

Electronic controller
EPC-H02
12 - 24 V DC
2.0 A

Technical Information

Encapsulated miniaturized electronic controller with DIN 43650 - ISO 4400 connection for open-loop driving of proportional solenoid valves.
 Protection against power supply polarity inversion and coil short circuit.

Potentiometric control of minimum and maximum current and of up and down ramps. A yellow led is ON when the system is powered.

Applications

1 - On-Off switch operation and use of acceleration and deceleration ramps

Connect the 3 Pin and the GND Pin to the switch (normally open). When the switch is closed, maximum voltage is applied to the input signal taking the coil's current to its maximum value.

The opening of the switch cuts off the flow of current into the coil. The **ramp up** and **ramp down** potentiometers allow to control - by means of linear ramps - time taken by the current to rise from minimum to maximum and fall from maximum to minimum respectively.

The current's minimum and maximum values can be adjusted using the **offset** and **full load** potentiometers respectively.

2 - Control using an external power source

Connect the control signal to Pin 3 and the ground (0V) to Pin 2. The input voltage to Pin 3 can vary from 0 to 10 V. The solenoid valve's control current is proportional to the control voltage. With the maximum driving voltage (10 V) adjust the **full load** potentiometer so as to obtain the maximum required current.

3 - Control using a potentiometer

Connect one end of the potentiometer and the GND Pin and the other end to Pin 2.
 Connect the potentiometer's output pin to Pin 3.

It is advisable to use potentiometers with a resistance of 5kOhm. The potentiometers resistance must in any case be within the 2kOhm and 10kOhm range.

4 - Two axis control with joystick

This type of control can be carried out using a two-axis joystick converter and two EPC-H02 connectors. The joystick is connected to the converter, as well as the power supply. In turn, the converter is connected to the two connectors, thus controlling them directly. The current and ramps of the two controllers are always independent. By doubling up the system it is possible to set up four axis system.

Setting instructions

After connecting the system, verify that the hydraulically-driven cylinder moves either by moving the potentiometer or by using the switch.

Set the **ramp up** and the **ramp down** potentiometers to zero by turning them fully counterclockwise.

Set the external control potentiometer to zero (or open the switch) and set the minimum current using the **offset** potentiometer, by turning it until the controlled device just starts to move: in this way the system will be set to move without delay.

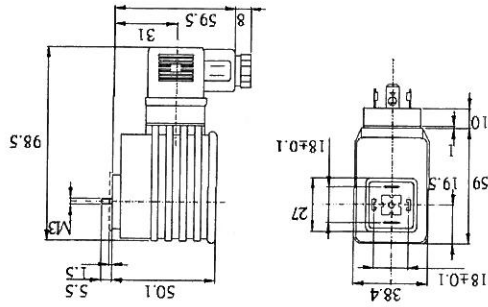
Set the **full load** potentiometers to zero and bring the control potentiometer to its maximum setting (or close the switch); turn the **full load** potentiometers until the controlled device reaches the end of its travel, then turn the **full load** potentiometers back until the controlled device moves back slightly.

After tuning the stroke start and end points in this way, adjust the ramp speed as required through the **ramp up** and the **ramp down** controls, which do not affect the previously set controls.

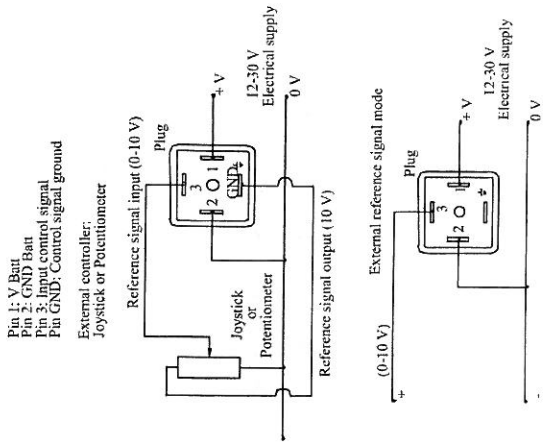
Technical Specifications

Power supply (abs. min-max)	12 - 30 V DC
Rectified and filtered ripple voltage	10%
Output current (adjustable)	0 - 2 A
Maximum no-load current absorbed	30 mA
Offset current (adjustable) (min-max)	0 - 0.55 A
Max. average absorbed power	35 W
Dither frequency (adjustable)	100 - 500 Hz
Adjustment (independ.) of ramp times	0.1 - 10 s
Operating temperature	-20 / +70 °C
Protection rating	IP 65
Weight	100 g

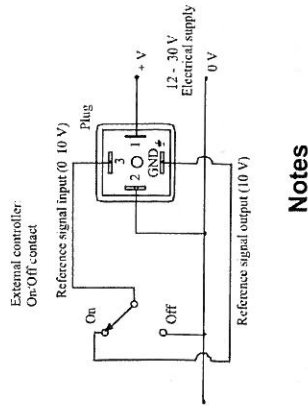
External Dimensions



Electrical Connections



Electrical Connections (cont.)



Notes

Electrical supply voltage ranges between 12 and 30 V DC. A power supply with rectified and filtered current is required. Use of a 4700 µF - 35V electrolytic capacitor is recommended.

The regulator is suitable for driving 12 or 24 V DC solenoid valves. In order to ensure the coil's maximum rated operating current, the controller supply voltage must be at least 1.5 V higher than the coil's nominal voltage rating.