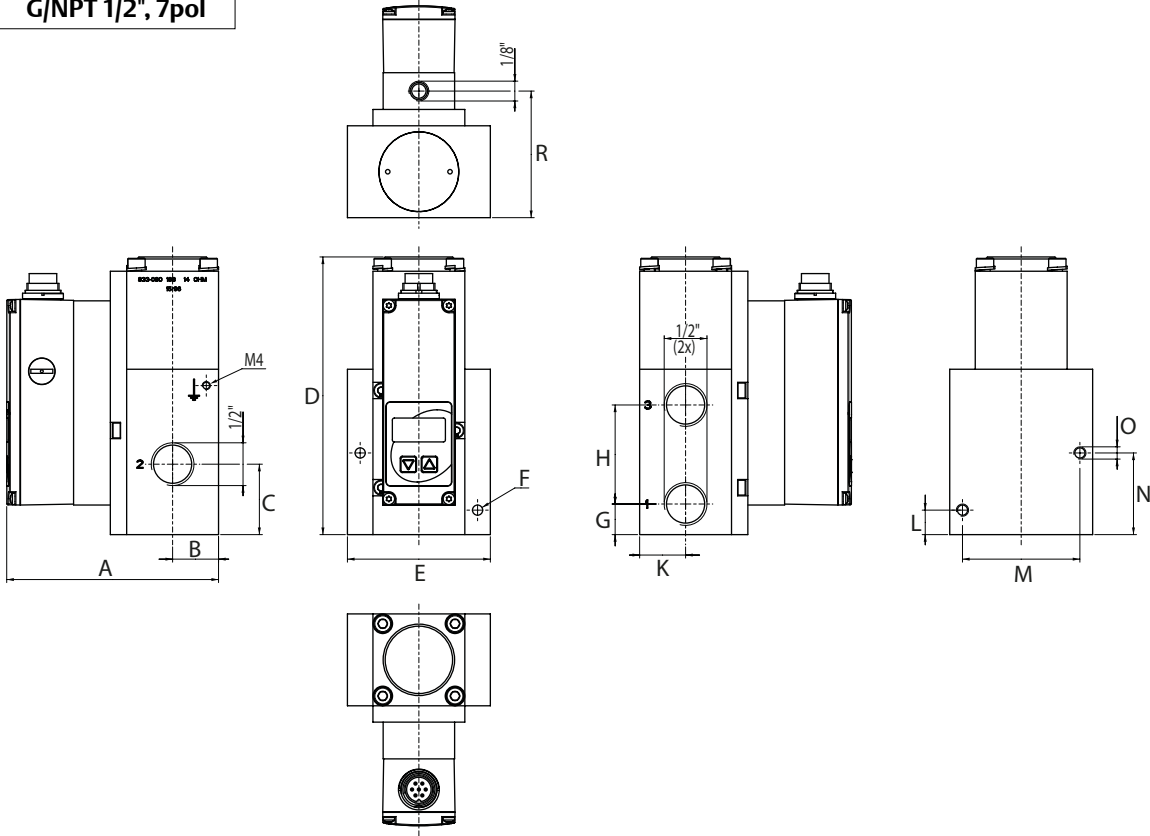
A	B	C	D	E	F	G	H	K	L	M	N	O	Q	R	S	T	U	Weight kg
86.75 (3.415)	18 (0.709)	26 (1.024)	113.35 (4.463)	52 (2.047)	∅4.2 (0.165) (2x)	11 (0.433)	34.3 (1.35)	18 (0.709)	10 (0.394)	43 (1.693)	30 (1.181)	M5x10 (0.394) (2x)	28 (1.102)	24 (0.945)	M6x8 (0.315) (2x)	6 (0.236)	45 (1.772)	1.0 (Aluminium) 1.7 (Brass)

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Dimensions: mm (inches)

