

Proportional precision pressure regulator

REGTRONIC 400 series

MAX

Art. No. 153046

Type No. 6102412A



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.

ATEX version on request!

Technical data

Series	REGTRONIC 400
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	without end plates
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	18000 NI/min
Flow rate measurement 2	flow rate at 6,3 bar and Δp 1 bar
Flow rate 2	18000 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	105.4 mm
B	198.0 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.

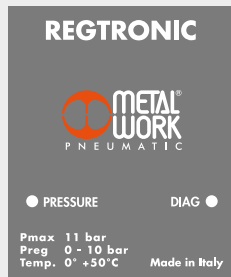

UNITS
PROPORTIONAL PRECISION PRESSURE REGULATOR REGTRONIC SERIES

TECHNICAL DATA		REGTRONIC			REGTRONIC NEW DEAL		REGTRONIC 300			REGTRONIC 400			
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			
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.											

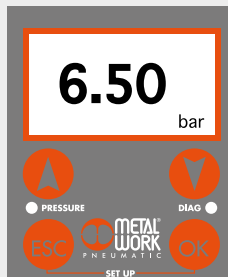
* IMPORTANT! Voltage greater than 32VDC will damage the system irreparably.



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

REGTRONIC 300

COMPONENTS



- ① BODY: tecnopolymer
- ② END PLATE: zamak
- ③ STEM: OT58 brass
- ④ UPPER CUP: aluminium
- ⑤ PISTON: OT58 brass
- ⑥ CUP: aluminium
- ⑦ PRESSURE SENSOR
- ⑧ SOLENOID VALVE: 10 mm series PLT-10
- ⑨ SHELL: tecnopolymer
- ⑩ CONNECTOR M12
- ⑪ ELECTRONIC BOARDS
- ⑫ GASKET: NBR
- ⑬ VALVE WITH NBR VULCANIZED GASKET
- ⑭ VALVE SPRING: stainless steel
- ⑮ LOWER CUP: tecnopolymer



FLOW CHARTS



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

DIMENSIONS



G	A
1/2"	110
3/4"	110
1"	112

UNITS
REGTRONIC 300

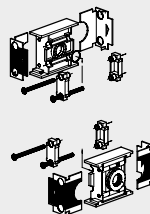
ORDERING CODES

Code	Description
4402012A	REGTRONIC 300 with display and keyboard without end plates OUT 0-10 V
4402013A	REGTRONIC 300 remote control without end plates OUT 0-10 V
4402012	REGTRONIC 300 1/2 with display and keyboard OUT 0-10 V
4402013	REGTRONIC 300 1/2 remote control OUT 0-10 V
4502012	REGTRONIC 300 3/4 with display and keyboard OUT 0-10 V
4502013	REGTRONIC 300 3/4 remote control OUT 0-10 V
4602012	REGTRONIC 300 1 with display and keyboard OUT 0-10 V
4602013	REGTRONIC 300 1 remote control OUT 0-10 V
4402412A	REGTRONIC 300 with display and keyboard without end plates OUT 4-20 mA
4402413A	REGTRONIC 300 remote control without end plates OUT 4-20 mA
4402412	REGTRONIC 300 1/2 with display and keyboard OUT 4-20 mA
4402413	REGTRONIC 300 1/2 remote control OUT 4-20 mA
4502412	REGTRONIC 300 3/4 with display and keyboard OUT 4-20 mA
4502413	REGTRONIC 300 3/4 remote control OUT 4-20 mA
4602412	REGTRONIC 300 1 with display and keyboard OUT 4-20 mA
4602413	REGTRONIC 300 1 remote control OUT 4-20 mA

4402312A	REGTRONIC IO-Link 300 with display and keyboard without end plates
4402313A	REGTRONIC IO-Link 300 remote control without end plates
4402312	REGTRONIC IO-Link 300 1/2 with display and keyboard
4402313	REGTRONIC IO-Link 300 1/2 remote control
4502312	REGTRONIC IO-Link 300 3/4 with display and keyboard
4502313	REGTRONIC IO-Link 300 3/4 remote control
4602312	REGTRONIC IO-Link 300 1 with display and keyboard
4602313	REGTRONIC IO-Link 300 1 remote control

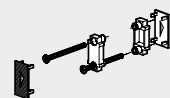
ACCESSORIES

INPUT/OUTPUT END PLATE KIT FOR SKILLAIR



Code	Description
9430701	IN/OUT end plates kit 300 1/2
9530901	IN/OUT end plates kit 300 3/4
9531001	IN/OUT end plates kit 300 1

CONNECTOR KIT FOR SKILLAIR CODE A



Code	Description
9430301	Connector kit 300

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.
IN end plate and OUT end plate, for proportional prec. pressure regulator series REGTRONIC 400 / SKILLAIR 400, G 1	153055	9631001
IN end plate and OUT end plate, for proportional prec. pressure regulator series REGTRONIC 400 / SKILLAIR 400, G 1 1/4	153056	9631101
IN end plate and OUT end plate, for proportional prec. pressure regulator series REGTRONIC 400 / SKILLAIR 400, G 1 1/2	153057	9631201
IN end plate and OUT end plate, for proportional prec. pressure regulator series REGTRONIC 400 / SKILLAIR 400, G 2	153058	9631301
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