



Proportional Technology Pressure Control: Sentronic^D

numatics®

Sentronic^D

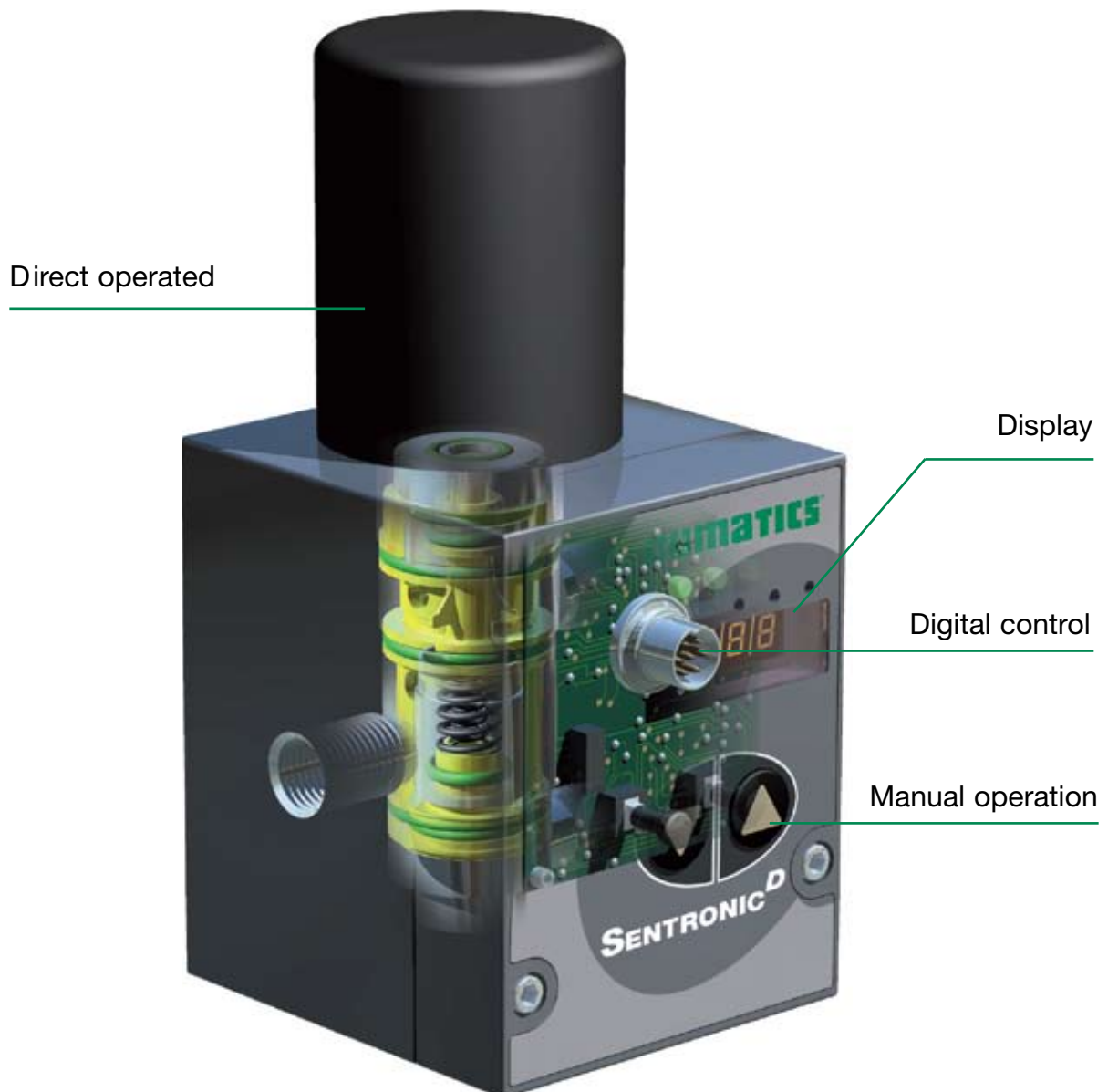
SENTRONIC^D is a digitally operated pressure regulator valve.

