

888-487-6711

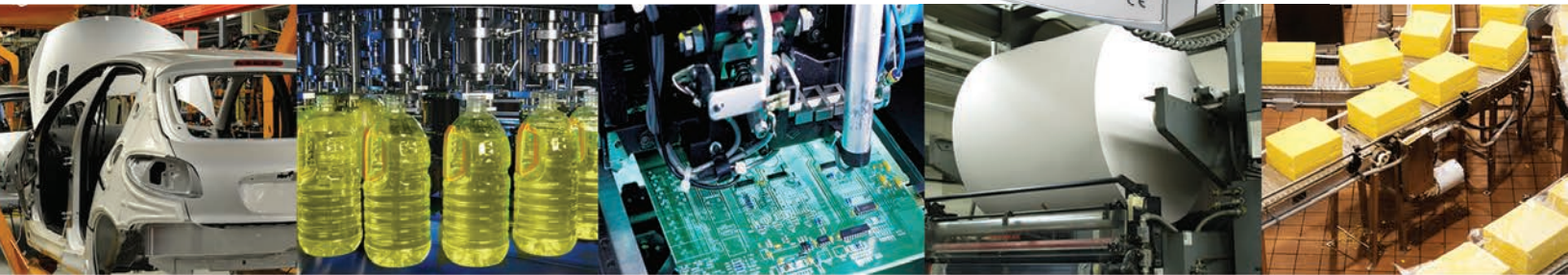
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An O'Keefe Controls Company

Specialists in Valves, Controls, Pneumatics and Fluid Measurement

Sentronic^D | 608 Series and 609 Series Proportional Technology



PROPORTIONAL TECHNOLOGY

PRESSURE CONTROL: 608/609 SERIES SENTRONIC^D

ASCO NUMATICS™

Sentronic^D

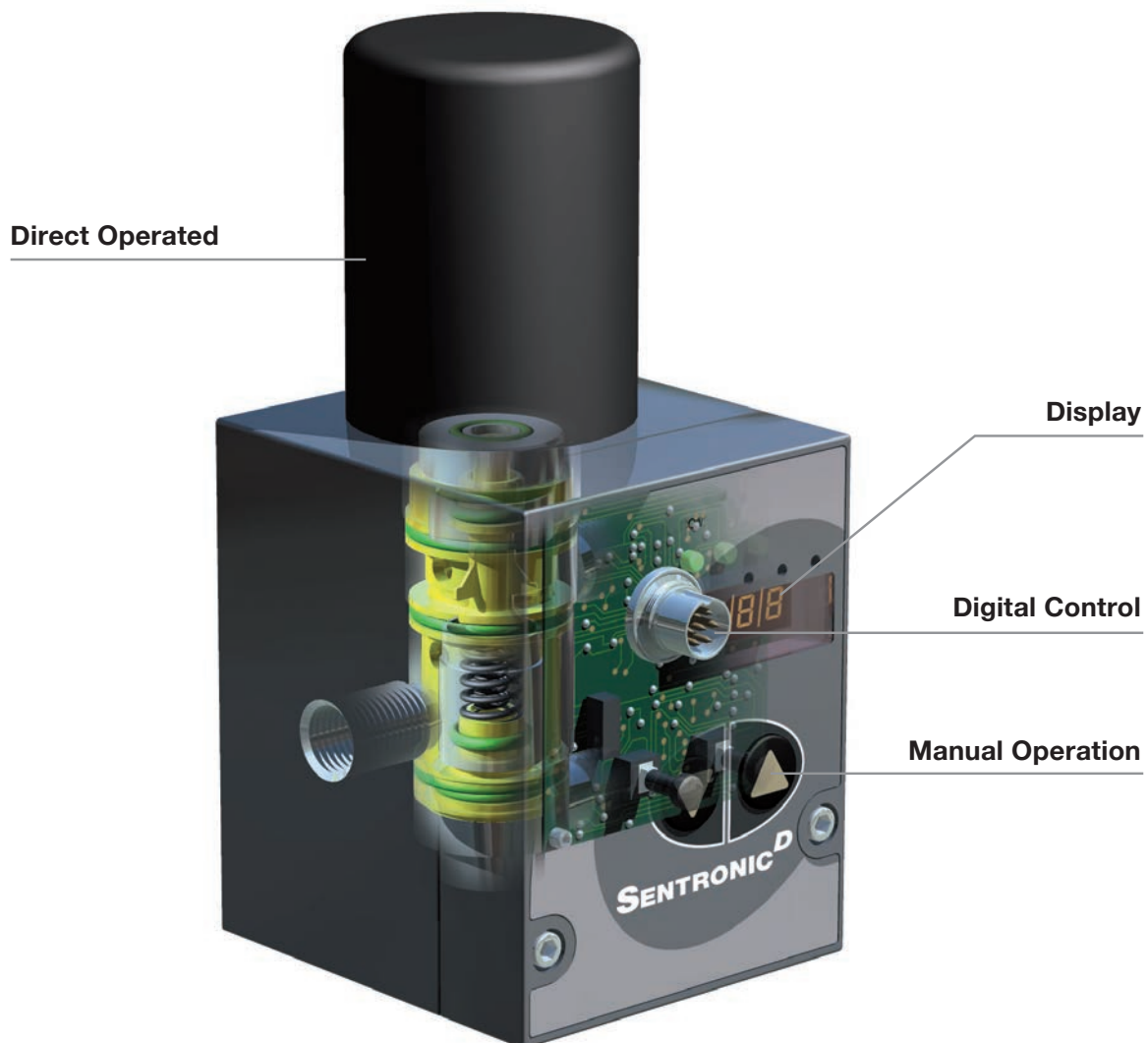
Sentronic^D is a digitally operated pressure regulator valve.

