

EPR200 Series EPR300 Series EPR500 Series



Compact Electronic Pressure Regulator
PNEUMATIC DIVISION

MATRIX
mechatronics

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The new range of electronic proportional pressure regulators belonging to the EPR Series (EPR200, EPR300, EPR500) is the result of the experience of MATRIX in the development of advanced mechatronics systems for industrial automation and process control applications (automotive, packaging, robotics...).

The new EPR Series, featuring a perfect synergy between high dynamic efficiency that is typical of the innovative technology in MATRIX pneumatics and smart control system, is able to satisfy any application requirement, ensuring exceptionally high performance, quality standards and great operative flexibility.

Extremely rapid response times, ease of installation and use, no maintenance and very long operative life span are only a few of the highlights of these new products.



Main features

- Compact and lightweight design
- High-visibility digital display
- PWM proportional control
- Insensible to vibrations and accelerations
- Extremely fast response times
- Flowrate from 150 l/min up to 500 l/min
- Maintenance free long operating life (half a billion cycles)
- M12 or Hirschmann type IP65 connectors
- G1/4 threaded pneumatic connections
- User friendly keypad for manual control
- 0-5/0-10 VDC, 4-20 mA, keypad or RS232 remote control options
- High reliability and precision (hysteresis 1% from end value)

Description

Compact direct-operated electronic pressure regulators designed to accurately adjust and maintain the required output pressure. Equipped with an integrated microprocessor able to process inputs, signals and carry out complex functions, the EPR Series regulators easily interface with other industrial process control systems and can be configured to operate with different control options such as 0-5 / 0-10 VDC, 4-20 mA, keypad or RS232 remote connections.

The EPR Series (200, 300 and 500) is available in two basic versions:

- Analog: voltage, current and RS232 controls
- Digital: voltage, current, RS232 and keypad controls with display

Both versions can be equipped with M12 or DIN 43651 connectors

Typical applications

- Control of pilot-operated pressure regulators
- Remote monitoring and process control systems
- Precise pressure and force control for various industrial, medical and laboratory equipments and applications such as spot welding systems, actuators positioning, pneumatic suspensions, clamping devices, laser equipments, pneumatic brakes control systems, painting and dosing equipments, packaging and manufacturing machines, textile equipments, robotics, etc.

Advantages

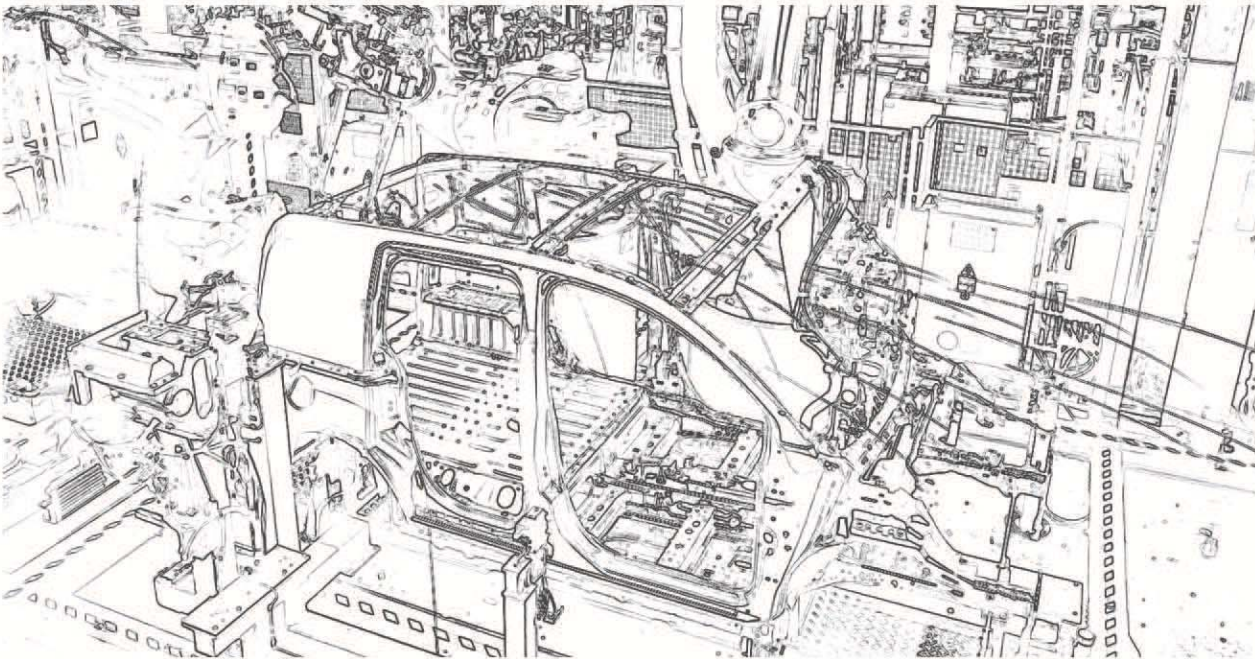
- Perfect integration with analog/digital control systems
- Display showing setpoint and measured pressure values (Digital version only)
- High flexibility with programmable configuration
- Fast response times (< 5 ms)
- High precision, repeatability and reliability
- Compact and rugged construction