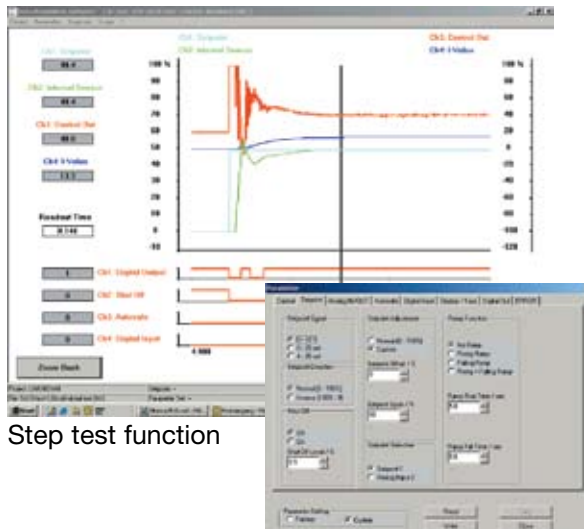
SENTRONIC^D stands for:

- Digital control
- Display (integrated)
- Direct operated valve

With the Data Acquisition Software (DaS) and the RS232 interface, it's now possible to optimally adjust the valve's control parameters to a specific application. The scope function allows you to log and read the system's response in real time.

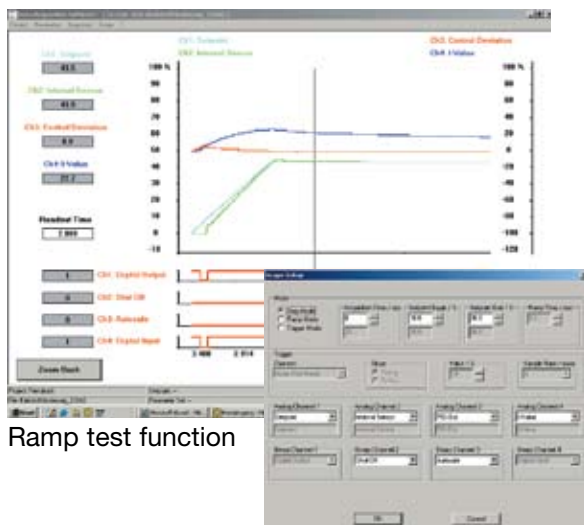
The DaS capabilities streamline the development process and identify application-specific problems at an early stage. Saved parameters can also be used for future production so that valves are factory-set to a specific application.





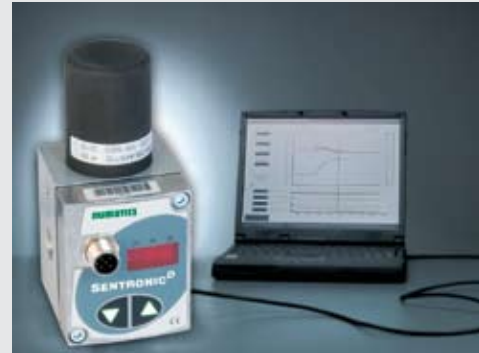
Step test function

Parameters setup



Ramp test function

Scope setup



By connecting the Sentronic^D to a PC with an RS232 interface, the Data Acquisition Software (DaS) can be used to optimally adjust the valve's control parameters to a specific application. DaS has an oscilloscope function that allows the user to select and visually see various response characteristics as the valve operates in an application. Control loop parameters can be adjusted using the software without removing the valve from service. This functionality streamlines the application development process. Control parameters can be saved and reloaded at any time.

The DaS software offers the following features:

- Real time display of: command signal, outlet pressure, internal control parameters (e.g. P, I or D), pressure switch signal, etc.
- Parameter setting: command signal, zero offset, span, limitation of output current, ramp function, etc.
- Diagnostics menu for error detection and testing
- Custom adjustment to an application
- Control of Sentronic^D

Advantages

- Minimum hysteresis
- Quick response times
- Very high sensitivity
- Standard 50 µm filtration
- No constant air consumption
- Analog feedback output
- Easy change of control parameters
- Digital control
- Integrated display (optionally without)
- PC communication

Specifications

Fluids: Air or neutral gases
 Pressure Range: 0 - 50 psi,
 0 - 100 psi, 0 - 150 psi, 0 - 3
 bar, 0 - 6 bar, 0 - 10 bar
 Ports: 1/8, 1/4, 3/8 (NPT
 or GTap)
 Construction: Poppet Valve
 Actuation: Proportional Solenoid
 Command Signal: 0 - 10 V,
 0 - 20 mA, 4 - 20 mA



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1/8 to 3/8 tapped body or 1/8 - 1/4 subbase mounted body (NPT or GTap)



Features

- Sentronic^D is a highly dynamic 3-way proportional valve with digital control.
- Sentronic^D stands for:
 - Digital communication and control
 - Display (integrated)
 - Direct operated valve
- A special feature of the Sentronic^D is its DaS software supplied for optimum adjustment via PC and viewing of command and feedback signals.
- Other functions are valve diagnostics, parameter setting and maintenance.
- The valve's outlet pressure can also be adjusted over the integrated display and the function buttons.

