

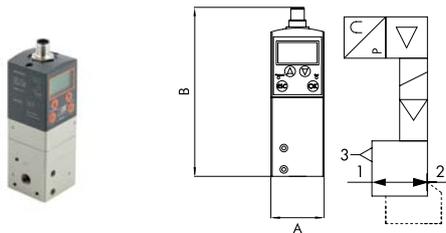
Proportional precision pressure regulator

REGTRONIC series

MAX

Art. No. 152852

Type No. 5541500



Exemplary illustration

Proportional precision pressure regulators series REGTRONIC have the job of precisely regulating the pressure in a system, the variables depending on the input command. Remote control regulators are controlled by means of an M12x1 cable and connector and can have Volt, mA, RS232 control or via IO-Link. Regulators with a display can be controlled via a cable or directly using the keys below the display. Pressure control takes place in a 'closed loop' with an electronic precision pressure sensor that measures the downstream pressure, a control system that compares it with the desired pressure, and two mini solenoid valves that adjust the pressure to reach the target value.

Advantages:

- All analogue versions come with the comprehensive, simple and intuitive "MWRregtronic" programming and reading software. This software can be used to set the parameters. It can be downloaded from the website www.metalwork.eu. To connect the PC to REGTRONIC, use the PC connection cable article no. 153061.
- The version with display can show a wide range of information and diagnostics. The user interface with the display, LEDs and buttons are all on one side.
- The wireless versions can communicate with Ethernet networks via the MQTT protocol and with mobile devices via Bluetooth® using the dedicated 'Metal Work RegUp' app.
- The REGTRONIC 300 / REGTRONIC 400 series can be combined at will with the SKILLAIR FRL units.

ATEX version on request!

Technical data

| | |
|-----------------------|---|
| Series | REGTRONIC |
| Version | analogue |
| Analogue output | 4 - 20 mA |
| Display | with |
| Input signal | 0 - 5 V DC / 0 - 10 V DC / 4 - 20 mA / RS 232 / keyboard |
| Thread | G 1/8 IT |
| Electrical connection | M12 male connector, 8-pin |
| Medium | filtered, unlubricated compressed air, max. particle size 10 µm, free of condensate |
| Min. input pressure | pressure to be regulated +1 bar |

Technical data

| | |
|-------------------------------|---|
| Max. input pressure | 11 bar |
| Control range | 0,05 - 10 bar |
| Temperature range | 0 to 50 °C |
| Flow rate measurement 1 | flow rate at 6.3 bar and Δp 0.5 bar |
| Flow rate 1 | 1300 NI/min |
| Flow rate measurement 2 | flow rate at 6,3 bar and Δp 1 bar |
| Flow rate 2 | 1450 NI/min |
| Digital output | PNP / NPN |
| Hysteresis | $\pm 0,2$ % (full scale) |
| Repeatability | ± 0.2 % (full scale) |
| Sensitivity/dead-band | adjustment range: 10 - 300 mbar |
| Display - accuracy | ± 0.3 % (full scale) |
| Display - unit of measurement | bar, MPa, psi |
| Display - minimum resolution | 0.01 bar / 0.001 MPa / 0.01 psi |
| Analog output accuracy | ± 0.1 % (full scale) |
| Temperature characteristics | max. 2 mbar / °C |
| Supply voltage range | 12 -10 % to 24 +30 % V DC |
| Operating voltage min. | 10,8 V DC |
| Operating voltage max. | 31,2 V DC |
| Max. admissible voltage | 32 V DC* |
| Current consumption | max. 220 mA at 12 V DC |
| WiFi | without |
| Compatible with app | no |
| Mounting position | any |
| Housing | aluminium |
| Protection IP | IP 65 |
| A | 42 mm |
| B | 134 mm |

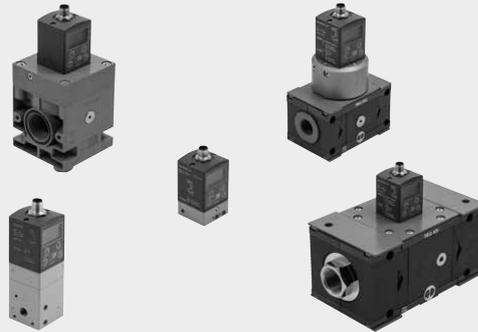
*IMPORTANT! Voltages above 32 V DC will cause irreparable damage to the system.