Operation

The EPR Series regulates the output pressure by constantly monitoring the pressure setpoint value, the input control signal and the integrated pressure sensor signal. Any discrepancy translates in the opening of one of the internal 2/2 solenoid valves in order to restore the required pressure value. The speed and precision parameters of the pressure regulation can be configured by the operator through an RS232 connection or the keypad available for the Digital version.

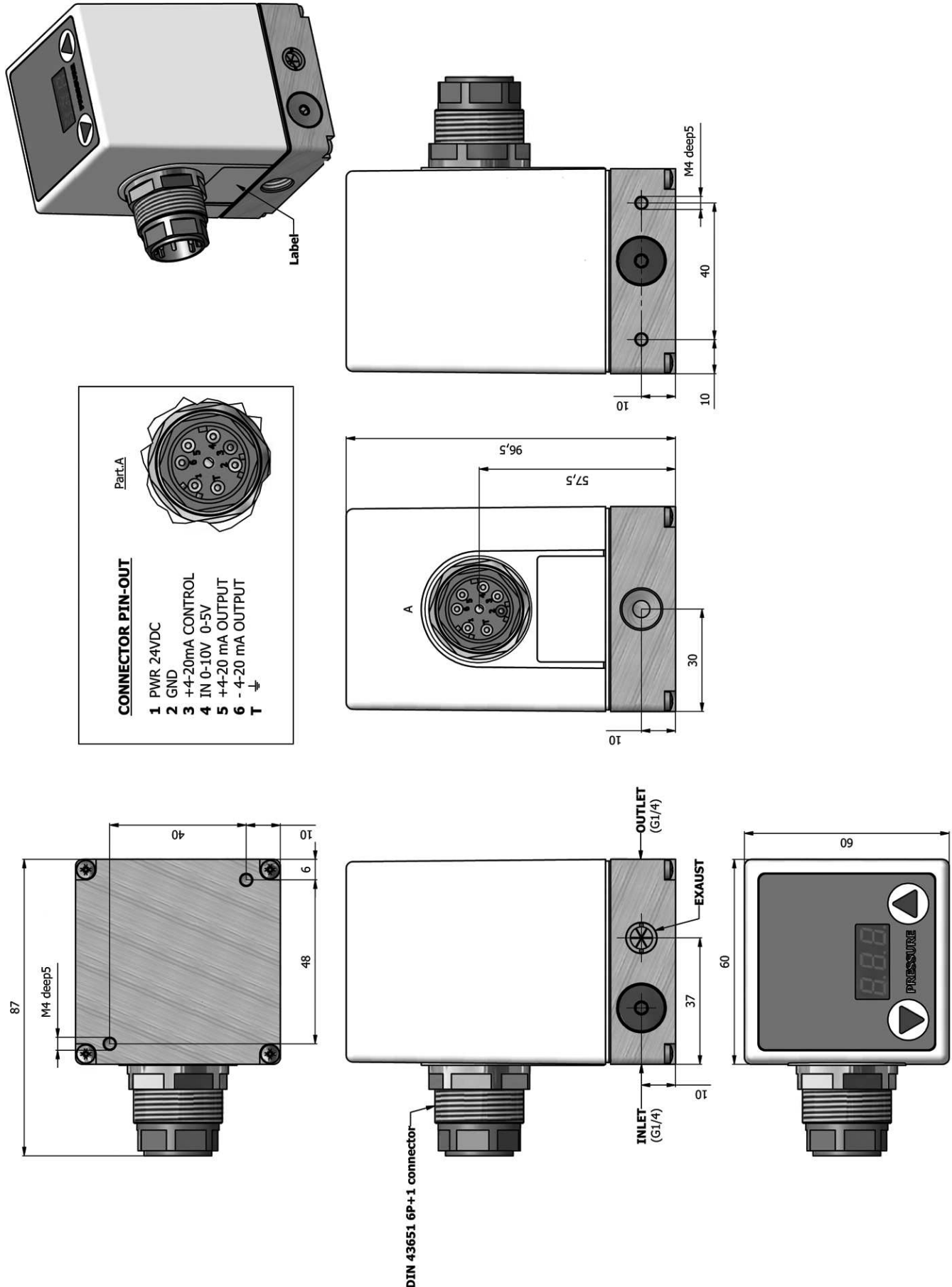
Once properly configured the pressure regulator can interrupt the regulation in case of inlet pressure lack (stand-by mode) for safety reasons until the proper inlet pressure value results restored.

