CEP.S.. ELECTRONIC AMPLIFIER PLUG VERSION

## FOR SINGLE SOLENOID PROPORTIONAL VALVE.

aron SpA

The electronic amplifier Plug version was designed in compliance whit EN 175301-803 (ex DIN43650), for direct mounting on the valve solenoid. The CEP.S can used whit proportional valves XD.*.A..., XDP.*.A..., XP.3..., XQP.*..., CXQ.3.. .

The output stage operates on the pulse width modulation principle (P.W.M.) and is provided with current feedback in order to obtain a solenoid output current proportional to the reference input signal.

Gain, minimum current and rise and fall ramp time adjustments are possible through the corresponding potentiometers fitted on top side of the card, and can be accessed by slackening the relative screw and opening the cover of the connector. While the output current to the solenoid can be measured via the Valve Current test points.
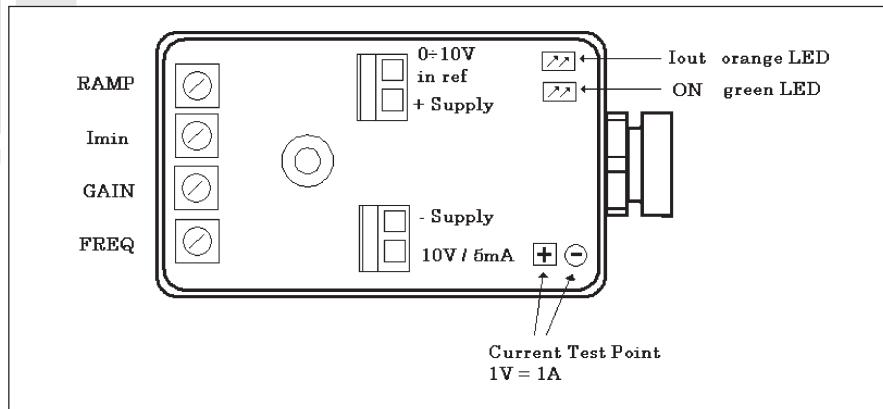
CEP.S...	
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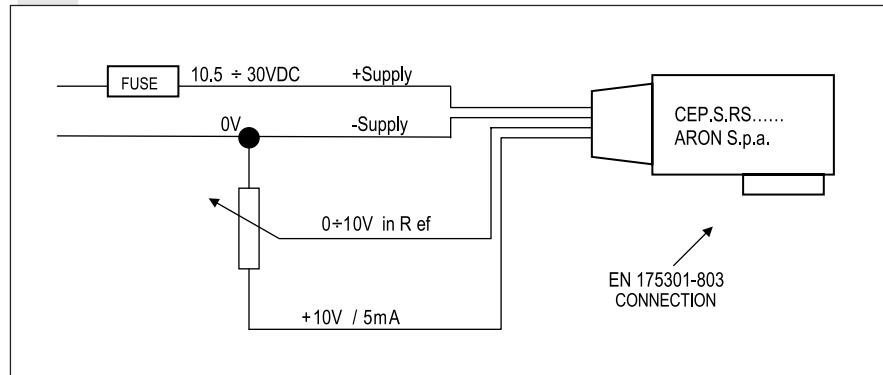
ORDERING CODE

CEP	Electronic amplifier Plug version
S	Single solenoid control
RS	Symmetrical ramp
*	Max. output current (Imax) **X** = 0.88 Amp **Y** = 1.76 Amp **Z** = 2.50 Amp
0	Input reference signal 0 ÷ 10V
*	PWM frequency **2** = 400 Hz **3** = 150 Hz
00	No variant
1	Serial number

SETTINGS TOPOGRAPHY

RAMP
Imin
GAIN
FREQ

0÷10V in ref
+ Supply
- Supply
10V / 5mA

Iout orange LED
ON   green LED

Current Test Point
1V = 1A
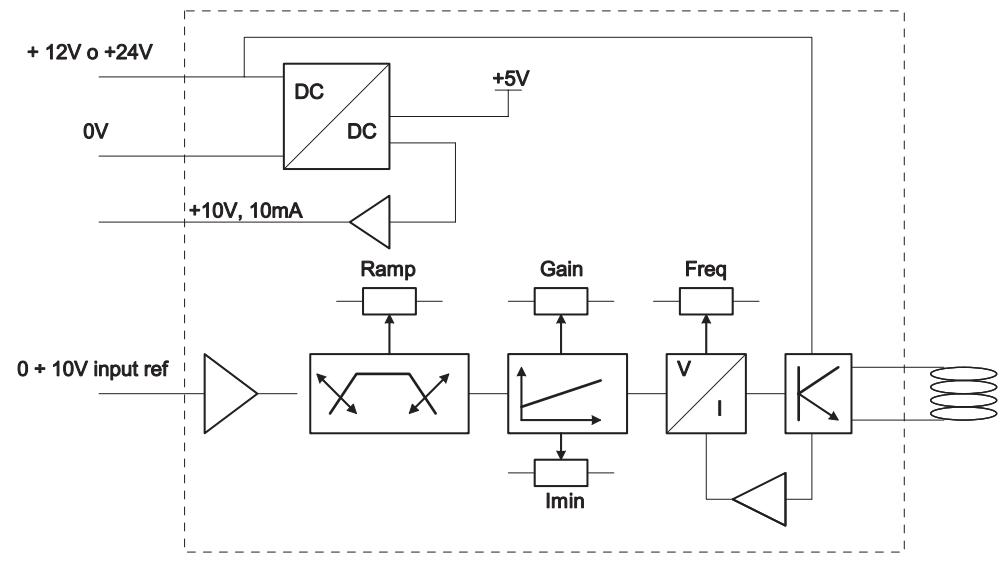
ELECTRICAL EN 175301-803 CONNECTIONS