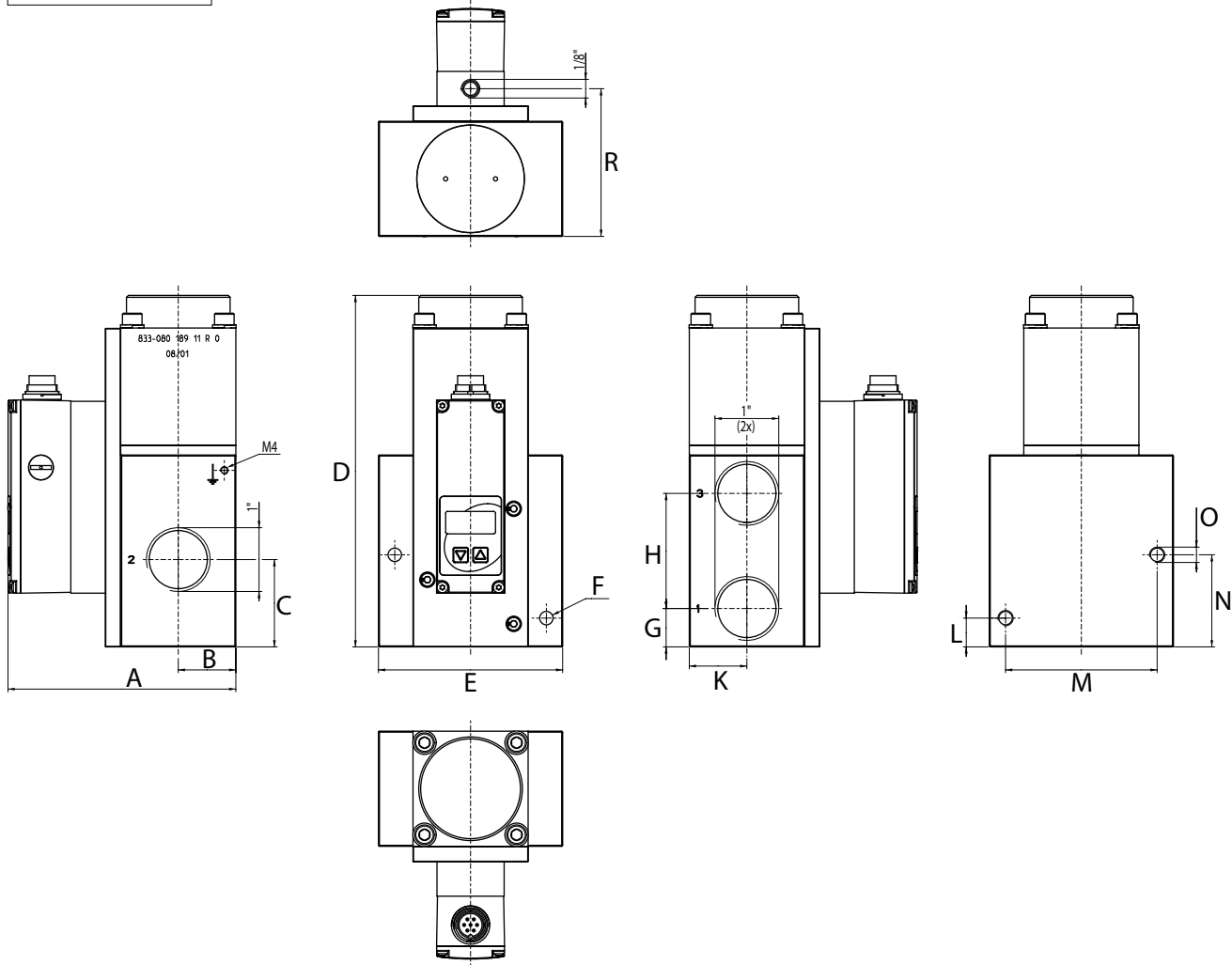
G/NPT 1/2", 7pol



A	B	C	D	E	F	G	H	K	L	M	N	O	R	Weight kg
103.75 (4.085)	22.5 (0.886)	34.5 (1.358)	136 (5.354)	70 (2.756)	Ø5 (0.197)	15 (0.591)	48.5 (1.909)	22.5 (0.886)	12 (0.472)	57.5 (2.264)	40 (1.575)	M6x10 (0.394) (2x)	62 (2.441)	1.8

Dimensions: mm (inches)

G/NPT 1", 7pol

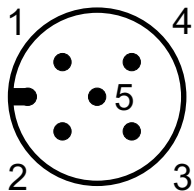


A	B	C	D	E	F	G	H	K	L	M	N	O	R	Weight kg
118.75 (4.675)	30 (1.181)	45.5 (1.791)	183.2 (7.213)	96 (3.780)	Ø7 (0.276) (2x)	20 (0.787)	60 (2.362)	30 (1.181)	15 (0.591)	79 (3.110)	48 (1.890)	M8x15 (0.591) (2x)	77 (3.032)	3.55



## Connector Pinning / Cable Wiring

VERSION: 5 Pol. M12

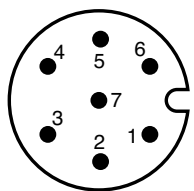


Pin	Description	5-wire cable (2 m)	6-wire cable (5 m, 10 m)
1	24 V voltage supply	brown	brown
2	Analog setpoint input	white	white
3	Supply ground	blue	green
	Analog ground *	-	yellow
4	Analog output (Feedback)	black	pink
5	Digital output (Pressure switch)	grey	grey
Body	EMC screen	shield	shield

\* A 6-wire cable with separate analog ground is used for cable lengths over 2 m to set off the voltage drop for the setpoint.

## Connector Pinning / Cable Wiring

VERSION: 7 Pol. M16



View from soldering side

Pin	Description
1	+24 V
2 *	Supply ground (24 V)
3	Analog setpoint input
4	Supply ground (Setpoint)
5	
6	Outlet pressure (Analog output feedback) - max. 10 mA (optional). For external electrical pressure sensor: Feedback input (optional)
7	Output pressure switch (optional)

\* Pin 2 must be connected with supply ground!

## Accessories

Description	Catalog Number
Straight M12 female connector, 5 pins, with screw terminals	88100256
Right-angle M12 female connector, 5 pins, with screw terminals	88100725
Supply cable 2 m; M12 5x0,25 mm <sup>2</sup> ; straight connector	88100726
Supply cable 2 m; M12 5x0,25 mm <sup>2</sup> ; right-angle connector	88100727
Supply cable 5 m; M12 6x0,50 mm <sup>2</sup> ; straight connector	88100728
Supply cable 5 m; M12 6x0,50 mm <sup>2</sup> ; right-angle connector	88100729
Supply cable 10 m; M12 6x0,50 mm <sup>2</sup> ; straight connector	88100730
Supply cable 10 m; M12 6x0,50 mm <sup>2</sup> ; right-angle connector	88100731
Parameter adapter USB, 1 m cable	N50930300100000

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