

Series 130 electronic control device for proportional valves

PWM control device, with current control system for directly operated proportional valves



- » Closed loop current control (max current that can be provided = 1A)
- » Management of up and down ramp
- » Command signal 0-10V and 4-20mA
- » Regulation of min and max current (Span and Offset)

Series 130 electronic control device allows to pilot any proportional valve with a maximum current of 1 A. It turns a standard inlet signal (0-10V or 4-20 mA) into a PWM signal to obtain at the solenoid outlet a current which is proportional to the inlet signal.

A control system of the provided current allows to compensate variations due to heating of the solenoid or to the variation of the supply voltage. It is possible to adjust the maximum current and the minimum current provided to the solenoid. The outlet signal can have a ramp progress that is adjustable between 0 and 5 s. The device has a firmware dedicated to the proportional valve to pilot in order to guarantee the best

GENERAL DATA

| | |
|---|--|
| Material of container | Polycarbonate |
| Electrical connections | screw |
| Environmental temperature | 0 ÷ 50°C |
| Mounting | in any position |
| Power supply | 6 V ÷ 24 V DC (± 10%) |
| Consumption | 0.4 W (without valve) |
| Analogical input | 0 ÷ 10 V 4 ÷ 20 mA |
| Input impedance | >30 Kohm with inlet under voltage <200 ohm with inlet under current |
| Output PWM | 120 Hz ÷ 11.7 KHz (fixed, according to the valve chosen) |
| Maximum current (valve) | 1 A |
| Protection | Polarity inversion, short circuit of the outlet |
| External diameter of cable jacket | 5 ÷ 7.5 mm with seal only 4 ÷ 6 mm with reducer and seal |
| Conductor section | 26 ÷ 16 AWG / 0,13 ÷ 1,5 mm ² |
| Maximum length supply/signal cable | 10 m |
| Maximum length valve cable | 5 m |
| IP protection class according to EN 60529 | IP 54 |
| Ramp function | Adjustable time from 0 to 5 s |
| Regulation min. current (Offset) | 0% ÷ 40% F.S. |
| Regulation maximum current | 50% ÷ 100% F.S. |

CODING EXAMPLE

| | | | | |
|------------|--|----------|----------|----------|
| 130 | - | 2 | 2 | 2 |
| 130 | SERIES | | | |
| 2 | VOLTAGE: 2 = 24 V DC (max power 24 W) 3 = 12 V DC (max power 12 W) 4 = 6 V DC (max power 6 W) 5 = 11 V DC (max power 11 W) | | | |
| 2 | POWER: 1 = 3 W 2 = 6.5 W 3 = 3.2 W 4 = 4.3 W 5 = 10 W 6 = 4.2 W | | | |
| 2 | PWM FREQUENCY: 2 = 500 Hz 3 = 1 KHz | | | |

SERIES 130 ELECTRONIC CONTROL DEVICE

NOTE: it is possible to realize configurations with voltage, power and PWM frequency values that are not yet foreseen in the coding example. For further information we suggest you to contact our technical department.

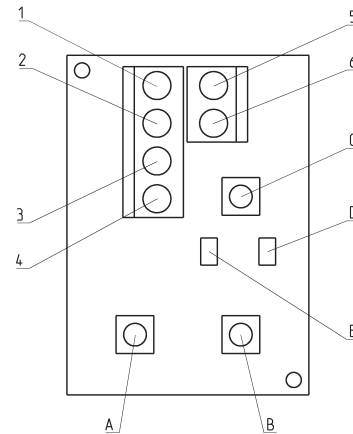
ELECTRICAL CONNECTIONS AND SETTINGS

DRAWING LEGEND:

- 1 = 6 ÷ 24 V DC (supply)
- 2 = 0 V (Ground) common also for the reference signal
- 3 = analogical reference signal 0 ÷ 10V DC
- 4 = analogical reference signal 4 ÷ 20 mA
- A = regulation of min. current (OFFSET)
- B = regulation of max. current (SPAN)
- C = regulation of the PWM outlet up and down ramp
- D = red LED
- E = yellow LED

Note 1: the GND of the reference signal and the GND of supply have to be linked together.