Construction

Body: Aluminium
Internal parts: POM (polyacetal)
Seals: NBR (nitrile) and FPM (fluoroelastomer)

General

Fluids: Air or neutral gas, filtered at 50 µm, condensate-free, lubricated or unlubricated
Maximum allowable pressure (MAP): 90 to 190 psi (6 to 13 bar)
Pressure range: 0-50 psi to 0-150 psi (0-3 bar to 0-10 bar)
Fluid temperature: 32°F - 140°F (0°C - 60°C)
Ambient temperature: 32°F - 122°F (0°C - 50°C)
Flow (Qv at 6 bar): 470 to 1300 l/min (ANR)
Command signal: 0 - 10 V (impedance 100 kΩ)
0 - 20 mA / 4 - 20 mA (impedance 250 Ω)
Hysteresis: < 1% of span
Linearity: < 0.5% of span
Repeatability: < 0.5% of span
Minimum setpoint: 100 mV (0.2 mA/4.2mA) with shut-off function
Minimum outlet pressure: 1% of span

Electrical Characteristics

NOMINAL DIAMETER DN (mm)	VOLTAGE *	MAX. POWER (W)	MAX. CURRENT (mA)	INSULATION CLASS	DEGREE OF PROTECTION	ELECTRICAL CONNECTION
4	24 VDC ±10%	21	850	H	IP 65	5-pin M12 connector (not supplied)
8	24 VDC ±10%	40	1650	H	IP 65	5-pin M12 connector (not supplied)

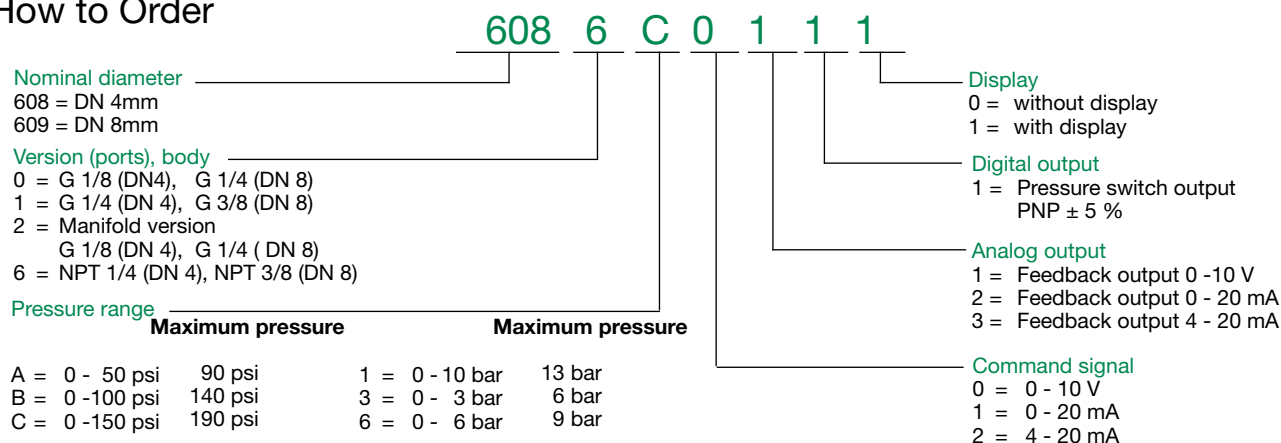
* Max. ripple: 10 %

Specifications

Ø PORTS	Ø ORIFICE DN (mm)	C _v FLOW FACTOR (K _v , Nm ³ /h)	FLOW AT 6 BAR (l/min - ANR)
1/8, 1/4 NPT or GTap	4	0.29 (0.25)	470
1/4, 3/8 NPT or GTap	8	0.81 (0.7)	1300

