

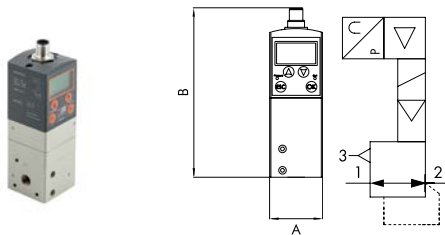
Proportional precision pressure regulator

REGTRONIC series

MAX |||

Art. No. 153011

Type No. 5531500



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 MWRegtronic 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.

Technical data

Series	REGTRONIC
Version	IO-Link
Analogue output	without
Display	with
Input signal	IO-Link / keyboard

Technical data

Thread	G 1/8 IT
Electrical connection	M12 male connector, 5-pin
Medium	filtered, unlubricated compressed air, max. particle size 10 µm, free of condensate
Control range	0,05 - 10 bar
Min. input pressure	pressure to be regulated +1 bar
Max. input pressure	11 bar
Temperature range	0 to 50 °C
Flow rate measurement 1	flow rate at 6.3 bar and Δ_p 0.5 bar
Flow rate 1	1300 NI/min
Flow rate measurement 2	flow rate at 6.3 bar and Δ_p 1 bar
Flow rate 2	1450 NI/min
Hysteresis	±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
Temperature characteristics	max. 2 mbar / °C
Supply voltage range	18 to 30 V DC
Operating voltage min.	18 V DC
Operating voltage max.	30 V DC
Max. admissible voltage	32 V DC*
Current consumption	max. 150 mA at 18 V DC
WiFi	without
Compatible with app	no
Mounting position	any
Housing	aluminium
Protection IP	IP 65
A	42.0 mm
B	134.0 mm

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

Commercial data

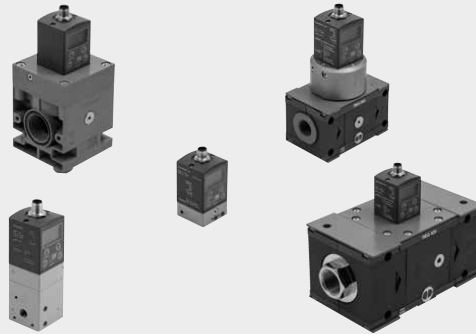
Customs tariff number	84811099
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eCl@ss 9.0	27292301
UNSPSC_Code_v190501	40141603
UNSPSC_CodeDesc_v190501	Pneumatic valves

Material informations

REACH SVHC1 substance name	lead
CAS no. SVHC 1	7439-92-1
RoHS materials notice	RoHS compliant
REACH Info	contains SVHC substance

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

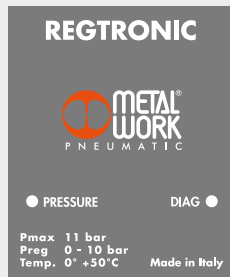
PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

TECHNICAL DATA		REGTRONIC			REGTRONIC NEW DEAL	REGTRONIC 300			REGTRONIC 400				
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	l/min	10	1300	1500	10000	4500			18000		20000		
Flow rate at 6.3 bar ΔP 1	l/min	10	1450	1700	13000	7000			-		-		
Exhaust flow rate at 6.3 bar with 0.1 bar overpressure	l/min	2	600	1300	1800	250			400		400		
Exhaust flow rate at 6.3 bar with 0.5 bar overpressure	l/min	9	1000	1500	2000	500			850		850		
Response time with ΔP =1 bar	Volume [cc]	100	100	1000	100	1000	1000	1000	1000	1000	1000		
from 6 to 7 bar	s	0.5	0.1	0.15	0.1	0.15	0.27	0.25		0.2	0.2		
from 7 to 6 bar	s	0.55	0.1	0.15	0.1	0.15	0.27	0.33		0.35	0.35		
Weight	kg	0.2	0.38	0.38	1.3	1.5			5		5.8		
Class of protection		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	RS 232											
	Manual	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 "MWRegtronic" downloadable from the website www.metalwork.eu ; to connect the PC to Regtronic you can use the cable code W0970513019.											