Sentronic^D stands for:

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

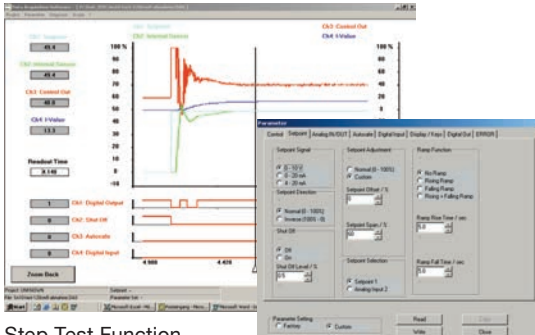
With the Data Acquisition Software (DaS) and the RS232 interface, it's now possible to optimally adjust the valve's control parameters to a specific application. The scope function allows you to log and read the system's response in real time.

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.



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Step Test Function

Parameters Setup

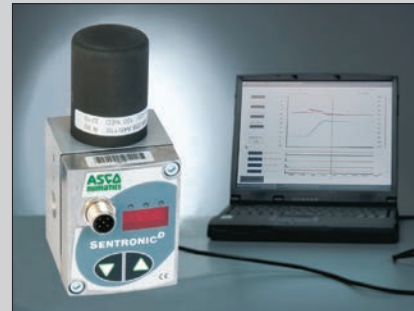


Ramp Test Function

Scope Setup

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



By connecting the Sentronic^o 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^o

