

# Series K8P electronic proportional micro regulator

**News: use with oxygen**

Proportional regulator for the pressure control



- » High precision
- » Reduced response times
- » Minimum consumption
- » Self-regulation function
- » Flexibility of use
- » Compact design
- » Suitable for use with oxygen

Series K8P electronic proportional micro regulators have evolved from our Series K8 mini-solenoid valves. Series K8P regulators guarantee excellent pressure regulation, fast response times, self-regulation and low energy consumption. Series K8P is a high performance proportional pressure regulator which is suitable for use in all applications where high precision, quick response times and low consumption are required.

The K8P regulator adjusts the outlet pressure through the operation of two K8 monostable valves according to the inlet signal and to the retroactivity of the internal pressure sensor. A self-adjusting function has been integrated into the regulator control algorithm to guarantee the highest levels of performance apart from the volume connected.

SERIES K8P ELECTRONIC PROPORTIONAL MICRO REGULATOR

## GENERAL DATA

<b>Fluids</b>	filtered compressed air, unlubricated, according to ISO 8573-1 class 7.4.4, oxygen, inert gases (argon, molecular nitrogen)	
<b>Pressures</b>	Regulated pressure 0.5 ÷ 10 bar 0.15 ÷ 3 bar 0.35 ÷ 7 bar 0.05 ÷ 1 bar	Max inlet pressure 11 bar 4 bar 8 bar 1.5 bar
<b>Working temperature</b>	0 ÷ 50°C	
<b>Analogical input</b>	0-10 V DC	4-20 mA    Ripple ≤ 0,2%
<b>Analogical output</b>	0.5 - 9.5 V [ Feedback ]	
<b>Analog input impedance</b>	20.000 Ω for versions 0-10 V 250 Ω for versions 4-20 mA	
<b>Maximum flow</b>	12 l/min with regulated pressure = 6 bar (IN Pres. 10 bar) 6 l/min with regulated pressure = 3 bar (IN Pres. 4 bar) 8 l/min with regulated pressure = 7 bar (IN Pres. 8 bar) 2 l/min with regulated pressure = 1 bar (IN Pres. 1.5 bar)	
<b>Supply / Use</b>	24 V ~ 1 W	
<b>Function</b>	3/2 NC	
<b>Linearity</b>	≤ ±1% FS	
<b>Hysteresis</b>	±0.5% FS	
<b>Resolution</b>	±0.5% FS (referred to the command signal)	
<b>Repeatability</b>	±0.5% FS	
<b>Minimal set point change</b>	50 mV => 50 mB (10 bar) 100 mV => 30 mB (3 bar)	
<b>Electrical connection</b>	M8 4 Pin (Male)	
<b>Protection class</b>	IP65 (with standard sub-base or with single use) IP51 (with Light sub-base and Light Sub-base for the pressure remote reading)	
<b>In compliance with the European Directive 2004/108/EC</b>		

