

# PROPORTIONAL VALVES

## SENTRONIC<sup>PLUS</sup>

with external pressure supply  
G 1/8



### FEATURES

SENTRONIC<sup>PLUS</sup> is a highly dynamical 3-way proportional valve with digital control.

SENTRONIC<sup>PLUS</sup> stands for:

- Digital communication and control
- Direct operated valve
- Dynamic behaviour (high speed)

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

#### Fluids

Air or neutral gases, filtered at 50 µm, condensate-free, lubricated or unlubricated  
G1/8 - G1/4 - G1/2 - G1

#### Ports

Max. allowable pressure

See table below

Pressure range

See table below

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 2D Ex tb IIC T135 °C Db  
⊕ II 3G Ex nA IIC T4 Gc, 0 ≤ Ta ≤ +50 °C

EC type examination certificate no.:

IBExU07ATEX1173

### CONSTRUCTION

Body

Direct operated poppet valve

Internal parts

See table below

Seals

Stainless steel and brass  
FPM and NBR

### ELECTRICAL CHARACTERISTICS

nominal diameter DN	stabilised voltage *	max. power (W)	max. current (mA)	insulation class	degree of protection	electrical connection
3	24 V = 24 V = +/-10%	12	500	F	IP65	5-pin M12 connector or 7-pin DIN connector
6		24 <sup>2)</sup>	1000 <sup>2)</sup>			
12		34	1400			
20		44	1800			

\* Max. ripple: 10 %

### SPECIFICATIONS

pipe size	orifice size (mm)	flow	
		coefficient Kv (Nm <sup>3</sup> /h)	at 6 bar (l/min - ANR)
G 1/8	3	0,18	210
G 1/4	6	0,60	700
G 1/2	12	1,20	1400
G 1	20	4,80	5600

### CATALOGUE NUMBER

**6 1 4 3 5 9      B A S I D      P P**

#### B: CONTROL PANEL

- D = M12 with display - non-explosionproof
- E = M12 without display - explosionproof (ATEX)
- F = DIN connector, 7-pin, with display - non-explosionproof
- G = DIN 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), St. steel           |
| 6 = DN20 (NPT 1"), Alu   | H = DN6 (G 1/4), Brass <sup>2)</sup> |

#### 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

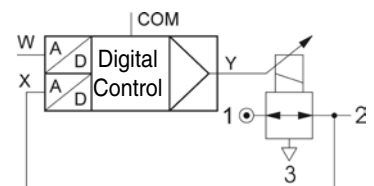
Relative pressure	Max. allowable pressure (bar)	Vacuum (relative)
40 = 0 - 100 mbar	2	V1 = 0 ... -1 bar shut-off valve
50 = 0 - 500 mbar	2	(vacuum at port 3)
60 = 0 - 1 bar	2	
02 = 0 - 2 bar	3	V2 = 0 ... -1 bar bypass version
03 = 0 - 3 bar	8	
05 = 0 - 5 bar	8	
06 = 0 - 6 bar	12	V3 = 0 ... -1 bar shut-off valve
10 = 0 - 10 bar	12	(vacuum at port 1)
12 = 0 - 12 bar	14	
16 = 0 - 16 bar <sup>1)</sup>	18	
20 = 0 - 20 bar <sup>1)</sup>	22	
3H = 0 - 30 bar <sup>2)</sup>	40	
5H = 0 - 50 bar <sup>2)</sup>	60	

#### D: DIGITAL OUTPUT

- 1 = Pressure switch output PNP ± 5 %

Notes:

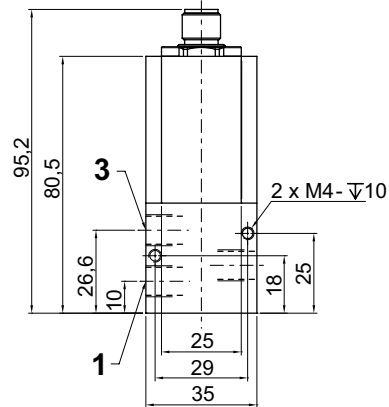
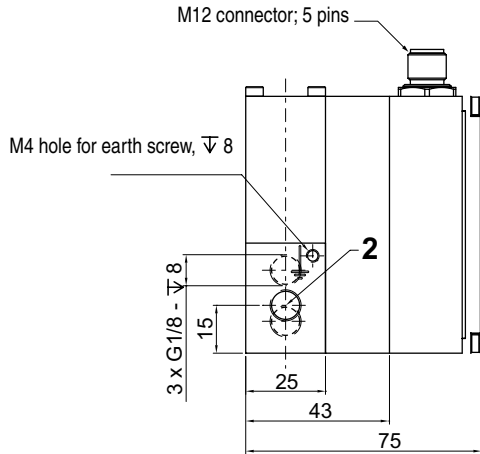
- 1) Only for DN3 and DN 6
  - 2) Only for DN6, brass / 1,8 A 44 W
- Other versions available on request.



**DIMENSIONS (mm), WEIGHT (kg)**

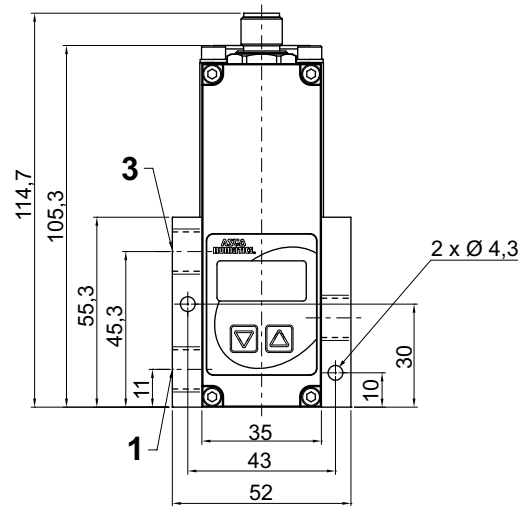
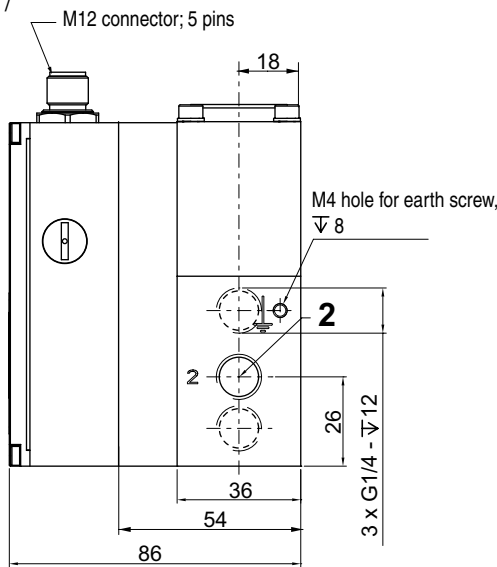
**G 1/8**