How to Order

608 6 C 0 1 1 1

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|----------------------------|-----------------------------|---------------------------|----------------|--------|----------------|-----------------|---------|----------------|-----------------|---------|---------------|--|--|---------------|--|--|-----------------------------|--|--|---------------|--|--|-------|---|
| <p>Nominal Diameter</p> <p>608 = DN 4mm 609 = DN 8mm</p> <p>Version (ports), Body</p> <p>0 = G 1/8 (DN4), G 1/4 (DN 8) 1 = G 1/4 (DN 4), G 3/8 (DN 8) 2 = Manifold version¹, G 1/4 (DN 4), G 3/8 (DN 8) 6 = NPT 1/4 (DN 4), NPT 3/8 (DN 8)</p> <p>Pressure Range</p> <table border="0"> <tr> <td style="text-align: right;">Max. Inlet Pressure</td> <td></td> <td style="text-align: left;">Max Inlet Pressure</td> </tr> <tr> <td>A = 0 – 50 psi</td> <td>90 psi</td> <td>1 = 0 – 10 bar</td> </tr> <tr> <td>B = 0 – 100 psi</td> <td>140 psi</td> <td>2 = 0 – 12 bar</td> </tr> <tr> <td>C = 0 – 150 psi</td> <td>190 psi</td> <td>3 = 0 – 3 bar</td> </tr> <tr> <td></td> <td></td> <td>4 = 0 – 1 bar</td> </tr> <tr> <td></td> <td></td> <td>5 = 0 – 15 bar²</td> </tr> <tr> <td></td> <td></td> <td>6 = 0 – 6 bar</td> </tr> <tr> <td></td> <td></td> <td>9 bar</td> </tr> </table> | Max. Inlet Pressure | | Max Inlet Pressure | A = 0 – 50 psi | 90 psi | 1 = 0 – 10 bar | B = 0 – 100 psi | 140 psi | 2 = 0 – 12 bar | C = 0 – 150 psi | 190 psi | 3 = 0 – 3 bar | | | 4 = 0 – 1 bar | | | 5 = 0 – 15 bar ² | | | 6 = 0 – 6 bar | | | 9 bar | <p>Options</p> <p>A00 = Dual loop control 211 = Oxygen clean</p> <p>Display</p> <p>0 = without display 1 = with display</p> <p>Digital Output</p> <p>1 = Pressure switch output, PNP ± 5%</p> <p>Feedback</p> <p>1 = Feedback output 0 - 10 V 2 = Feedback output 0 - 20 mA 3 = Feedback output 4 - 20 mA 4 = Feedback input 0 - 10 Volt³ 5 = Feedback input 0 - 20 mA³ 6 = Feedback input 4 - 20 mA³</p> <p>Command Signal</p> <p>0 = 0 – 10 V 1 = 0 – 20 mA 2 = 4 – 20 mA</p> |
| Max. Inlet Pressure | | Max Inlet Pressure | | | | | | | | | | | | | | | | | | | | | | | |
| A = 0 – 50 psi | 90 psi | 1 = 0 – 10 bar | | | | | | | | | | | | | | | | | | | | | | | |
| B = 0 – 100 psi | 140 psi | 2 = 0 – 12 bar | | | | | | | | | | | | | | | | | | | | | | | |
| C = 0 – 150 psi | 190 psi | 3 = 0 – 3 bar | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4 = 0 – 1 bar | | | | | | | | | | | | | | | | | | | | | | | |
| | | 5 = 0 – 15 bar ² | | | | | | | | | | | | | | | | | | | | | | | |
| | | 6 = 0 – 6 bar | | | | | | | | | | | | | | | | | | | | | | | |
| | | 9 bar | | | | | | | | | | | | | | | | | | | | | | | |

Notes:

¹ See Accessories section for required manifold subbase.

² Only available for 608 DN 4mm size.

³ Feedback input is needed for dual loop units.

PROPORTIONAL TECHNOLOGY

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Sentronic^o

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

- Sentronic^o is a highly dynamic 3-way proportional valve with digital control
- Sentronic^o stands for:
 - Digital communication and control
 - Display (integrated)
 - Direct operated valve
- A special feature of the Sentronic^o 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
- Sentronic^o can be configured for dual loop control of process variables such as flow, force, speed, RPM and temperature



| Fluids | Ambient Temperature | Body | Internal Parts | Seals |
|--|---------------------------------|----------|------------------|---|
| Air or neutral gas, filtered at 50 µm, condensate-free, lubricated or unlubricated | 0 °C to 50 °C (32 °F to 122 °F) | Aluminum | POM (polyacetal) | NBR (nitrile) and FPM (fluoroelastomer) |

| General Valve Information | |
|---------------------------|---|
| Fluid Temperature | 0 °C to 60 °C (32 °F to 140 °F) |
| Flow (Qv at 6 bar) | 470 to 1300 l/min (ANR) |
| Command Signal | 0 – 10 V (impedance 100 kΩ), 0 – 20 mA, – 20 mA (impedance 250 Ω) |
| Ports | 1/8, 1/4, 3/8 (NPT or GTap) |
| Construction | Poppet Valve |
| Actuation | Proportional Solenoid |
| 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 | IP65 | 5-pin M12 connector (not supplied) |
| 8 | 24 VDC ± 10% | 40 | 1650 | H | IP65 | 5-pin M12 connector (not supplied) |

* Max. ripple: 10%

| Specifications | | | |
|----------------------|-------------------|--|------------------------|
| Ø Ports | Ø Orifice DN (mm) | Flow | |
| | | C _v Flow Factor (K _v Nm ³ /h) | at 6 Bar (l/min - ANR) |
| 1/8, 1/4 NPT or GTap | 4 | 0.50 (0.43) | 470 |
| 1/4, 3/8 NPT or GTap | 8 | 1.39 (1.20) | 1300 |