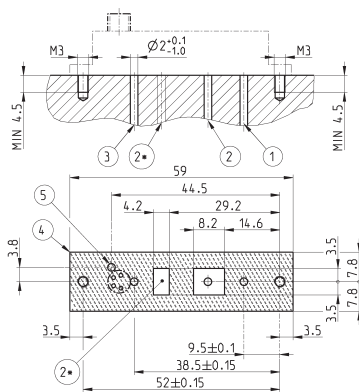
**CODING EXAMPLE**

<b>K8P</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>D</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>-</b>	<b>0</b>
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<b>K8P</b>	SERIES
<b>0</b>	<p><b>BODY DESIGN:</b>          0 = Stand alone          S = Standard Sub-base          L = Light Sub-base          T = Light Sub-base for the pressure remote reading</p>
<b>D</b>	<p><b>WORKING PRESSURE:</b>          D = 0 - 10 bar          E = 0 - 3 bar          F = 0 - 7 bar          B = 0 - 1 bar</p>
<b>5</b>	<p><b>VALVE FUNCTIONS:</b>          5 = 3/2-way NC</p>
<b>2</b>	<p><b>COMMAND:</b>          2 = 0-10 V DC          3 = 4-20 mA</p>
<b>2</b>	<p><b>OUTPUT SIGNAL:</b>          2 = 0-10 V</p>
<b>0</b>	<p><b>CABLE LENGTH:</b>          0 = without cable          2F = straight cable, 2 m          2R = right angle cable (90 degrees), 2 m          5F = straight cable, 5 m          5R = right angle cable (90 degrees), 5 m</p>
<b>OX1</b>	<p><b>VERSIONS:</b>          = standard          OX1 = for use with oxygen (in compliance with ASTM G93-03 Level E)</p>
<p><b>APPLICATIONS</b></p> <p>The K8P proportional regulator can be used as a pilot valve to control the opening of high flow valves or to check the high flow pressure regulators proportionally (version with sub-base for the pressure remote reading). It enables proportional control of power in lifting systems and can be used with inert gas to maintain a constant pressure in pneumatic cylinders or expansion valve chambers. It has also been designed to maintain a constant pressure during the pulling power applied to the wires in winding machines, to modulate pressure during the smoothing process in woodworking machines or to adjust the opening of diaphragm valves.</p>	

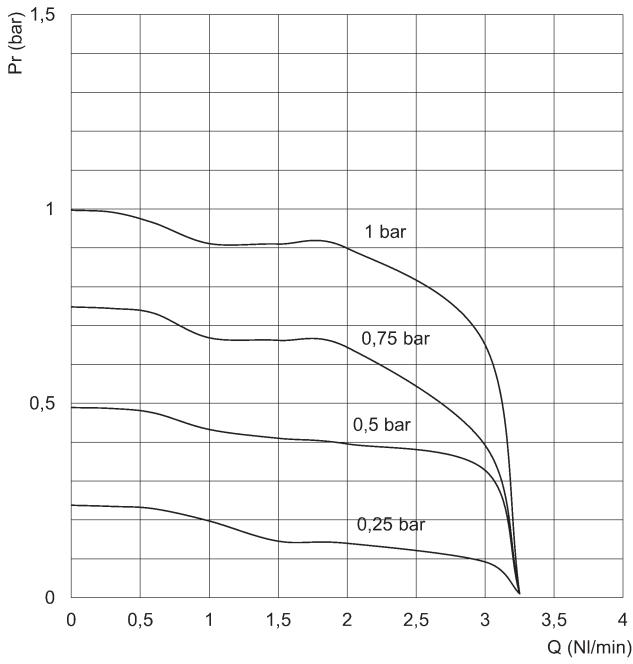
SERIES K8P ELECTRONIC PROPORTIONAL MICRO REGULATOR

**Interface for single use without sub-base**



DRAWING LEGEND	
Notes	
<b>1 = Inlet pressure</b>	Pneumatic connection
<b>2 = Outlet pressure</b>	Pneumatic connection
<b>2* = area for possible positioning of outlet port 2</b>	Do not exceed the indicated outline
<b>3 = Exhaust</b>	Pneumatic connection
<b>4 = OUTLET DIMENSION</b>	
<b>5 = VENT PORT FOR IP65</b>	Optional when a OR seal is mounted