Test conditions according to ISO 8778: temperature: 20 °C, relative inlet pressure: 6 bar, relative outlet pressure: 5 bar

How to Order

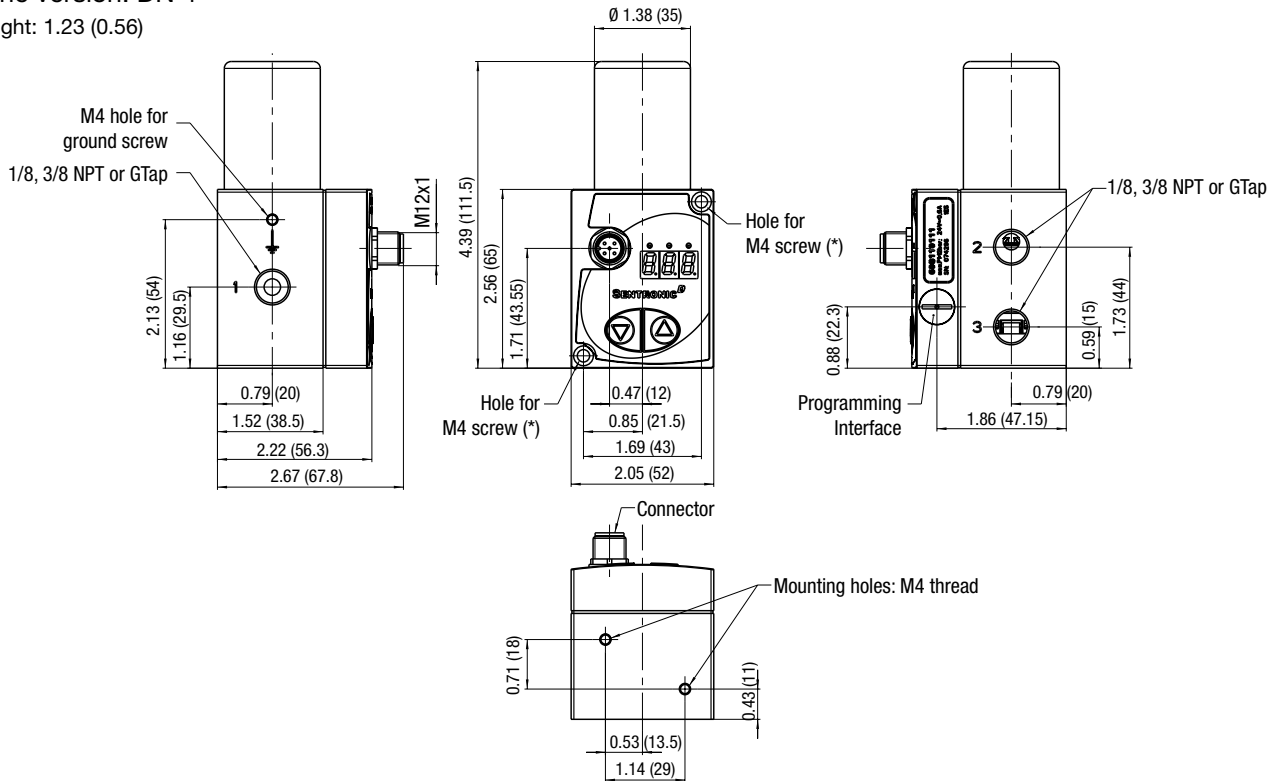




Dimensions in inches (mm), Weight in lbs (kg)

