

# Series K8P electronic proportional micro regulator

New 

Proportional regulator for the pressure control



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

2

CONTROL

**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.

## GENERAL DATA

|                             |  |         |               |
|-----------------------------|--|---------|---------------|
| Fluids                      | Inert gas  |         |               |
| Range of regulated pressure | 0.5 ÷ 10 bar<br>0.15 ÷ 3 bar   |         |               |
| Max inlet pressure          | 11 bar (0.5 ÷ 10 bar)<br>4 bar (0.15 ÷ 3 bar)  |         |               |
| Analogical input            | 0-10 V DC  | 4-20 mA | Ripple ≤ 0,2% |
| Analogical output           | 0.5 - 9.5 V [ Feedback ]   |         |               |
| Maximum flow                | Inlet P 10 bar - regulated P 6 bar 12 l/min<br>Inlet P 4 bar - regulated P 3 bar 6 l/min |         |               |
| Supply / Use                | 24 V - ~1 W  |         |               |
| Function                    | 3/2 NC   |         |               |
| Linearity                   | ≤ ± 1% FS  |         |               |
| Hysteresis                  | ±0,5% FS   |         |               |
| Repeatability               | ±0,5% FS   |         |               |
| Minimal set point change    | 50 mV => 50 mB ( 10 bar ) - 100mV => 30 mB ( 3 bar )                                     |         |               |
| Electrical connection       | M8 4 Pin ( Male )  |         |               |

**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> |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

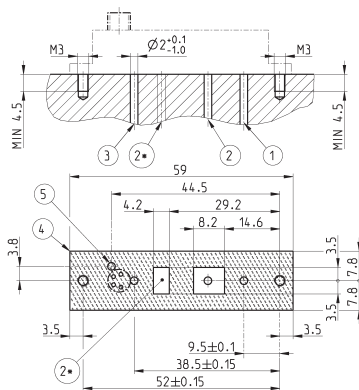
|   |  |
|---|--|
| <b>K8P</b>  | SERIES   |
| <b>0</b>  | BODY DESIGN:<br>0 = Stand alone<br>S = Standard Sub-base<br>L = Light Sub-base<br>T = Light Sub-base for the pressure remote reading   |
| <b>D</b>  | WORKING PRESSURE:<br>D = 0 -10 bar<br>E = 0 - 3 bar  |
| <b>5</b>  | VALVE FUNCTIONS:<br>5 = 2-way NC   |
| <b>2</b>  | COMMAND:<br>2 = 0-10 V DC<br>3 = 4-20 mA   |
| <b>2</b>  | OUTPUT SIGNAL:<br>2 = 0-10 V   |
| <b>0</b>  | CABLE LENGTH:<br>0 = without cable<br>2F = straight cable, 2 m<br>2R = right angle cable (90 degrees), 2 m<br>5F = straight cable, 5 m<br>5R = right angle cable (90 degrees), 5 m |
| <b>APPLICATIONS</b><br><br>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).<br>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.<br>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. |  |

**2**

CONTROL

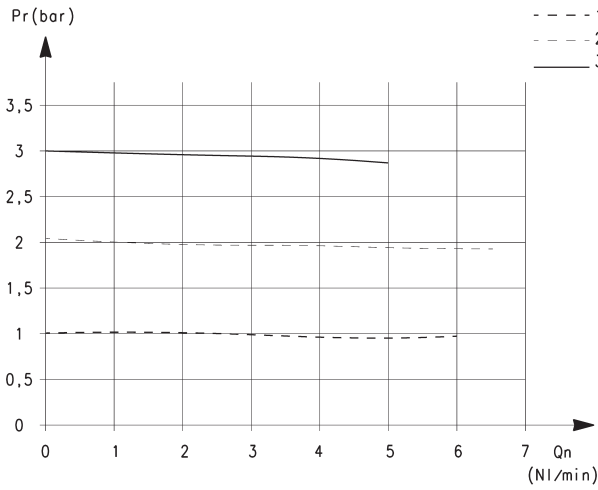
**Interface for single use without sub-base**