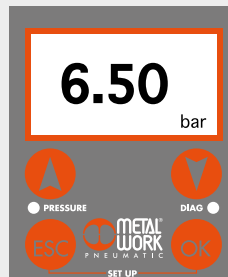
* IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.



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

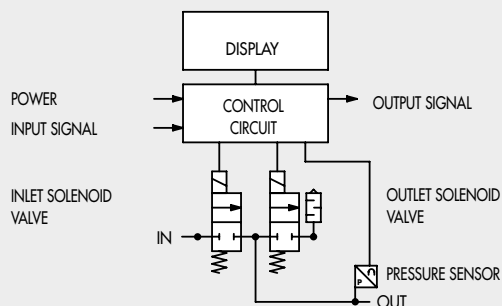
ANALOG CONNECTOR 8-PIN M12x1



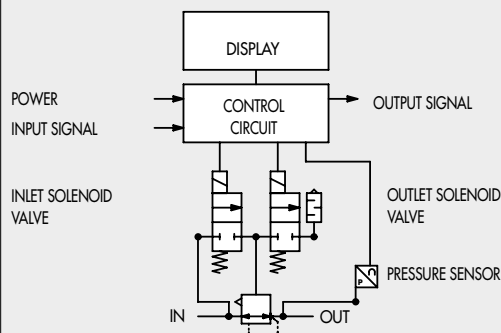
Pin	Signal	Description	Lead colour
1	TX	RS232	White
2	RX	RS232	Brown
3	Pressure set	0 to 10 VDC / 0 to 5 VDC / 4 to 20 mA	Green
4	Digital out	NPN	Yellow
5	Analog out	Voltage version 0 to 10 VDC Current version 4 to 20 mA	Gray
6	Digital out	PNP	Pink
7	0 VDC	Power supply	Blue
8	+ VDC	Power supply	Red

FUNCTION DIAGRAM

REGTRONIC M5



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



UNITS

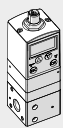
PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

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).

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

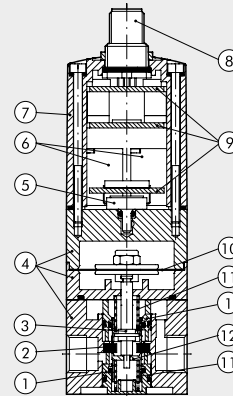


REGTRONIC 1/8"; 1/4"

COMPONENTS

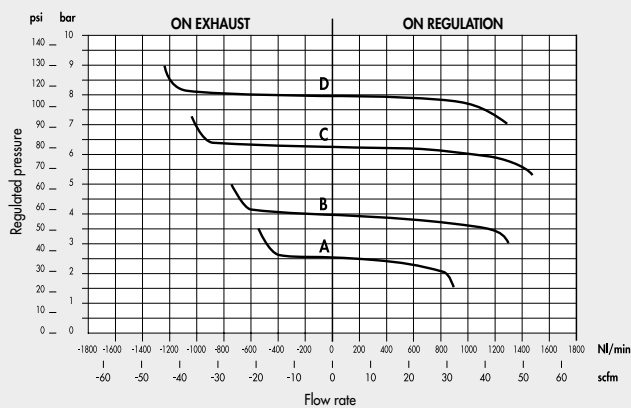


- ① CARTRIDGES: nickel-plated brass
- ② RING: vulcanized NBR
- ③ ROD: steel
- ④ BODIES: painted aluminium
- ⑤ PRESSURE SENSOR
- ⑥ SOLENOID VALVE: 10 mm series PLT-10
- ⑦ SHELL: technopolymer
- ⑧ CONNECTOR M12
- ⑨ ELECTRONIC BOARDS
- ⑩ CONTROL DIAPHRAGM: anti-oil rubber
- ⑪ SPRING: stainless steel
- ⑫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