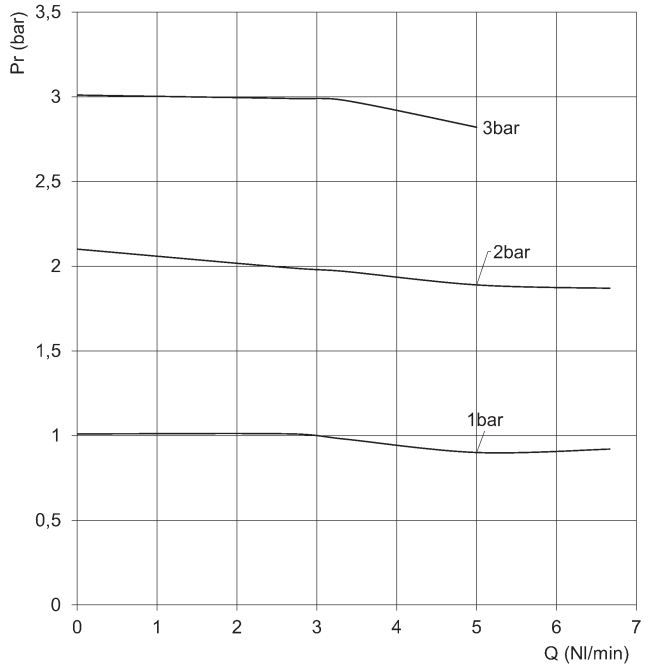
**FLOW DIAGRAMS**



0-1 bar version

Pr = Outlet pressure (bar)\*  
Q = Flow (NL/min)\*

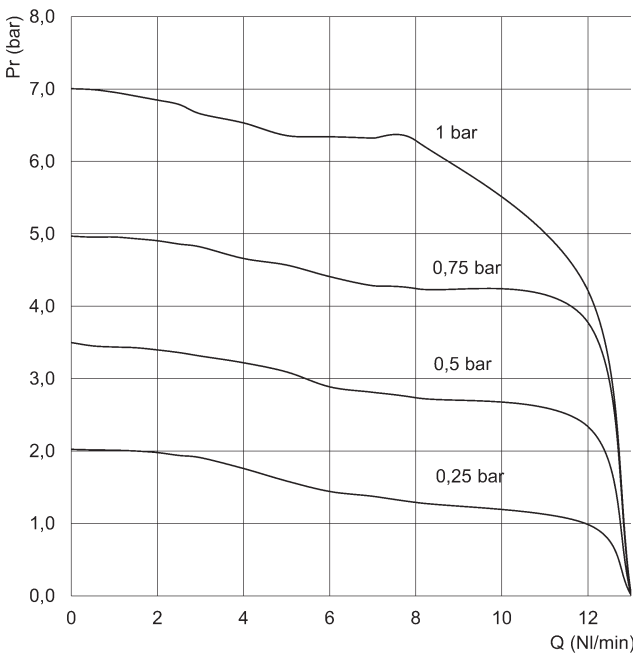
\* = Inlet pressure 2 bar



0-3 bar version

Pr = Outlet pressure (bar)\*  
Q = Flow (NL/min)\*

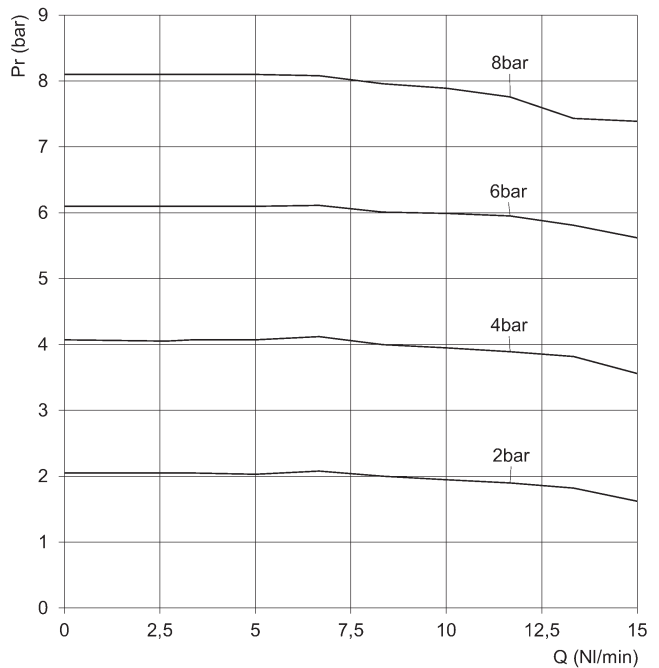
\* = Inlet pressure 4 bar



0-7 bar version

Pr = Outlet pressure (bar)\*  
Q = Flow (NL/min)\*

\* = Inlet pressure 8 bar



0-10 bar version

Pr = Outlet pressure (bar)\*  
Q = Flow (NL/min)\*

\* = Inlet pressure 10 bar

SERIES K8P ELECTRONIC PROPORTIONAL MICRO REGULATOR

## Series K8P electronic proportional micro regulator

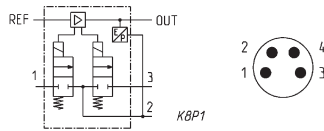
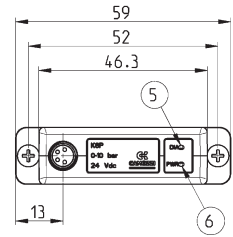
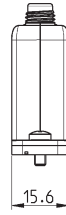
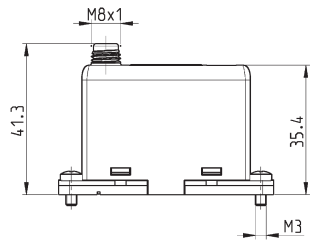
\* = sub-bases and single use can be supplied for all versions.  
\*\* = all the cables can be supplied for all versions.