New


**DRAWING LEGEND**

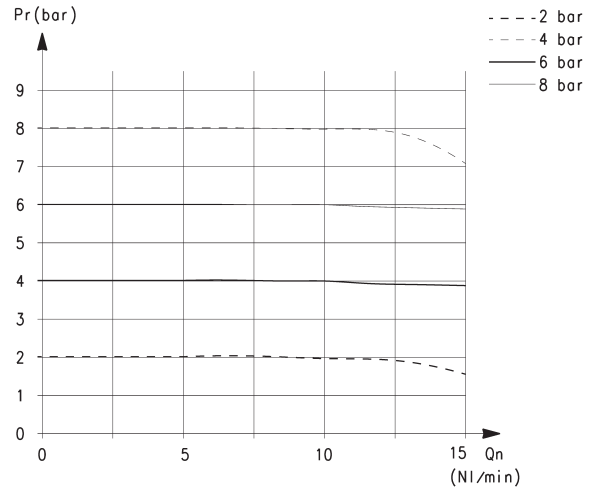
|  | Notes                               |
|--|-------------------------------------|
| <b>1 = Supply</b>  | Pneumatic connection                |
| <b>2 = Outlet</b>  | Pneumatic connection                |
| <b>2* = area for possible positioning of outlet port 2</b> | Do not exceed the indicated outline |
| <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



Pr = Outlet pressure (bar)\*  
Qn = Flow (NI/min)\*

\* = Inlet pressure 4 bar



Pr = Outlet pressure (bar)\*  
Qn = Flow (NI/min)\*

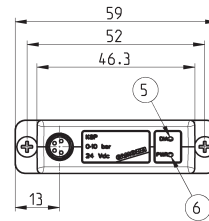
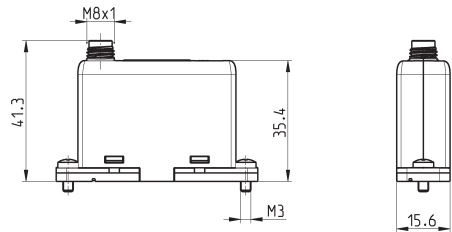
\* = Inlet pressure 10 bar

Series K8P electronic proportional micro regulator - dimensions

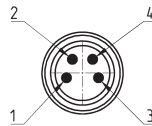
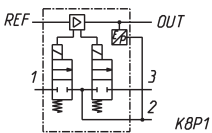


MALE CONNECTOR M8 4 POLES  
Pin 1: +24 V DC (Power supply)  
Pin 2: Command analogical signal 0-10 V DC or 4-20 mA  
Pin 3: 0 V (Ground) common also for the command signal  
Pin 4: Output analogical signal (according to the regulated pressure)

5 red LED  
6 green LED



NOTE TO THE TABLE  
\* according to the type of command desired, insert:  
2 (0-10 V DC) or  
3 (4-20 mA)

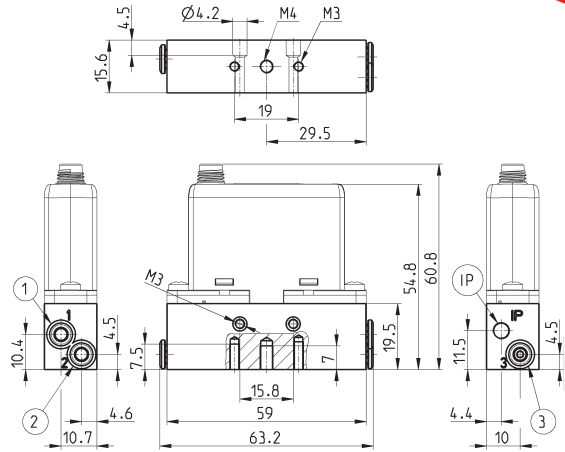


|              |
|--------------|
| Mod.         |
| K8P-0-D5*2-0 |
| K8P-0-E5*2-0 |
| K8P-L-E5*2-0 |
| K8P-L-D5*2-0 |
| K8P-S-D5*2-0 |
| K8P-S-E5*2-0 |
| K8P-T-D5*2-0 |
| K8P-T-E5*2-0 |