Commercial data

| | |
|-------------------------|------------------|
| Customs tariff number | 84811099 |
| Country of origin | IT |
| eCl@ss 5.1.4 | 27292301 |
| eCl@ss 9.0 | 27292301 |
| UNSPSC_Code_v190501 | 40141603 |
| UNSPSC_CodeDesc_v190501 | Pneumatic valves |

PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

Proportional pressure regulators series REGTRONIC have the job of precisely regulating the pressure in a system, the variables depending on the input command. Remote control regulators are controlled by means of an M12x1 cable and connector and can have Volt, mA, RS232 control or via IO-Link. Regulators with a display can be controlled via a cable or directly using the keys below the display. The pressure value and a series of information and diagnostics are visible at all times on the graphic display. The user-display interface, LEDs and buttons are all on one side. The programming and reading software is comprehensive, simple and intuitive. Pressure control takes place in a "closed-loop" with an electronic precision pressure sensor that measures the downstream pressure, a control system that compares it with the desired pressure, and two mini solenoid valves that adjust the pressure to reach the target value. Through the dedicated "Metal Work RegUp" App, the wireless versions can communicate with Ethernet networks (via MQTT protocol) and mobile devices (smartphones and tablets) via Bluetooth®. Through this App it is possible to view and modify the regulated pressure in real time, set all the operating parameters and view the pressure trend graphs.



UNITS

PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

| TECHNICAL DATA | REGTRONIC | | REGTRONIC NEW DEAL | | REGTRONIC 300 | | REGTRONIC 400 | | | | | |
|--|--|------|--------------------|-------|---------------|-------|---------------|------|------|--------|--------|------|
| | M5 | 1/8" | 1/4" | 3/4" | 1" | 1/2" | 3/4" | 1" | 1" | 1 1/4" | 1 1/2" | 2" |
| Threaded port | M5 1/8" 1/4" 3/4" 1" 1/2" 3/4" 1" 1" 1 1/4" 1 1/2" 2" | | | | | | | | | | | |
| Fluid | Filtered, unlubricated air. The air must be filtered at least 10 µm and without condensation. | | | | | | | | | | | |
| MIN inlet pressure | bar Regulation pressure + 1 bar | | | | | | | | | | | |
| MAX inlet pressure | bar 11 | | | | | | | | | | | |
| Temperature range | °C from 0 to 50 | | | | | | | | | | | |
| Pressure regulation range | bar from 0.05 to 10 (settable full scale and minimum pressure) | | | | | | | | | | | |
| Flow rate at 6.3 bar ΔP 0.5 | 10 | 1300 | 1500 | 10000 | 4500 | 18000 | 20000 | | | | | |
| Flow rate at 6.3 bar ΔP 1 | 10 | 1450 | 1700 | 13000 | 7000 | - | - | | | | | |
| Exhaust flow rate at 6.3 bar with 0.1 bar overpressure | 2 | 600 | 1300 | 1800 | 250 | 400 | 400 | | | | | |
| Exhaust flow rate at 6.3 bar with 0.5 bar overpressure | 9 | 1000 | 1500 | 2000 | 500 | 850 | 850 | | | | | |
| Response time with ΔP = 1 bar | Volume [cc] | | | | | | | | | | | |
| from 6 to 7 bar | 100 | 100 | 1000 | 100 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| from 7 to 6 bar | 0.5 | 0.1 | 0.15 | 0.1 | 0.15 | 0.27 | 0.25 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Weight | 0.55 | 0.1 | 0.15 | 0.1 | 0.15 | 0.27 | 0.33 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Class of protection | kg 0.2 0.38 0.38 1.3 1.5 5 5.8 IP 65 | | | | | | | | | | | |
| Supply voltage range IO-Link version | VDC from 18 to 30 | | | | | | | | | | | |
| Current absorption | Max 150 mA at 18VDC | | | | | | | | | | | |
| Supply voltage range analog version | VDC 12 -10% 24 +30% | | | | | | | | | | | |
| Minimum operating voltage | VDC 10.8 | | | | | | | | | | | |
| Maximum operating voltage | VDC 31.2 | | | | | | | | | | | |
| Maximum admissible voltage | VDC 32 * | | | | | | | | | | | |
| Current absorption | max 220 mA at 12VDC | | | | | | | | | | | |
| Input signal (input impedance) | Voltage 0 to 5 VDC, 0 to 10 VDC (approx. 6.3 KΩ) | | | | | | | | | | | |
| Current | 4 to 20 mA (approx. 100 Ω) | | | | | | | | | | | |
| Serial ports | Manual RS 232 Keypad | | | | | | | | | | | |
| Output signal | Analog version voltage 0 to 10 VDC (1 VDC = 1 bar) - 1 mA max Analog version current 4 to 20 mA (4 mA = 0 bar, 20 mA = 10 bar) Digital PNP open collector output: max 24VDC 60 mA NPN open collector output: max 24VDC 60 mA | | | | | | | | | | | |
| Hysteresis | ± 0.2% (Full scale) | | | | | | | | | | | |
| Repeatability | ± 0.2% (Full scale) | | | | | | | | | | | |
| Sensitivity/Dead-band | setting range 10 to 300 mbar | | | | | | | | | | | |
| Output pressure (display and keyboard version) | Accuracy ± 0.3% (Full scale) | | | | | | | | | | | |
| Unit of measurement | bar, MPa, psi | | | | | | | | | | | |
| Minimum resolution | 0.01 bar - 0.001 MPa - 0.01 psi | | | | | | | | | | | |
| Analog output accuracy | ± 0.1% of the reading | | | | | | | | | | | |
| Temperature characteristics | max 2 mbar / °C | | | | | | | | | | | |
| Installation position | In any position | | | | | | | | | | | |
| Notes | The features shown refer to the static condition only. With air consumption on the output side, the pressure may vary. On all analog versions you can set the parameters using the software "MWRRegtronic" downloadable from the website www.metalwork.eu; to connect the PC to Regtronic you can use the cable code W0970513019. | | | | | | | | | | | |

* IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.



REMOTE-CONTROL VERSION



DISPLAY AND KEYBOARD VERSION



PROGRAMMABLE AND FLEXIBLE

Setting options:

- LANGUAGE
- UNIT OF MEASUREMENT
- TYPE OF INPUT
- TYPE OF DIGITAL OUTPUT
- DEAD-BAND
- FULL SCALE
- MINIMUM PRESSURE

The remote-control version of the Regtronic has two diagnostic LEDs.

The display version also has buttons for entering the various parameters.

PRECISION

Linearity
± 0.5 % (full scale)

Hysteresis
± 0.2 % (full scale)

Repeatability
± 0.2 % (full scale)

Sensitivity
range 10 to 300 mbar

IO-Link CONNECTOR 5-PIN M12x1

IO-Link



| Pin | Signal | Description of Class A Port | Lead colour |
|-----|--------|-----------------------------|-------------|
| 1 | L+ | +24 VDC power supply | Brown |
| 2 | NC | / | White |
| 3 | L- | 0 VDC power supply | Blue |
| 4 | C/Q | IO-Link communication | Black |
| 5 | NC | / | Gray |

ANALOG CONNECTOR 8-PIN M12x1



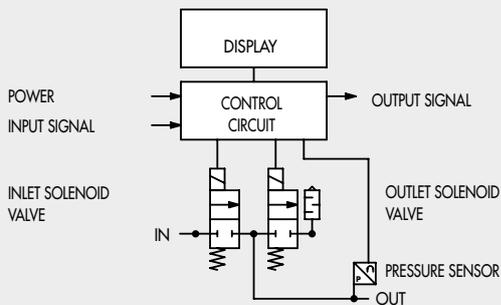
| Pin | Signal | Description | Lead colour |
|-----|--------------|---|-------------|
| 1 | TX | RS232 | White |
| 2 | RX | RS232 | Brown |
| 3 | Pressure set | 0 to 10 VDC / 0 to 5 VDC / 4 to 20 mA | Green |
| 4 | Digital out | NPN | Yellow |
| 5 | Analog out | Voltage version 0 to 10 VDC Current version 4 to 20 mA | Gray |
| 6 | Digital out | PNP | Pink |
| 7 | 0 VDC | Power supply | Blue |
| 8 | + VDC | Power supply | Red |