Weight: 0,700 kg



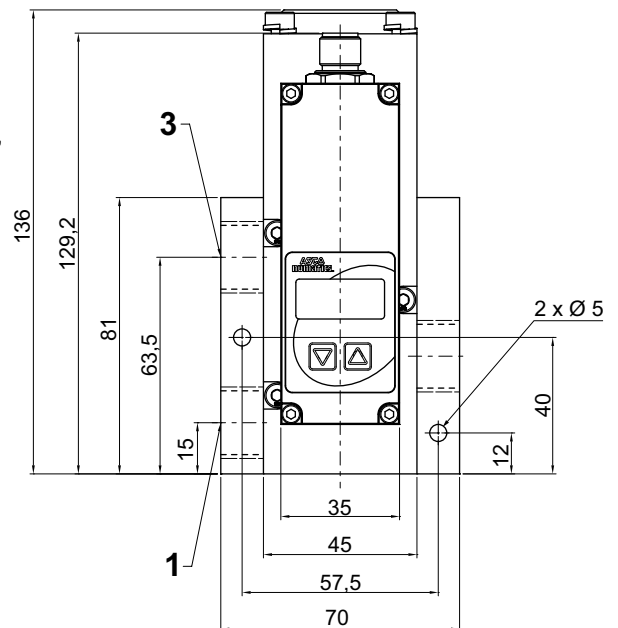
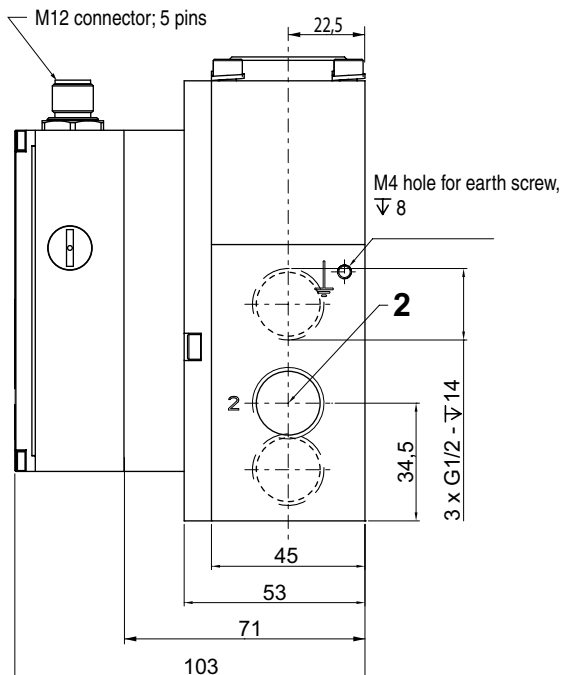
**G 1/4**