Technical characteristics	EPR200	EPR300	EPR500
Dimensions	60 x 60 x 96.5 mm		
Weight	440 gr	465 gr	490 gr
Protection ratio	IP65		
Pneumatic connections	G ¼		
Operating temperature range	-10 +50°C		
Fluid	Non-lubricated dry air, neutral gases (-10 +50°C)		
Required filtration ratio	20 µm		
Power supply	24VDC +10%		
Max power consumption	1,5 A	2,2 A	3 A
Input signal	0-5V, 0-10V (impedance 10KΩ) 4-20mA (impedance 357Ω) RS232 (2400,n,8,1) keypad (Digital versions only)		
Max flowrate @ 6 bar	150 NI/min	300 NI/min	500 NI/min
Max inlet pressure	8 bar		
Outlet pressure range	0-7 bar		
Reaction time	5 ms		
Sensibility	<1% F.S.		
Linearity	<1% F.S.		
Hysteresis	<1% F.S.		
Repeatability	<1% F.S.		
IP65 electric connection	Round DIN 43651 (6 poles + G) M12 (8 poles)		

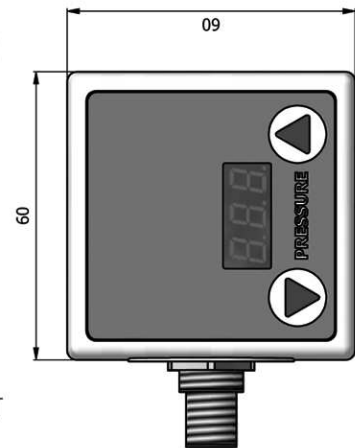
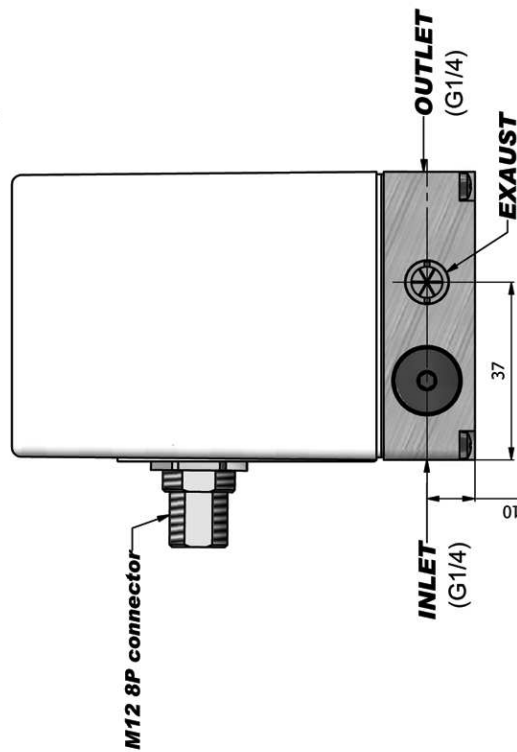
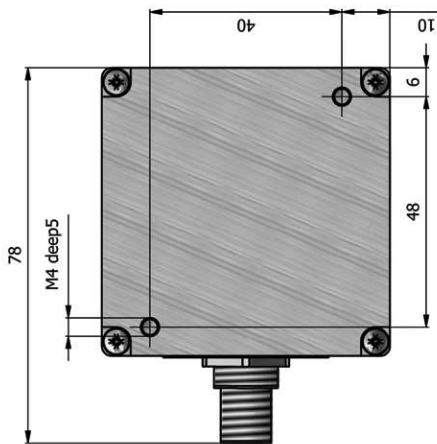
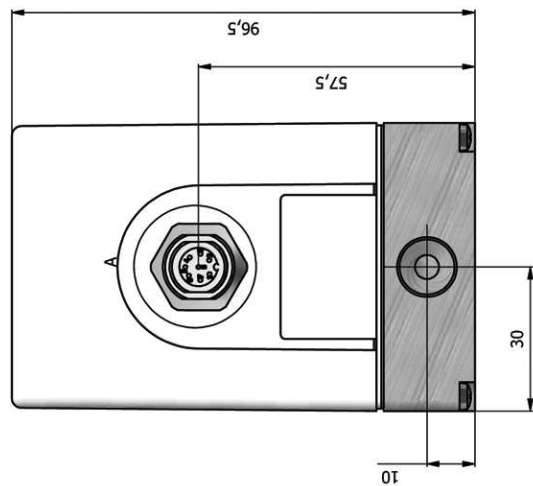
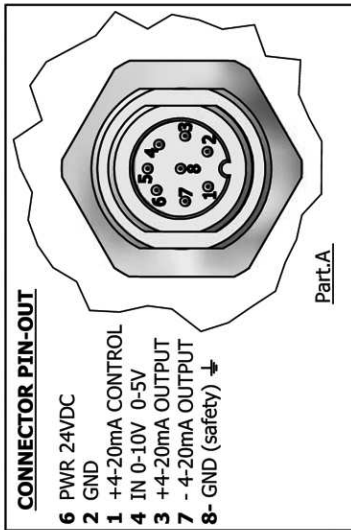
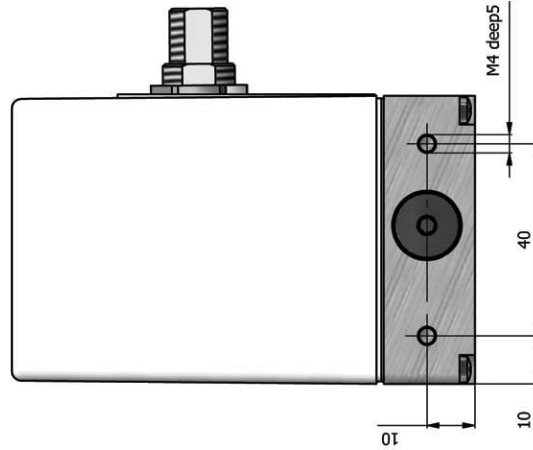
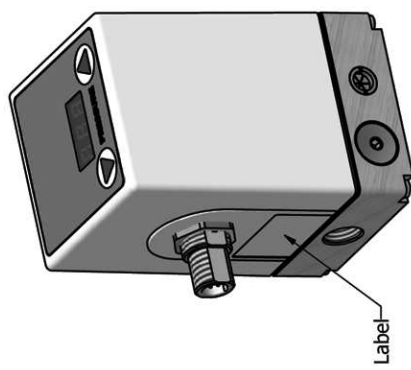


