

Series 130 electronic control device for proportional valves

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



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.

- » 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)

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 and 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 performance.

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.

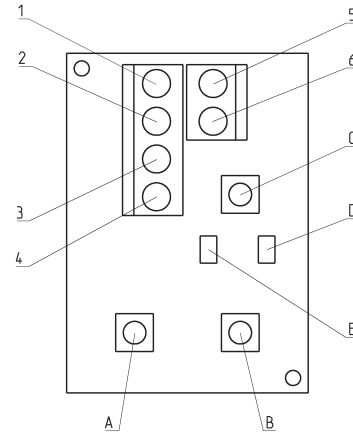
ELECTRICAL CONNECTIONS AND SETTINGS

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.

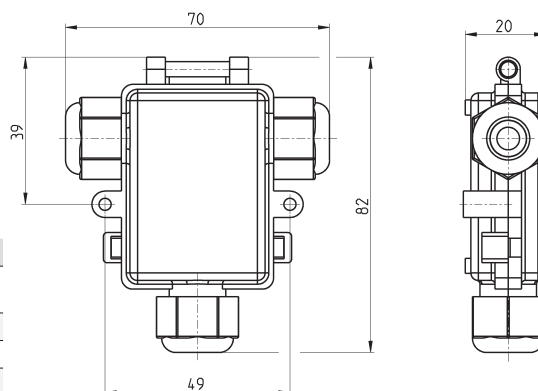
Note 2: For the valve connection use a connector without protection - diodes, varistors, etc... - as these might alter the regulation of the device.



Series 130 electronic control device

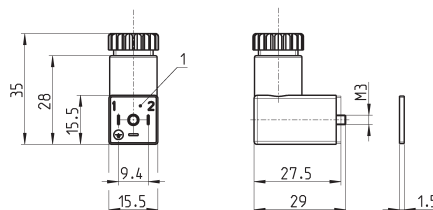


NOTE: it is possible to realize configurations with voltage, power and PWM frequency values that are not shown in the table below. For further information we suggest you to contact our technical department.



Mod.	Matching valve family	Valve voltage (Output)	Adjusted power	Adjusted frequency
130-222	Series AP - size 22 mm	24 VDC	6.5 W	500 Hz
130-322	Series AP - size 22 mm	12 VDC	6.5 W	500 Hz
130-252	Series AP - size 22 mm	24 VDC	10 W	500 Hz
130-352	Series AP - size 22 mm	12 VDC	10 W	500 Hz
130-213	Series AP - size 16 mm	24 VDC	3 W	1000 Hz
130-313	Series AP - size 16 mm	12 VDC	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 VDC	3.2 W	1000 Hz
130-233	Series CP - size 16 mm	24 VDC	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 VDC	4.3 W	500 Hz
130-242	Series CP - size 20 mm	24 VDC	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

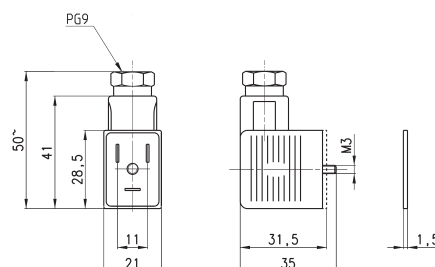
Connector Mod. 125-800 DIN 43650 pin spacing 9,4mm



Mod.
125-800

1 = 90° adjustable connector

Connector Mod. 122-800 DIN 43650 (PG)



Mod.	Torque (Nm)
122-800	0.5