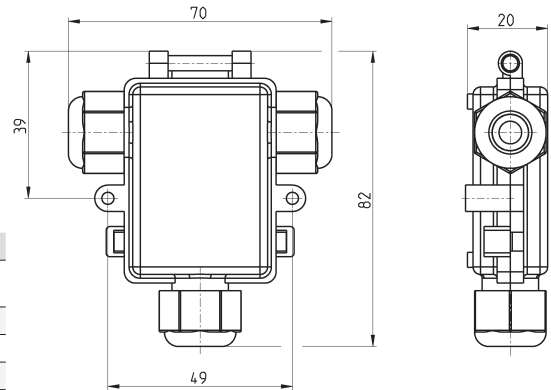
Note 2: For the valve connection use a connector without protection - diodes, varistors, etc... - as these might alter the regulation of the device.



Series 130 electronic control device

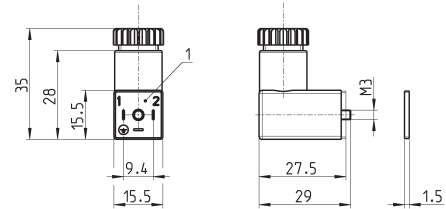


NOTE: it is possible to realize configurations with voltage, power and PWM frequency values that are not shown in the table below. For further information we suggest you to contact our technical department.



| Mod. | Matching valve family | Valve voltage (Output) | Adjusted power | Adjusted frequency |
|----------------|---|------------------------|----------------|--------------------|
| 130-222 | Series AP - size 22 mm | 24 V DC | 6.5 W | 500 Hz |
| 130-322 | Series AP - size 22 mm | 12 V DC | 6.5 W | 500 Hz |
| 130-252 | Series AP - size 22 mm | 24 V DC | 10 W | 500 Hz |
| 130-352 | Series AP - size 22 mm | 12 V DC | 10 W | 500 Hz |
| 130-213 | Series AP - size 16 mm | 24 V DC | 3 W | 1000 Hz |
| 130-313 | Series AP - size 16 mm | 12 V DC | 3 W | 1000 Hz |
| 130-433 | Series CP - size 16 mm | 6 V DC | 3.2 W | 1000 Hz |
| 130-533 | Series CP - size 16 mm | 11 V DC | 3.2 W | 1000 Hz |
| 130-233 | Series CP - size 16 mm | 24 V DC | 3.2 W | 1000 Hz |
| 130-442 | Series CP - size 20 mm | 6 V DC | 4.3 W | 500 Hz |
| 130-342 | Series CP - size 20 mm | 12 V DC | 4.3 W | 500 Hz |
| 130-242 | Series CP - size 20 mm | 24 V DC | 4.3 W | 500 Hz |
| 130-463 | Series CP pressure compensated - size 20 mm | 6 V | 4.2 W | 1000 Hz |
| 130-363 | Series CP pressure compensated - size 20 mm | 12 V | 4.2 W | 1000 Hz |
| 130-263 | Series CP pressure compensated - size 20 mm | 24 V | 4.2 W | 1000 Hz |

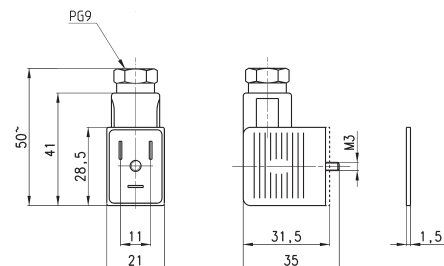
Connector Mod. 125-800 DIN 43650 pin spacing 9,4mm



| Mod. |
|----------------|
| 125-800 |

1 = 90° adjustable connector

Connector Mod. 122-800 DIN 43650 (PG)



| Mod. | Torque (Nm) |
|----------------|-------------|
| 122-800 | 0.5 |