Weight: 1,000 kg aluminium /  
1,700 kg brass



**G 1/2**

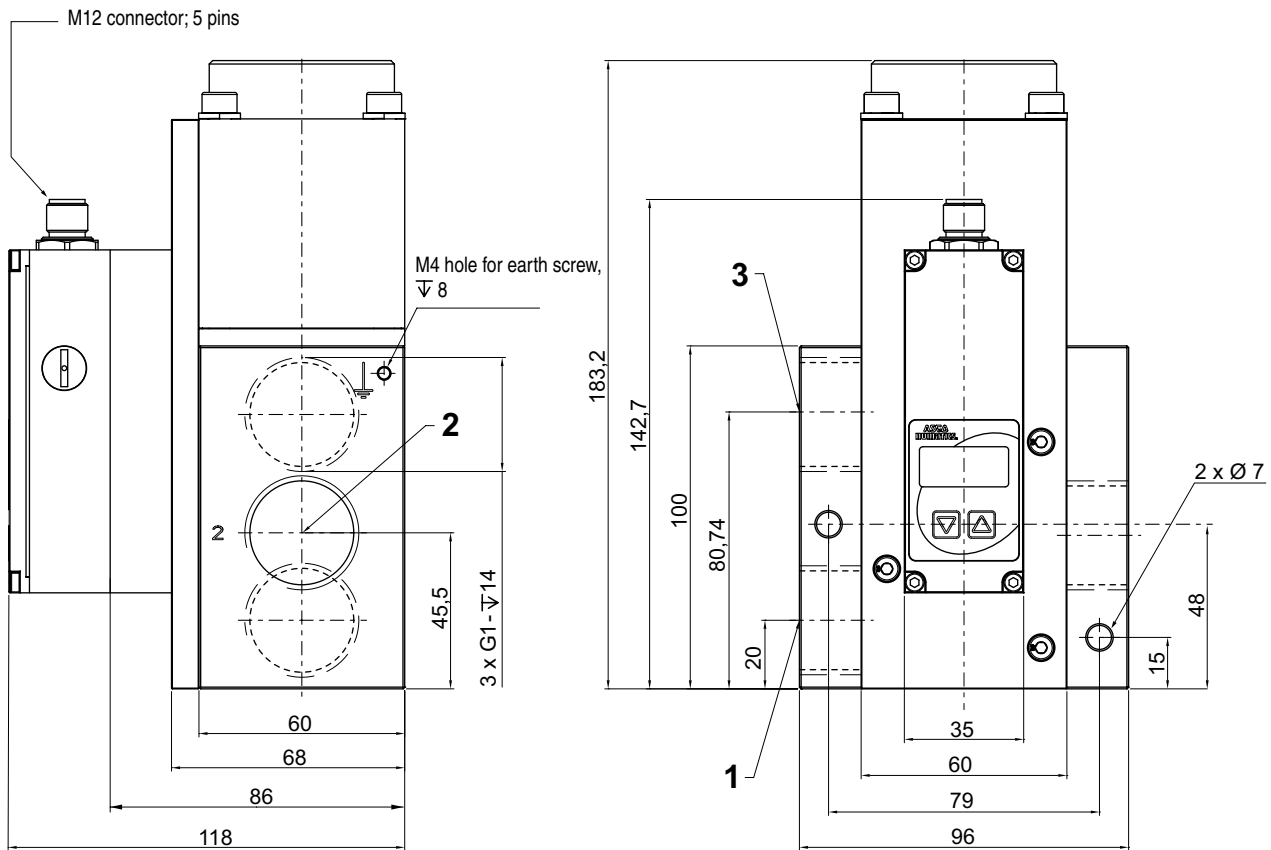
Weight: 1,800 kg



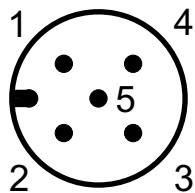
**DIMENSIONS (mm), WEIGHT (kg)**

**G 1**

Weight: 3,550 kg




**CONNECTOR PINNING / CABLE WIRING**



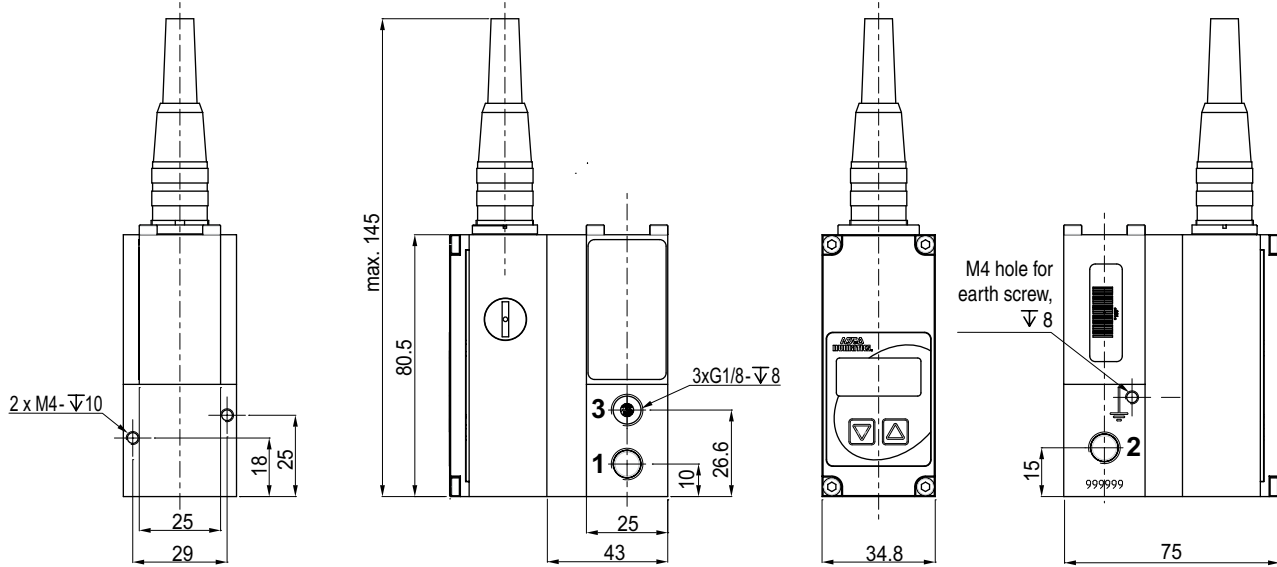
Pin	Description	5-wire cable (2 m)	6-wire cable (5 m, 10 m)
1	24 V voltage supply	brown	brown
2	Analog setpoint input	white	white
3	Supply ground	blue	green
	Analog ground *	-	yellow
4	Analog output (Feedback)	black	pink
5	Digital output (Pressure switch)	grey	grey
Body	EMC screen	shield	shield