FUSE   10,5 ÷ 30VDC   +Supply
0V   -Supply
0÷10V in R ef
+10V / 5mA

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EN 175301-803 CONNECTION
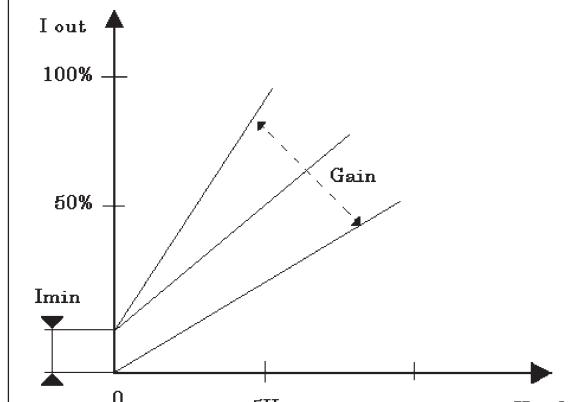
FUNCTIONAL BLOCK DIAGRAM

+ 12V o +24V
0V
+10V, 10mA
0 ÷ 10V input ref

DC / DC   +5V

Ramp   Gain   Freq
V / I
Imin

CE registered mark for industrial environment with reference to the electromagnetic compatibility. European norms:
- EN61000-6-2 general safety norm - industrial environment
- EN61000-6-4 emission general norm - residential environment

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ELECTRICAL SPECIFICATIONS

Power supply	12VDC o 24VDC
Peak supply	40VDC
Minimum power supply	10.5VDC
Required power	30W
Type of protection	IP65
Output current	Imax = 0.88Amp
All range values are come from the ordering code	Imax = 1.76Amp
	Imax = 2.50Amp
Uscita di alimentazione potenziometro esterno	+10V, Imax =5mA
Input signal reference	0 ÷ 10V
I minimum adjustment	0 ÷ 50% of Imax
Gain adjustment	30% ÷ 100% of Imax
Ramp time adjustment	0 ÷ 5 secondi
Operating Ambient temperature	-10C° ÷ +70°C
Current test point	1V = 1Amp
Weight	Kg. 0, 250

REFERENCE SIGNAL

CALIBRATION PROCEDURE

POWER SUPPLY AND ELECTRICAL CONNECTIONS
The power supply voltage must be rectified and filtered, whit a capacitor 4700 uF minimum. **Protect the power supply circuit whit 3 A fuse. Respect the polarity supply.** Use the cabling wire whit 0.75 mm^2 or 1.0 mm^2 section. In order to facilitate the operation of wires connection, extracts the card from the enclosure, introduce the wires through the gland-nut, connects the wires to the clips and finally to lodge the card to the inside of the connector.

CALIBRATION PROCEDURE
To connect correctly the card respecting the electrical connection topography, plug the amplifier on the valve solenoid and turn completely anticlockwise the trimming Imin, Gain, Ramp, and position the reference potentiometer on zero signal.

MINIMUM CURRENT ADJUSTMENT
The Iminimum current allows to eliminate the mechanical overlapping of the valve also with the signal reference to 0 volt, if it is necessary to have the already open valve also with at null signal reference, to set up to 0 volt and turns slowly the Imin trimmer until an actuator movement .

GAIN CURRENT ADJUSTMENT
Turns the reference signal to its maximum setting (10 volt) and rotate slowly the (GAIN) trimming until the maximum required speed is obtained. If the system could be damaged by a to fast movement solenoid, turns clockwise the trimming Ramp time.

RAMP TIME ADJUSTMENT
The ramp time is the time taken to pass from the minimum to the maximum current value, and vice versa. It's adjustable from a minimum of 0s up to a maximum of 5s (to reach the maximum current value setted). Turning clockwise the trimming potentiometer, the ramp time increases.

NOTES
The ramp fall time affects the actuator stop position. Moving the reference to zero Volt, the actuator goes on moving till the setted ramp time is elapsed. Therefore it's necessary to adjust it properly.

OVERALL DIMENSIONS OF BOX AND CONNECTOR

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