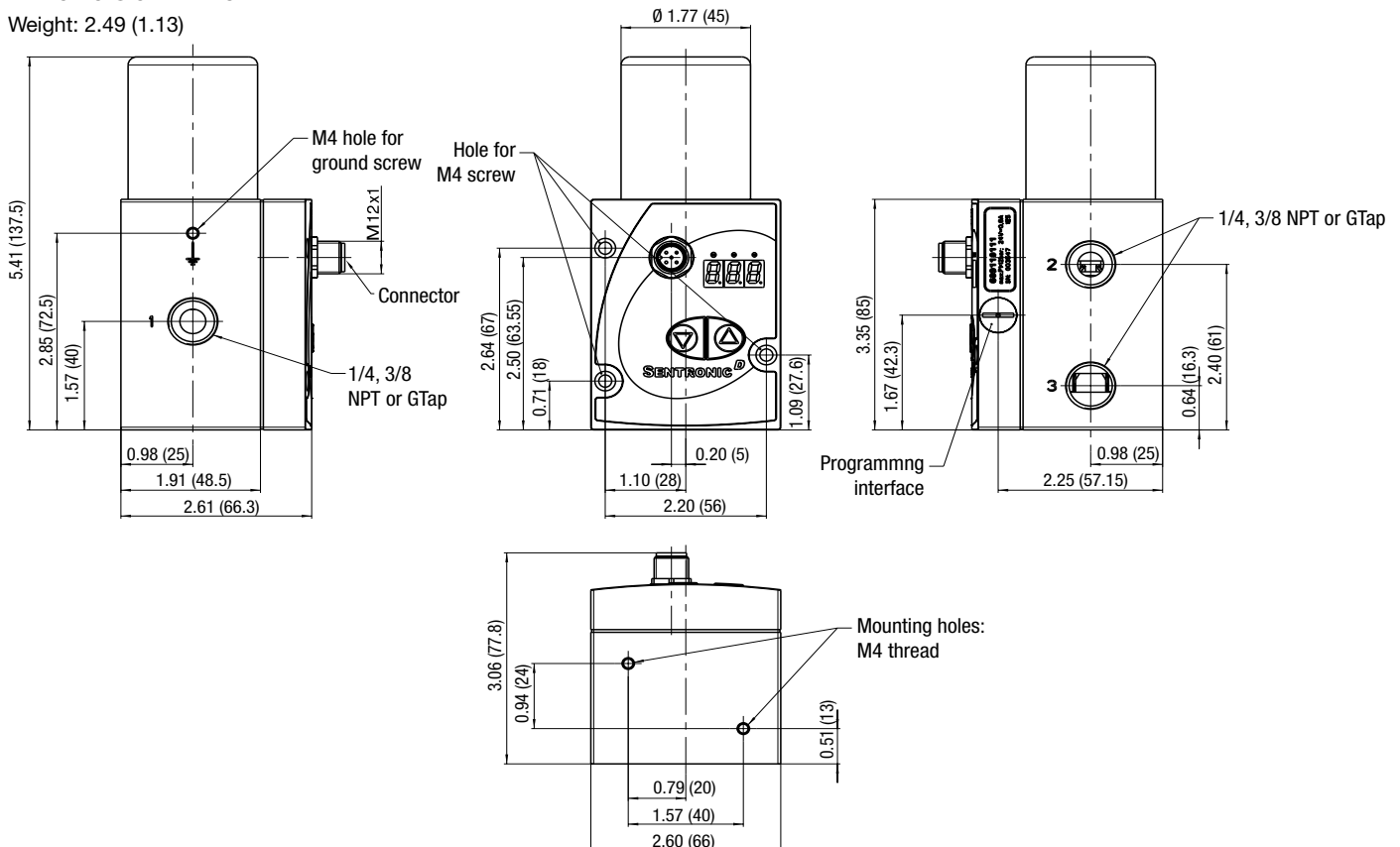
Inline version: DN 4

Weight: 1.23 (0.56)



Inline version: DN 8

Weight: 2.49 (1.13)