\* 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.

**DIMENSIONS (mm), WEIGHT (kg)** 

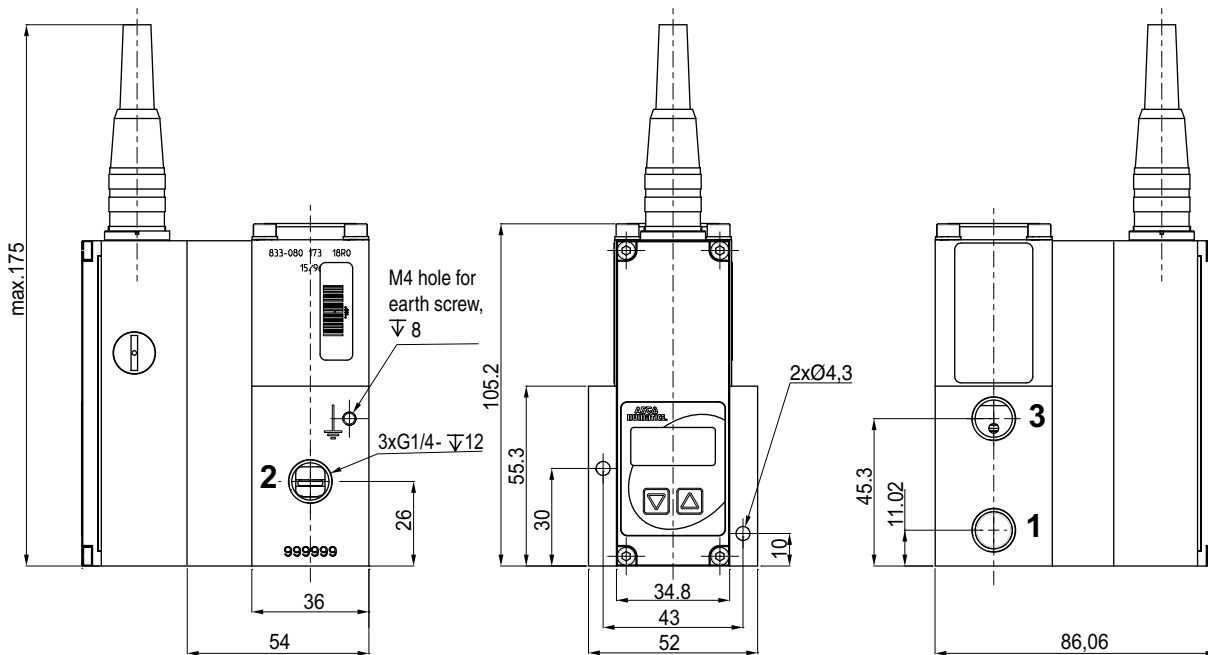
**G 1/8**

Weight: 0,700 kg



**G 1/4**

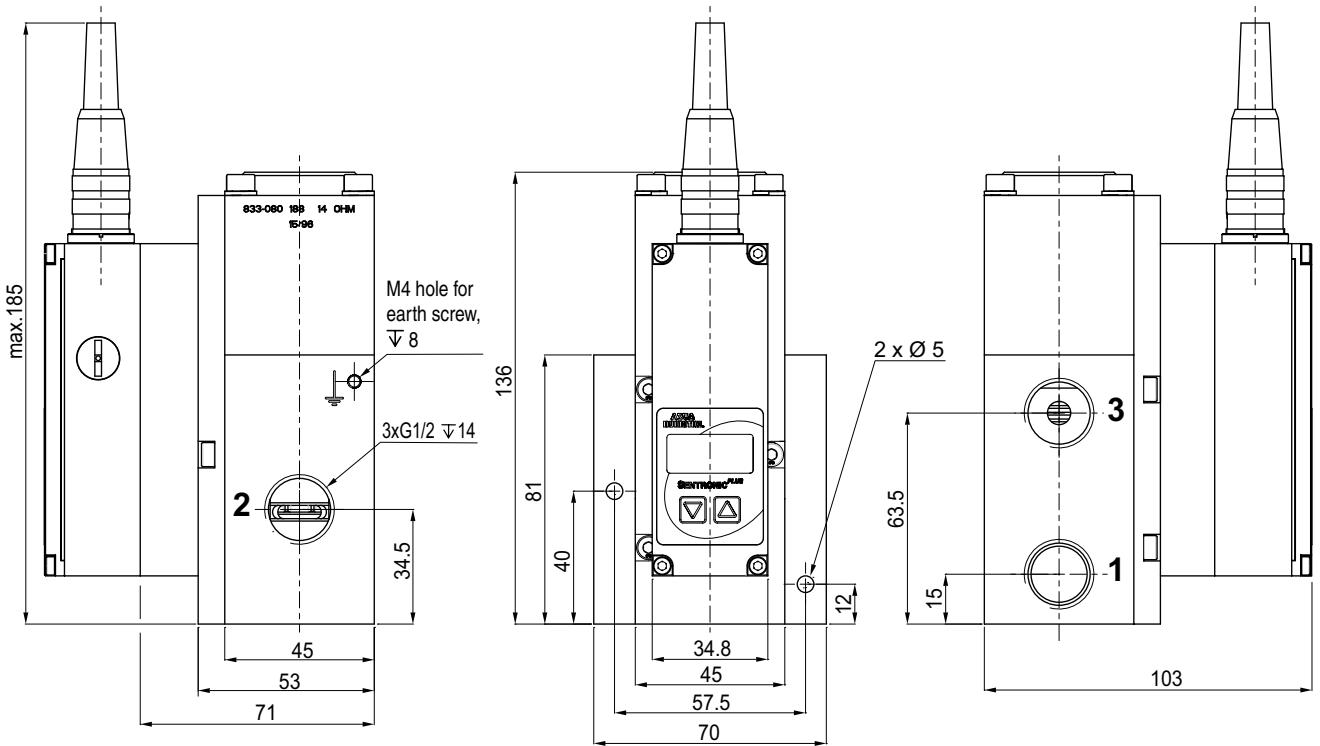
Weight: 1,000 kg aluminium / 1,700 kg brass