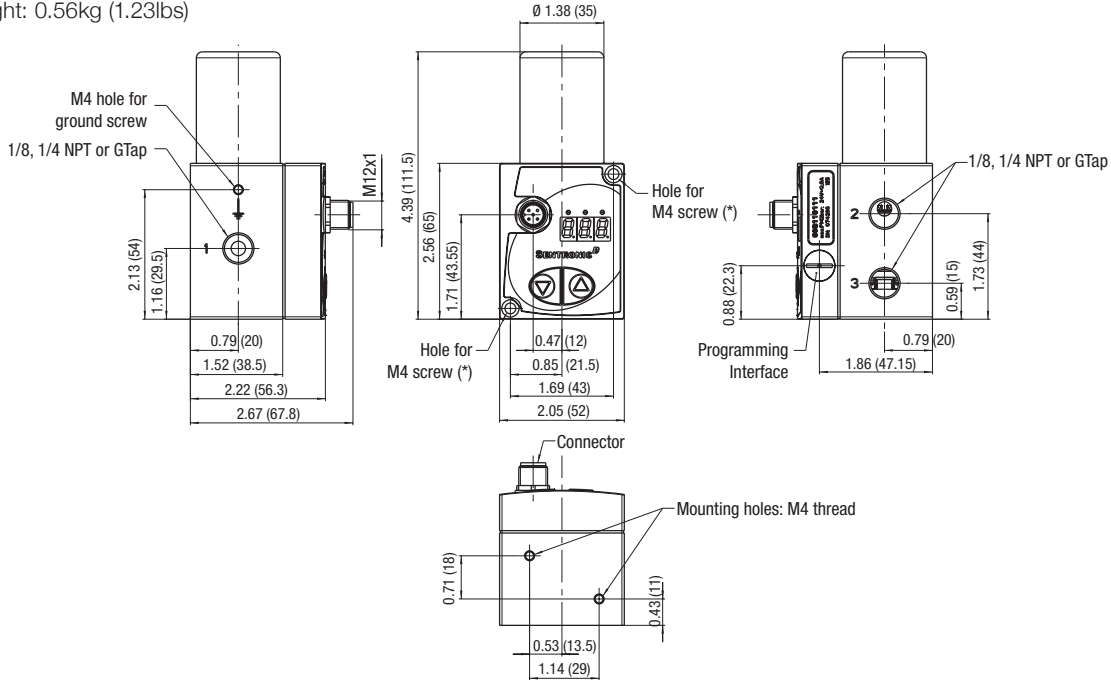
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Dimensions: inches (mm)