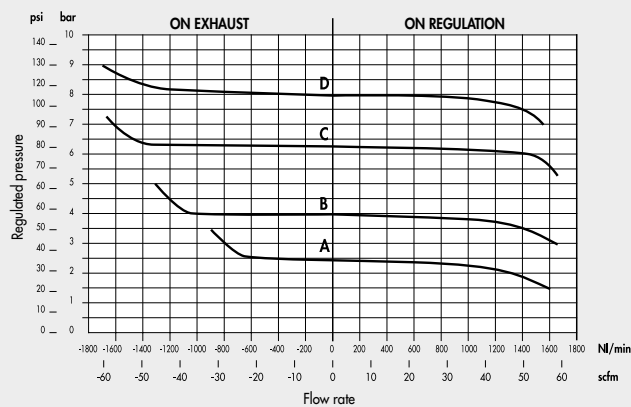
FLOW CHARTS

REGTRONIC 1/8"



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

REGTRONIC 1/4"

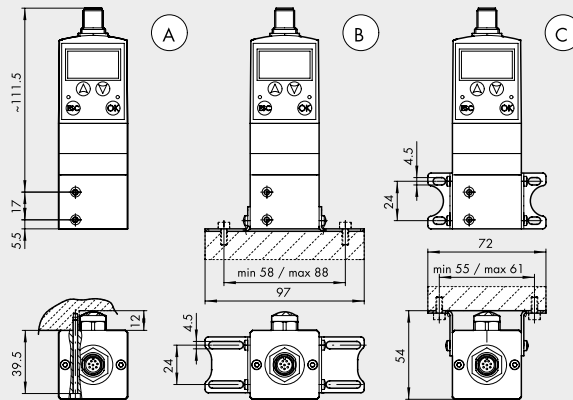


A = 2.5 bar
B = 4 bar
C = 6.3 bar
D = 8 bar
Pm = 10 bar

UNITS

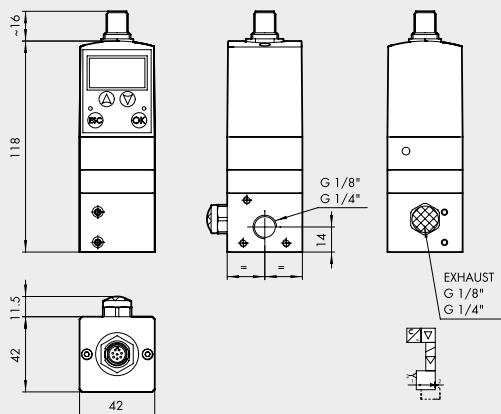
REGTRONIC 1/8"; 1/4"

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



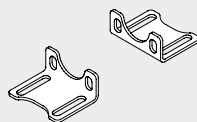
Code	Description
5521500	REGTRONIC 1/8 with display and keyboard OUT 0-10 V
5521502	REGTRONIC 1/8 remote control OUT 0-10 V
5522500	REGTRONIC 1/4 with display and keyboard OUT 0-10 V
5522502	REGTRONIC 1/4 remote control OUT 0-10 V
5541500	REGTRONIC 1/8 with display and keyboard OUT 4-20 mA
5541502	REGTRONIC 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

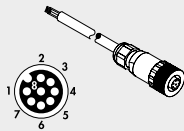
NOTES

ACCESSORIES REGTRONIC

ANALOG VERSION

IO-Link VERSION

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



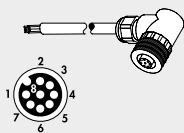
Code
W0970513010

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



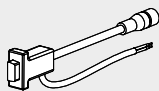
Code
W0970513011

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:

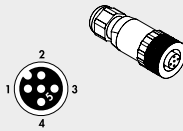
- M12 8-PIN female connector to be connected to Regtronic
- RS232 serial connector to be connected to PC
- 2 wires to supply 24VDC power

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

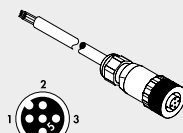


Code
W0970513001

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°

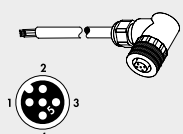


Code
W0970513003

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

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
Straight socket M12 x 1 mm, 5-pin, for electrical connection cable	148191	W0970513001
Electrical connection cable with straight socket and 5 m cable, 5-wire, for service unit »ONE«	101132	533.901
90° angle socket M12 x 1 mm, 5-pin, for electrical connection cable	148239	W0970513003
Electrical connection cable with 90° angle socket and 5 m cable, 5-wire, for service unit »ONE«	101133	533.902