**DIMENSIONS (mm), WEIGHT (kg)**

**G 1/2**

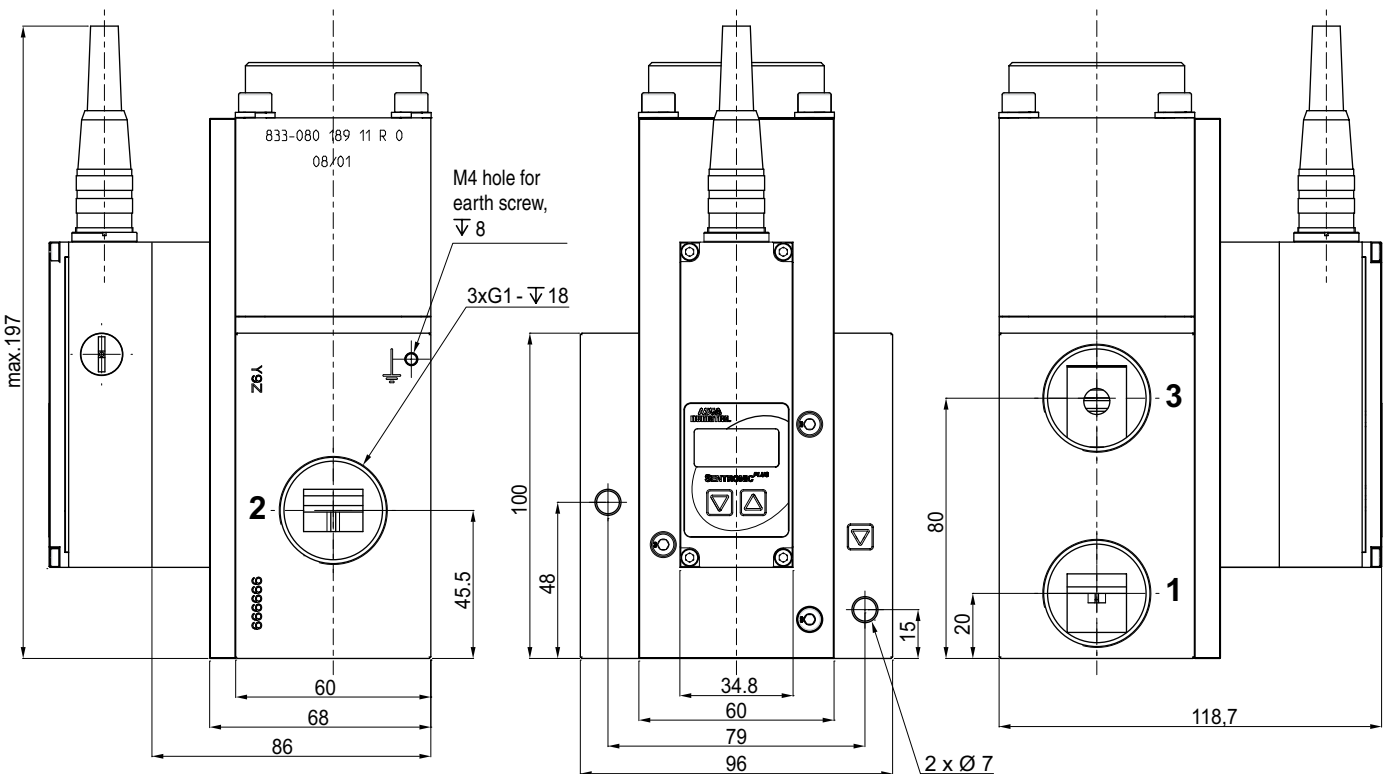
Weight: 1,800 kg



**C**

**G 1**

Weight: 3,550 kg



**ACCESSORIES**

description	catalogue number
Straight M12 female connector, 5 pins, with screw terminals	<b>88100256</b>
Right-angle M12 female connector, 5 pins, with screw terminals	<b>88100725</b>
Supply cable 2 m; 5x0,25 mm <sup>2</sup> ; straight connector	<b>88100726</b>
Supply cable 2 m; 5x0,25 mm <sup>2</sup> ; right-angle connector	<b>88100727</b>
Supply cable 5 m; 6x0,50 mm <sup>2</sup> ; straight connector	<b>88100728</b>
Supply cable 5 m; 6x0,50 mm <sup>2</sup> ; right-angle connector	<b>88100729</b>
Supply cable 10 m; 6x0,50 mm <sup>2</sup> ; straight connector	<b>88100730</b>
Supply cable 10 m; 6x0,50 mm <sup>2</sup> ; right-angle connector	<b>88100731</b>
RS 232 cable converter; 2 m cable with 9-pin Sub-D (plug connector)	<b>88100732</b>
RS 232 cable converter; 2 m cable with 9-pin Sub-D (screw connector)	<b>88100970</b>
DaS Light: Data Acquisition Software for <b>SENTRONIC<sup>PLUS</sup></b> - basic parameters - CD-ROM	<b>99100110</b>
DaS Expert: Data Acquisition Software for <b>SENTRONIC<sup>PLUS</sup></b> - full parameters - CD-ROM	<b>99100111</b>