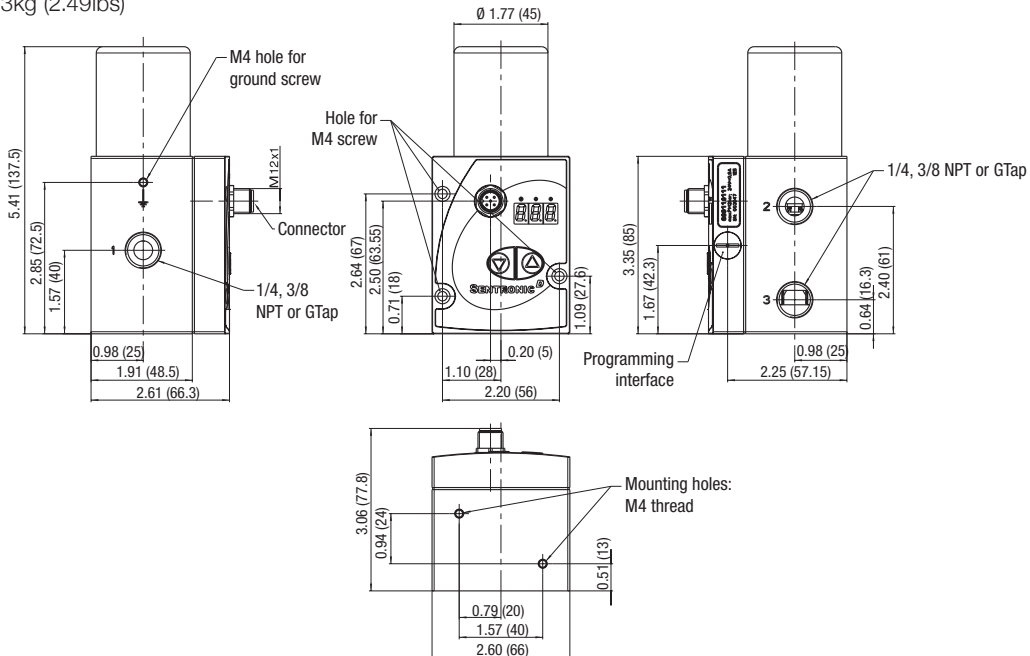
Inline version: DN 4

Weight: 0.56kg (1.23lbs)



Inline version: DN 8

Weight: 1.13kg (2.49lbs)



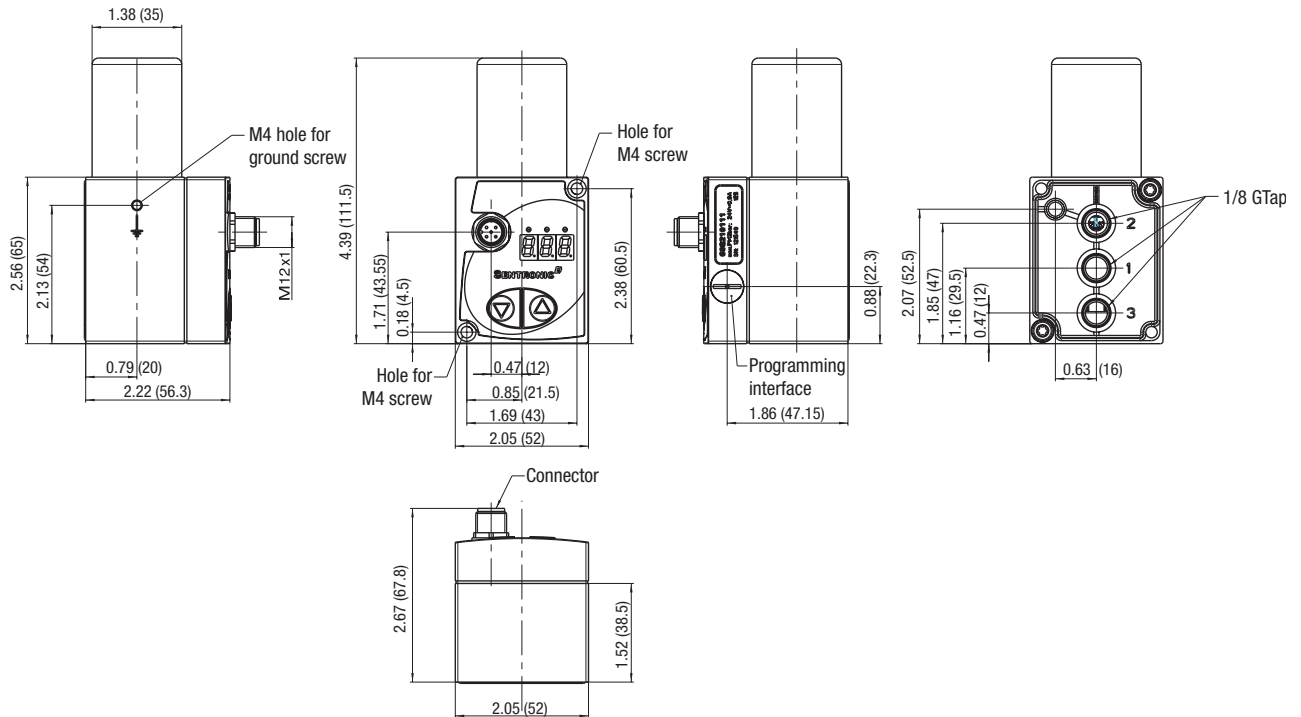
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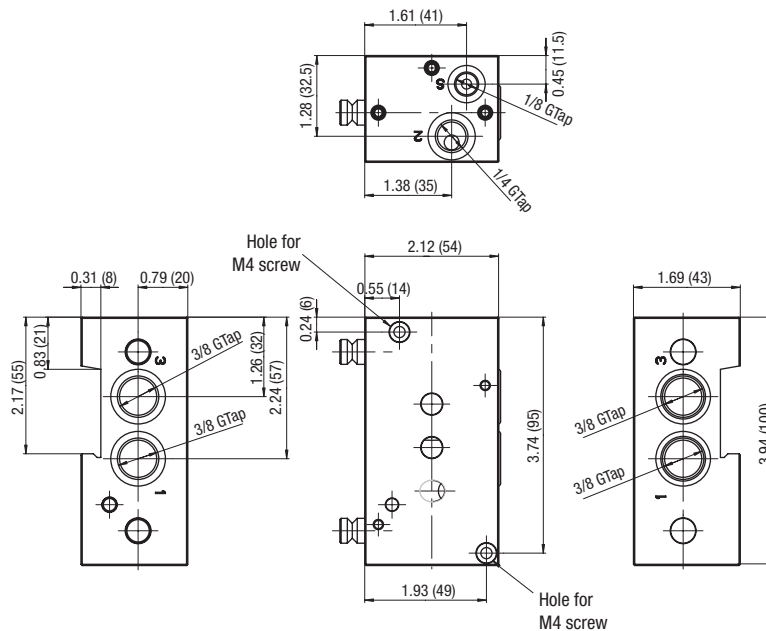
Dimensions: inches (mm)