Identification code	Flowrate	Connection	Display / keypad	Code
EPR200AH	150 NI/min	DIN43651	N	820.815V
EPR200AM	150 NI/min	M12	N	820.820A
EPR200DH	150 NI/min	DIN43651	Y	820.800G
EPR200DM	150 NI/min	M12	Y	820.810Q
EPR300AH	300 NI/min	DIN43651	N	820.830K
EPR300AM	300 NI/min	M12	N	820.835P
EPR300DH	300 NI/min	DIN43651	Y	820.805L
EPR300DM	300 NI/min	M12	Y	820.825F
EPR500AH	500 NI/min	DIN43651	N	820.845Z
EPR500AM	500 NI/min	M12	N	820.850E
EPR500DH	500 NI/min	DIN43651	Y	820.480Y
EPR500DM	500 NI/min	M12	Y	820.840Y

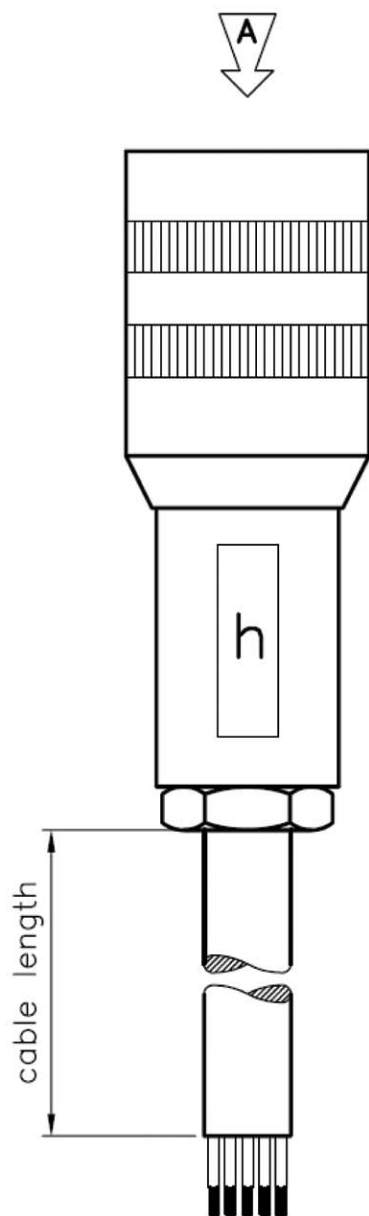
Round DIN43651 type connector dimensions and pin-out (H)



M12 8P type connector dimensions and pin-out (M)



Round DIN43651 type connection kit pin-out (H)



VIEW A



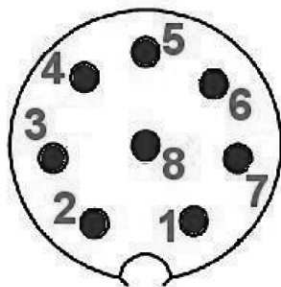
CONNECTIONS

- 1- PWR 24VDC
- 2- GND
- 3- +4-20 mA
- 4- IN 0-10V 0-5V
- 5- RX232
- 6- TX232
- T- ---

CABLE COLOUR

- RED
- GREEN
- GREY
- VIOLET
- BLACK
- ORANGE
- YELLOW

Kit Code	Cable length
820.818Y	2000 mm
820.819Z	5000 mm

M12 8P type connection kit pin-out (M)VIEW A**CONNECTIONS**

- 6-** PWR 24VDC
- 2-** GND
- 1-** +420 mA
- 4-** IN 0-10V 0-5V
- 3-** RX232
- 7-** TX232
- 8-** GND (safety) ↓

Kit Code	Cable length
903.164C	2000 mm
903.171J	5000 mm