M8 4-pole male connector

Pin 1: +24 V DC (Power supply)  
Pin 2: Command analogical signal 0-10 V DC or 4-20 mA  
Pin 3: 0 V (Ground) common also for the command signal  
Pin 4: Output analogical signal (according to the regulated pressure)

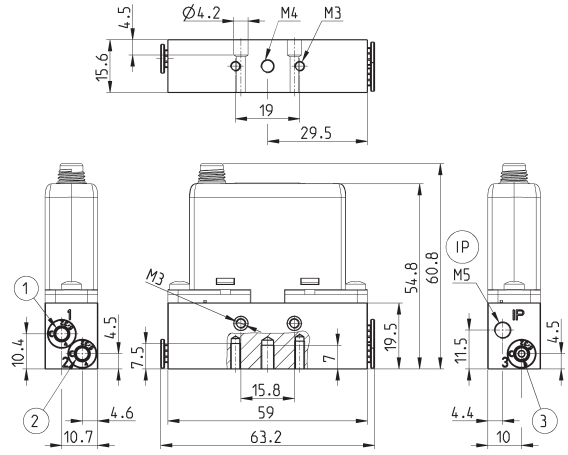
5 red LED  
6 green LED



Mod.	Working pressure	Use with oxygen	Command
K8P-*-D522-**	0-10 bar	no	0-10 V DC
K8P-*-E522-**	0-3 bar	no	0-10 V DC
K8P-*-D532-**	0-10 bar	no	4-20 mA
K8P-*-E532-**	0-3 bar	no	4-20 mA
K8P-*-B522-**	0-1 bar	no	0-10 V DC
K8P-*-F522-**	0-7 bar	no	0-10 V DC
K8P-*-B532-**	0-1 bar	no	4-20 mA
K8P-*-F532-**	0-7 bar	no	4-20 mA
K8P-*-B522-**OX1	0-1 bar	yes	0-10 V DC
K8P-*-F522-**OX1	0-7 bar	yes	0-10 V DC
K8P-*-E522-**OX1	0-3 bar	yes	0-10 V DC
K8P-*-B532-**OX1	0-1 bar	yes	4-20 mA
K8P-*-F532-**OX1	0-7 bar	yes	4-20 mA
K8P-*-E532-**OX1	0-3 bar	yes	4-20 mA

### Standard Sub-base

The use of a silencer (Mod. 2939 4) on the exhaust is recommended.