UNITS

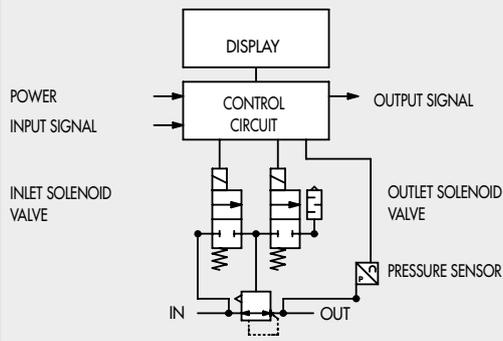
PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

FUNCTION DIAGRAM

REGTRONIC M5



REGTRONIC 1/8" - 1/4" - SK300 - SK400 - NEW DEAL



WIRELESS CONNECTION

With the Wireless version of Regtronic, you can establish a connection to a Wi-Fi network via an access point or gateway to monitor and collect all the measured gas values.

Connection to a MQTT Broker via an Access point

MQTT



Broker MQTT



Gathering data from the field makes it possible to:

- carry out a predictive diagnosis of the system;
- monitor the operating parameters at all times and optimize the operation of the machines and the pneumatic system.

The software can be implemented with analysis functions that provide:

- machine efficiency monitoring;
- to check the pressure trends and long-term forecasting (plant improvement evaluation).

UNITS

The "Metal Work RegUp" App allows you to connect, via Bluetooth, from Android® and iOS® smartphones, to the Metal Work proportional pressure regulators of the REGTRONIC series with a wireless interface.

Through "Metal Work RegUp" it is possible:

- view and modify the regulated pressure in real time
- set all operating parameters
- view the pressure trend graphs



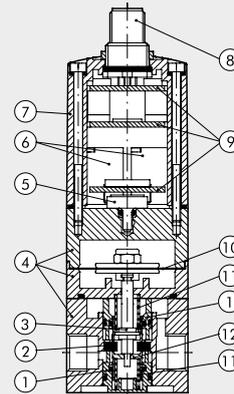
PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

REGTRONIC 1/8"; 1/4"

COMPONENTS

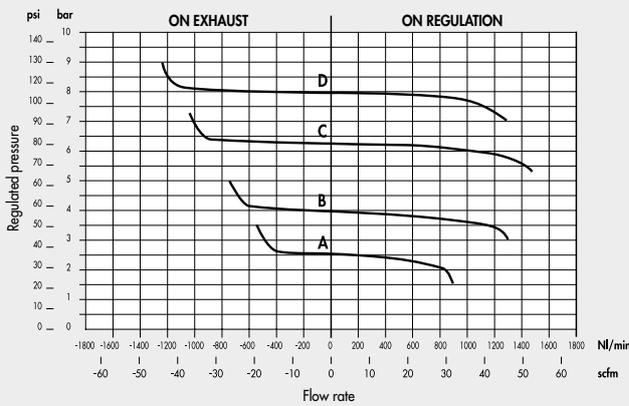


- ① CARTRIDGES: nickel-plated brass
- ② RING: vulcanized NBR
- ③ ROD: steel
- ④ BODIES: painted aluminium
- ⑤ PRESSURE SENSOR
- ⑥ SOLENOID VALVE: 10 mm series PLT-10
- ⑦ SHELL: technopolymer
- ⑧ CONNECTOR M12
- ⑨ ELECTRONIC BOARDS
- ⑩ CONTROL DIAPHRAGM: anti-oil rubber
- ⑪ SPRING: stainless steel
- ⑫ POPPET: nickel-plated brass