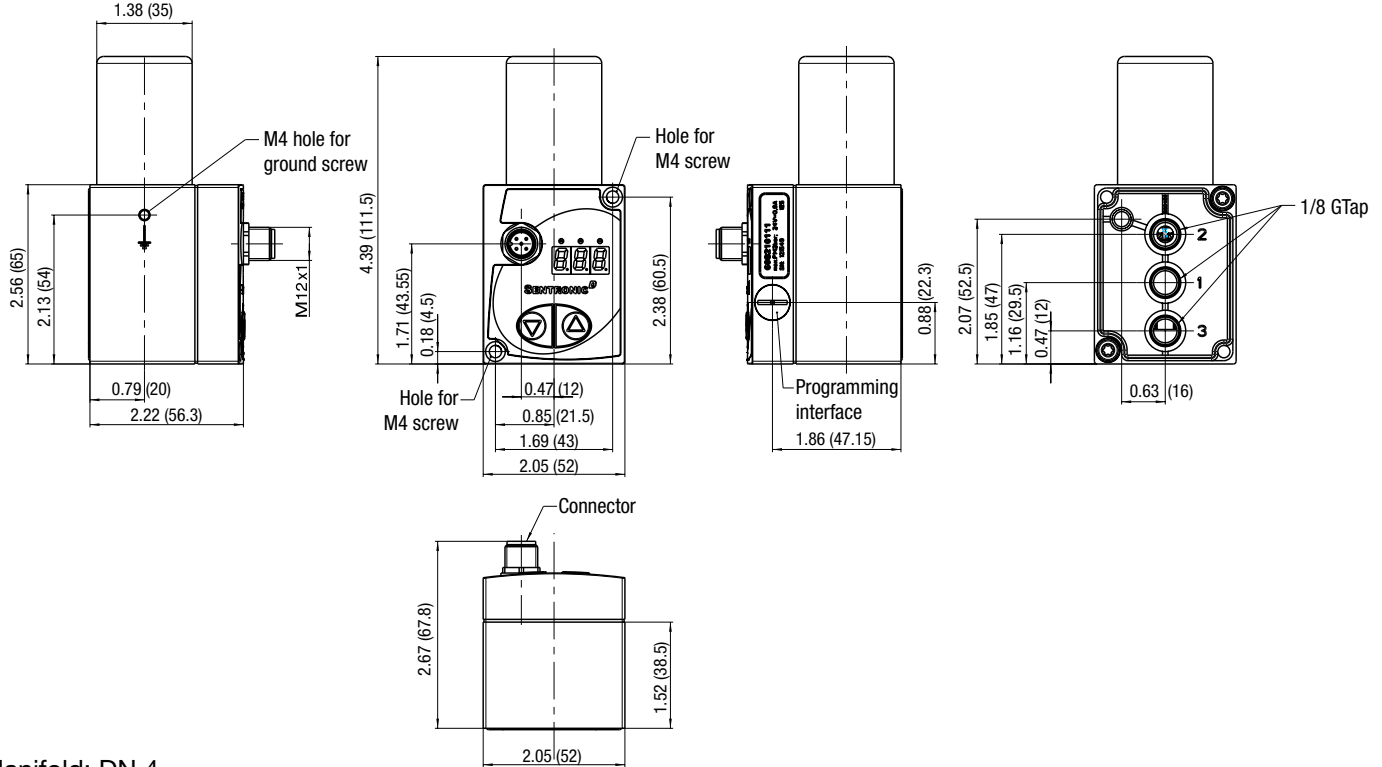
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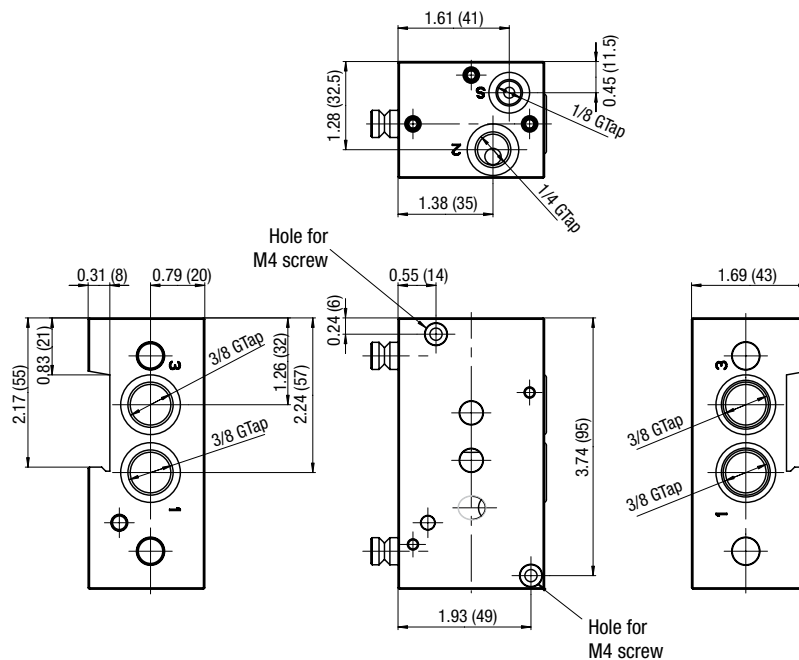
Dimensions in inches (mm), Weight in lbs (kg)

Manifold version: DN 4

Weight: 1.23 (0.56)