**Standard Sub-base**

Note: the use of a silencer on the exhaust is recommended. \*

\* Mod. 2939 4


**New**


1 = Power supply  
2 = Outlet  
3 = Exhaust

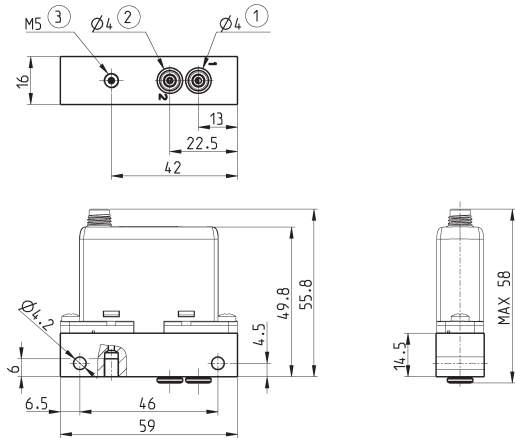
IP = IP65 connection

Mod.  
**K8P-AS**

**Light Sub-base**

Note: the use of a silencer on the exhaust is recommended. \*

\* Mod. 2931 M5, 2938 M5, 2901 M5


**New**


1 = Power supply  
2 = Outlet  
3 = Exhaust

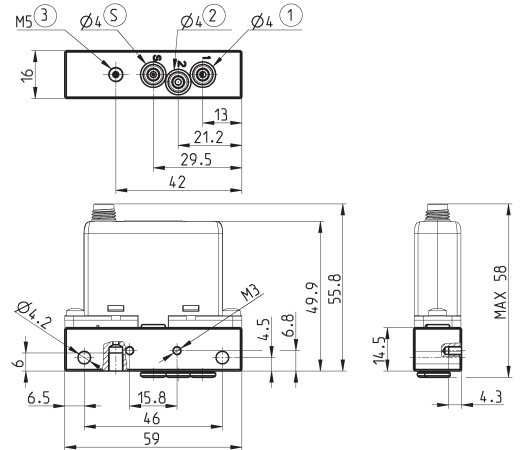
Mod.  
**K8P-AL**

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

Note: the use of a silencer on the exhaust is recommended. \*

\* Mod. 2931 M5, 2938 M5, 2901 M5

In the version Light sub-base for the pressure remote reading it is also possible to use the fixing bracket B2-E531 (see page 5/2.05.15).


**New**


1 = Power supply  
2 = Outlet  
3 = Exhaust

S = remote-mounted sensor

Mod.  
**K8P-AT**

**New**

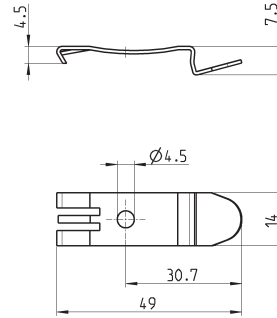
**Mounting bracket for DIN rail**

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



Supplied with:  
1x plate  
1x screw M4x6 UNI 5931

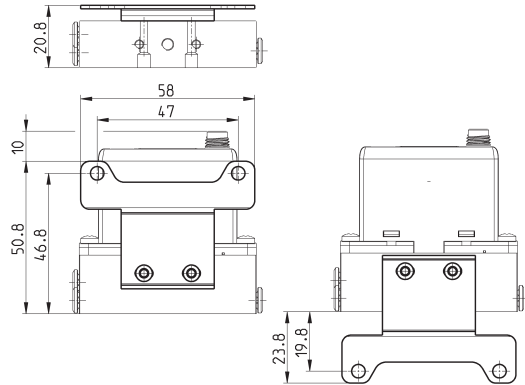
Note: this accessory cannot be used with the Light sub-base version.



Mod.  
**PCF-K8P**

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

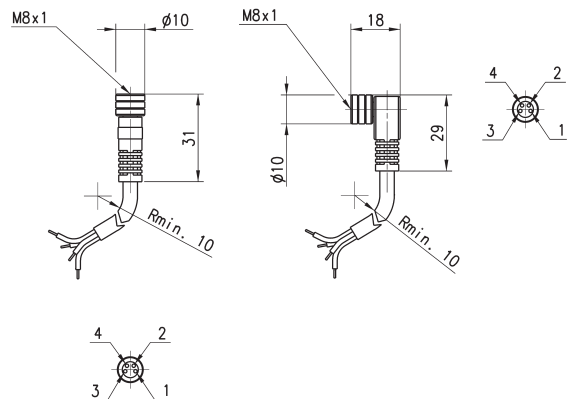
Supplied with:  
1x mounting bracket  
2x screws M3x8 UNI 5931



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) |
|-----------------------|--------------------------|------------------|
| <b>CS-DF04EG-E200</b> | straight                 | 2                |
| <b>CS-DF04EG-E500</b> | straight                 | 5                |
| <b>CS-DR04EG-E200</b> | right angle (90 degrees) | 2                |
| <b>CS-DR04EG-E500</b> | right angle (90 degrees) | 5                |