Manifold version: DN 4

Weight: 0.56kg (1.23lbs)



Manifold: DN 4



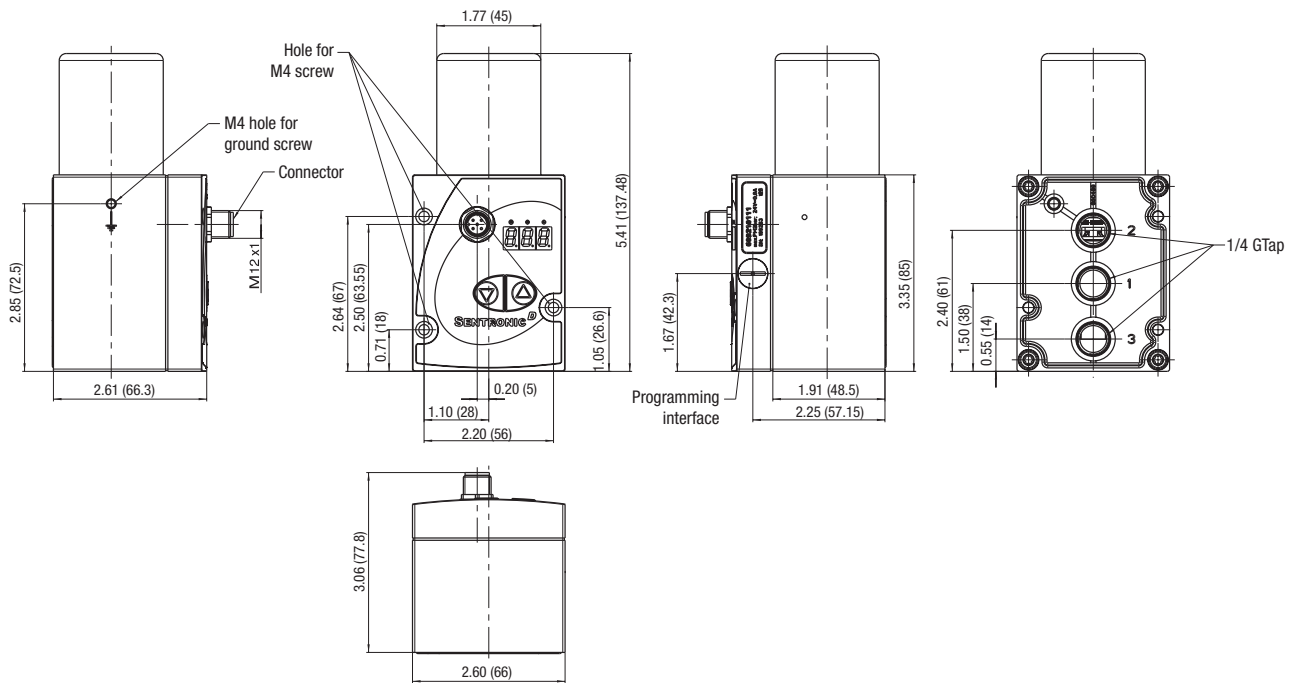
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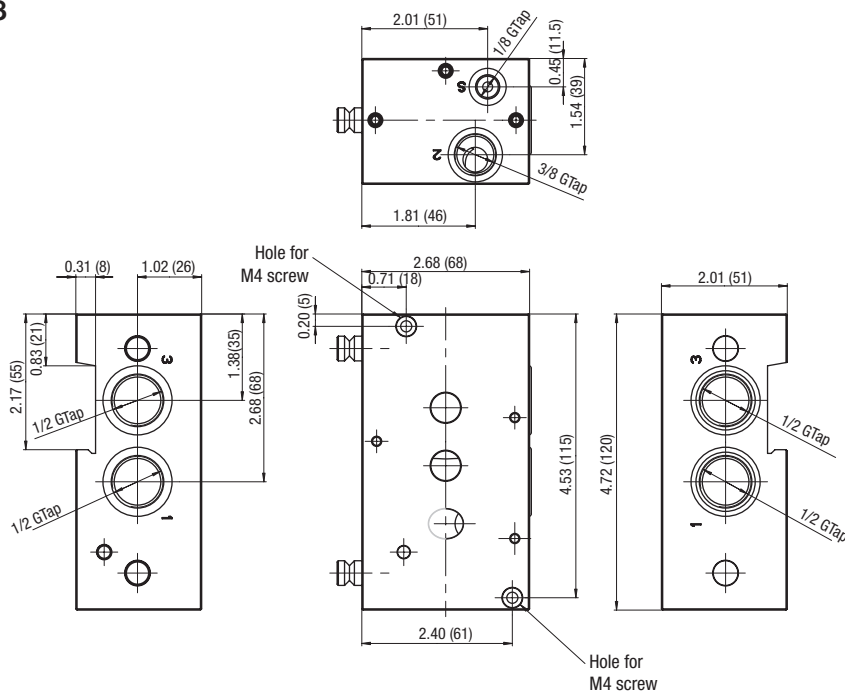
Dimensions: inches (mm)