Manifold: DN 4

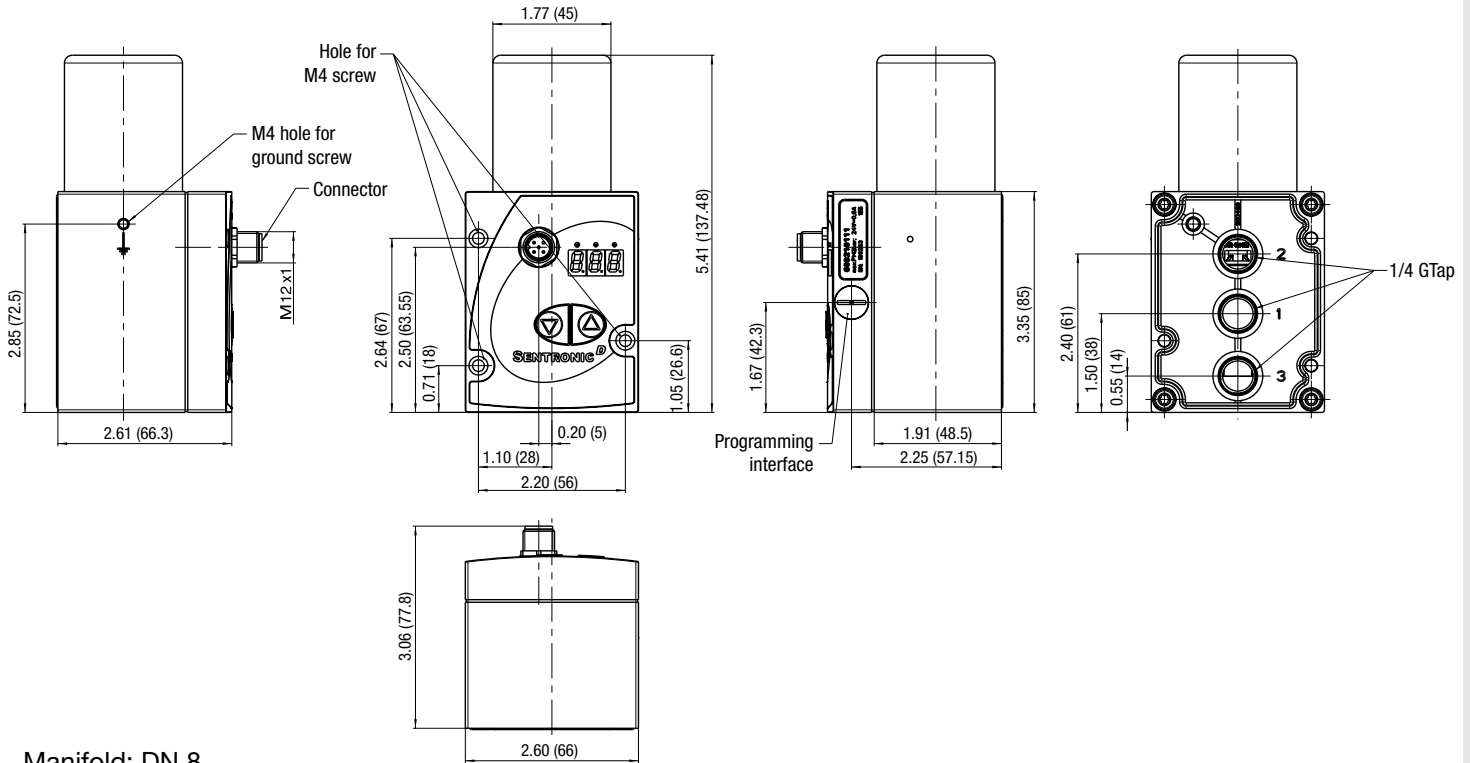




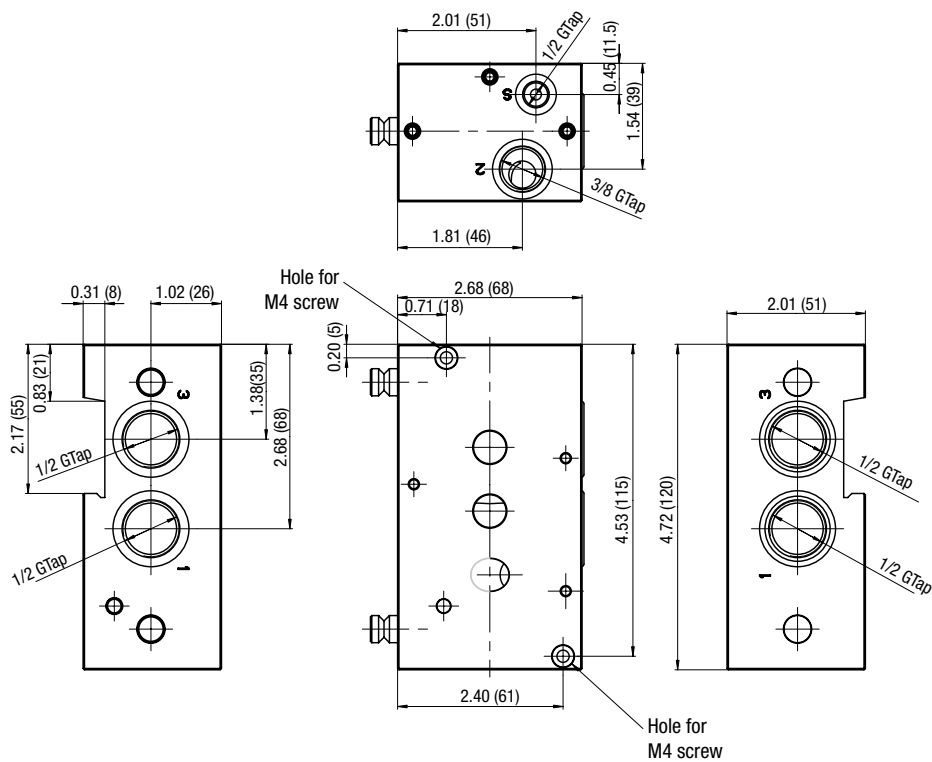
Dimensions in inches (mm), Weight in lbs (kg)

Manifold version: DN 8

Weight: 2.49 (1.13)



Manifold: DN 8

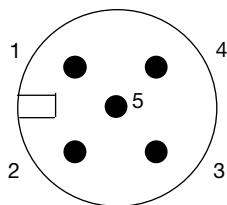




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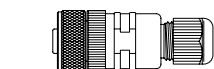
Connector Pin Out



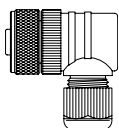
PIN	DESCRIPTION
1	+24 VDC Supply
2	Command Signal
3	+0 VDC Common (Supply)
	+0 VDC Common (Command Signal)*
4	Analog output (feedback)
5	Digital output (pressure switch)
Body	EMC shield

*A 6-wire cable with separate common for the command signal is used for cable lengths over 2 m to minimize the voltage drop for the command signal.

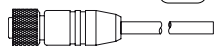
Accessories



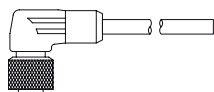
5 Pin 12mm FEMALE Straight Field Attachable Connectors	MODEL NUMBER