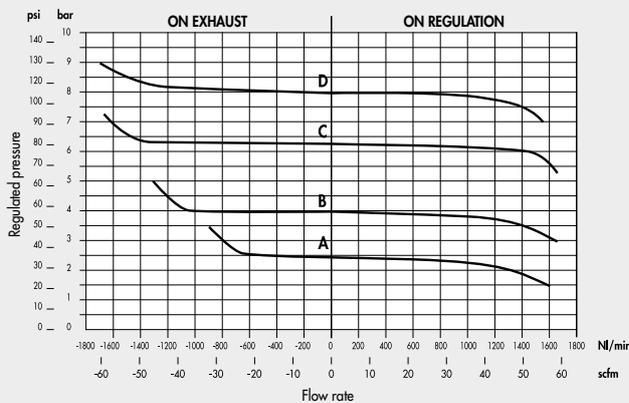
FLOW CHARTS

REGTRONIC 1/8"



A = 2.5 bar
 B = 4 bar
 C = 6.3 bar
 D = 8 bar
 Pm = 10 bar

REGTRONIC 1/4"

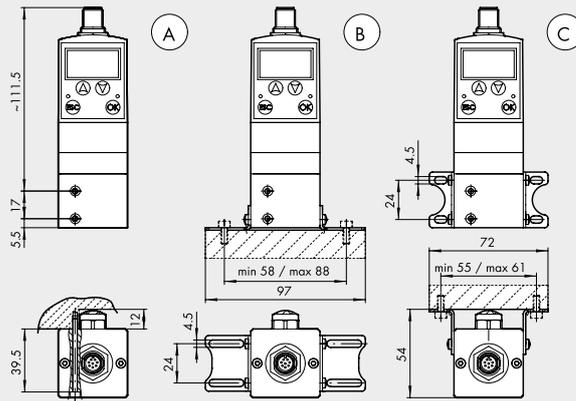


A = 2.5 bar
 B = 4 bar
 C = 6.3 bar
 D = 8 bar
 Pm = 10 bar

UNITS

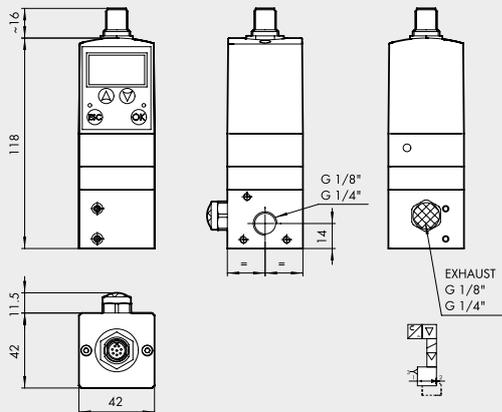
REGTRONIC 1/8"; 1/4"

FIXING OPTIONS



- Ⓐ On the wall with 2 M3 screws
- Ⓑ On the base with legs code 9200710
- Ⓒ On the wall with legs code 9200710

DIMENSIONS AND ORDERING CODES



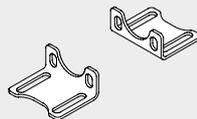
| Code | Description |
|---------|--|
| 5521500 | REGTRONIC 1/8 with display and keyboard OUT 0-10 V |
| 5521502 | REGTRONIC 1/8 remote control OUT 0-10 V |
| 5522500 | REGTRONIC 1/4 with display and keyboard OUT 0-10 V |
| 5522502 | REGTRONIC 1/4 remote control OUT 0-10 V |
| 5541500 | REGTRONIC 1/8 with display and keyboard OUT 4-20 mA |
| 5541502 | REGTRONIC 1/8 remote control OUT 4-20 mA |
| 5542500 | REGTRONIC 1/4 with display and keyboard OUT 4-20 mA |
| 5542502 | REGTRONIC 1/4 remote control OUT 4-20 mA |
| 5531500 | REGTRONIC IO-Link 1/8 with display and keyboard |
| 5531502 | REGTRONIC IO-Link 1/8 remote control |
| 5531510 | REGTRONIC IO-Link 1/8 with display, keyboard and Wi-Fi |
| 5532500 | REGTRONIC IO-Link 1/4 with display and keyboard |
| 5532502 | REGTRONIC IO-Link 1/4 remote control |
| 5532510 | REGTRONIC IO-Link 1/4 with display, keyboard and Wi-Fi |

UNITS

REGTRONIC 1/8"; 1/4"