Manifold version: DN 8

Weight: 1.13kg (2.49lbs)



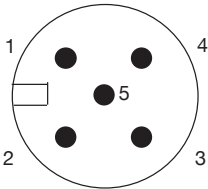
Manifold: DN 8



PROPORTIONAL TECHNOLOGY

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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 2m 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 24 AWG, Shielded | Model Number |
|--|------------------|
| 3 Meter | TC0503MMS000671Y |
| 5 Meter | TC0505MMS000671Y |



| Micro Female 5 Pole 90 Degree 6 Wire 24 AWG Euro Color Code, Shielded | Model Number |
|---|------------------|
| 3 Meter | TD0503MMS000671Y |
| 5 Meter | TD0505MMS000671Y |



| Micro F/M 4 Pole Straight 22 AWG Euro Color Code | |
|--|----------------------------|
| Unshielded | Shielded |
| 2 Meter - TC0403MIETA04000 | 3 Meter - TC0403MMETA04000 |
| 5 Meter - TC0405MIETA04000 | 5 Meter - TC0405MMETA04000 |



| Micro F 90°/M Straight 22 AWG Euro Color Code | |
|---|----------------------------|
| Unshielded | Shielded |
| 2 Meter - TD0403MIETA04000 | 3 Meter - TD0403MMETA04000 |
| 5 Meter - TD0405MIETA04000 | 5 Meter - TD0405MMETA04000 |

| Manifold (individual subbases that join together) | Model Number |
|---|--------------|
| Manifold for 608 (DN 4mm) with G3/8; supply/exhaust and G1/4 output | 35500558 |
| Manifold for 609 (DN 8mm) with G1/2; supply/exhaust and G3/8 output | 35500559 |

| PC Software & Cable Connectors | Model Number |
|--|-----------------|
| DaS Light: Data Acquisition Software for Sentronic ^D - basic parameters - free download at asco.com | 99100110 |
| DaS Expert: Data Acquisition Software for Sentronic ^D - full parameters | Consult Factory |
| RS 232 cable converter; 2m cable with 9-pin Sub-D (connector required for software usage) | 88100732 |

¹ Manifold ships with required hardware and gaskets for connecting manifolds together.