PG 9 Cable Gland	TC05F20000000000



5 Pin 12mm FEMALE 90 DEGREE Field Attachable Connectors	MODEL NUMBER
PG 9 Cable Gland	TD05F20000000000



Micro FEMALE 5 Pole Straight 6 Wire 22 AWG, Shielded	MODEL NUMBER
3 Meter	TC0503MMS000671Y
5 Meter	TC0505MMS000671Y



Micro FEMALE 4 Pole 90 Degree 22 AWG Euro Color Code	MODEL NUMBER
3 Meter	TD0503MMS000671Y
5 Meter	TD0505MMS000671Y

Manifold	MODEL NUMBER
Manifold for 608 (DN 4mm) with G3/8; common supply and exhaust	35500558
Manifold for 609 (DN 8mm) with G1/2; common supply and exhaust	35500559
PC Software & Cable Connectors	MODEL NUMBER
DaS Light: Data Acquisition Software for SENTRONIC ^D - basic parameters - CD-ROM	99100110
DaS Expert: Data Acquisition Software for SENTRONIC ^D - full parameters - CD-ROM	99100111
RS 232 cable converter; 2m cable with 9-pin Sub-D (plug connector)	88100732
RS 232 cable converter; 2m cable with 9-pin Sub-D (screw connector)	833-993708