ACCESSORIES

FIXING BRACKET KIT



| Code | Description |
|---------|--------------------|
| 9200710 | Fixing bracket kit |

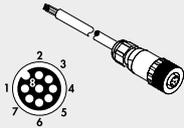
Note: supplied complete with four M4x6 screws

NOTES

ACCESSORIES REGTRONIC ANALOG VERSION

IO-Link VERSION

CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, STRAIGHT

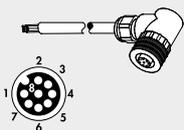


Code W0970513010
Description Connector M12x1, 8-pin, A-coded, female, straight, with cable L = 5 m

Note: can only be used for analog version

| Pin | Cable color |
|-----|-------------|
| 1 | White |
| 2 | Brown |
| 3 | Green |
| 4 | Yellow |
| 5 | Grey |
| 6 | Pink |
| 7 | Blue |
| 8 | Red |

CONNECTOR M12x1, 8-PIN, A-CODED, FEMALE, 90°, WITH CABLE

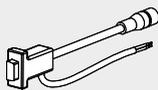


Code W0970513011
Description Connector M12x1, 8-pin, A-coded, female, 90°, with cable L = 5 m

Note: can only be used for analog version

| Pin | Cable color |
|-----|-------------|
| 1 | White |
| 2 | Brown |
| 3 | Green |
| 4 | Yellow |
| 5 | Grey |
| 6 | Pink |
| 7 | Blue |
| 8 | Red |

CONFIGURATION CABLE



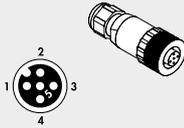
Code W0970513019
Description Configuration cable Regtronic

The cable consists of:
 - M12 8-PIN female connector to be connected to Regtronic
 - RS232 serial connector to be connected to PC
 - 2 wires to supply 24VDC power
 The package also includes a RS232-USB adapter

Note: can only be used for analog version

NOTES

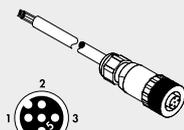
CONNECTOR M12x1, 5-PIN, A-CODED, FEMALE, STRAIGHT



Code W0970513001
Description Connector M12x1, 5-pin, A-coded, female, straight

Note: can only be used for version  IO-Link

CONNECTOR M12x1, 5-PIN, A-CODED, FEMALE, STRAIGHT



Code W0970513002
Description Connector M12x1, 5-pin, A-coded, female, straight, with cable L = 5 m

Note: can only be used for version  IO-Link

| Pin | Cable color |
|-----|-------------|
| 1 | Brown |
| 2 | White |
| 3 | Blue |
| 4 | Black |
| 5 | Gray |

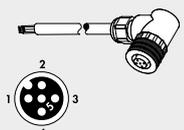
CONNECTOR M12x1, 5-PIN, A-CODED, FEMALE, 90°



Code W0970513003
Description Connector M12x1, 5-pin, A-coded, female, 90°

Note: can only be used for version  IO-Link

CONNECTOR M12x1, 5-PIN, A-CODED, FEMALE, 90°, WITH CABLE



Code W0970513004
Description Connector M12x1, 5-pin, A-coded, female, 90°, with cable L = 5 m

Note: can only be used for version  IO-Link

| Pin | Cable color |
|-----|-------------|
| 1 | Brown |
| 2 | White |
| 3 | Blue |
| 4 | Black |
| 5 | Gray |

UNITS

ACCESSORIES REGTRONIC

Accessories

| | Art. No. | Type No. |
|--|----------|-------------|
| Fixing brackets, 2 pieces incl. 4 M4 x 6 mm screws, for propotional prec. pressure regulator series REGTRONIC / GS G 1/8-G 1/4 | 153051 | 9200710 |
| Connection cable, M12 connector female straight / open ended wires, 8-pin, A-coded, 8-wire, length 5 m | 153059 | W0970513010 |
| Connection cable, M12 connector female 90° / open ended wires, 8-pin, A-coded, 8-wire, length 5 m | 153060 | W0970513011 |
| PC-connection cable for REGTRONIC, RS232 CONN female / M12 CONN female 0°, 2 wires to supply 24 VDC power, incl. RS232-USB adapter | 153061 | W0970513019 |