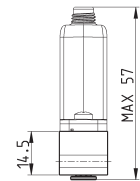
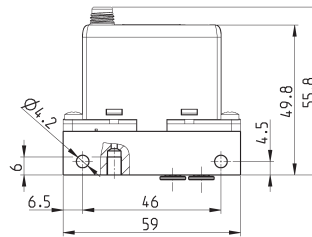
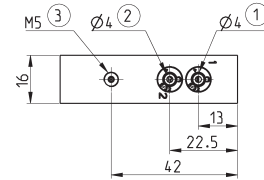
Mod.  
K8P-AS

1 = Inlet pressure  
2 = Outlet pressure  
3 = Exhaust

IP = IP65 connection

### Light Sub-base

The use of a silencer (Mod. 2931 M5, 2938 M5, 2901 M5) on the exhaust is recommended.

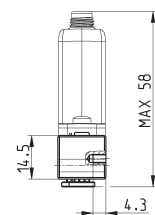
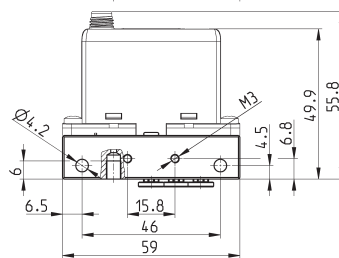
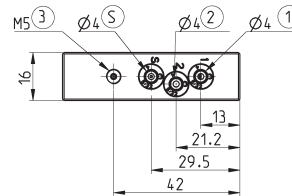


Mod.  
K8P-AL

1 = Inlet pressure  
2 = Outlet pressure  
3 = Exhaust

### Light Sub-base for the pressure remote reading

The use of a silencer (Mod. 2931 M5, 2938 M5, 2901 M5) on the exhaust is recommended.



Mod.  
K8P-AT

1 = Inlet pressure  
2 = Outlet pressure  
3 = Exhaust

S = remote-mounted sensor

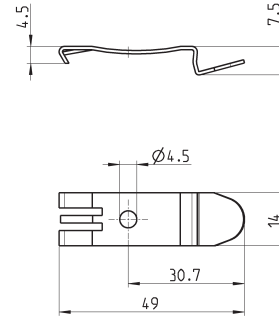
### Mounting bracket for DIN rail



DIN EN 50022 (7,5mm x 35mm - width 1)

Supplied with:  
1x mounting bracket  
1x screw M4x6 UNI 5931

This accessory cannot be used with the Light sub-base.

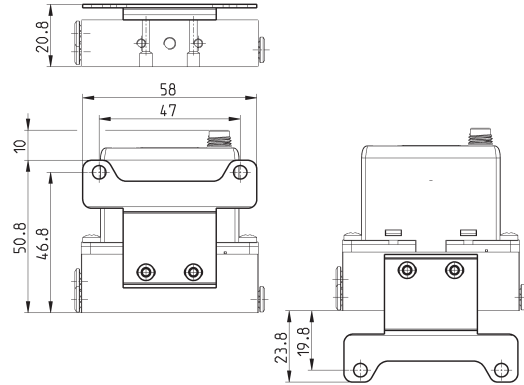


Mod.
PCF-K8P

### Bracket for horizontal mounting, for standard sub-base



Supplied with:  
1x mounting bracket  
2x screws M3x8 UNI 5931

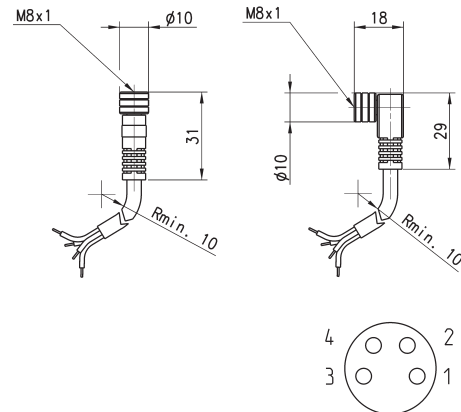


Mod.
K8P-B1

### Circular M8 4-pole connectors, Female



With PU sheathing, non shielded cable.  
Protection class: IP65



Mod.	Type of connector	Cable length (m)
CS-DF04EG-E200	straight	2
CS-DF04EG-E500	straight	5
CS-DR04EG-E200	right angle (90 degrees)	2
CS-DR04EG-E500	right angle (90 degrees)	5