EC-PWM-A1-MPC1-P   PWM DRIVER

DESCRIPTION

Microprocessor-based PWM electronic driver for remote control of a single proportional solenoid valve.

OPERATION

The EC-PWM-A1-MPC1-P proportional valve driver receives a command signal from a potentiometer, PLC or other control systems, and supplies a solenoid with a PWM (Pulse Width Modulated) current proportional to the input signal. An auxiliary power supply (+5 V) is provided as a reference for the command signal. Adjustments of "Imin/Imax", "Ramp time" and "Dither" can be carried out directly from a key-pad integrated on the front panel.

Mounting option: panel-mounting style with INPUT/OUTPUT multi-core sheated cable.

FEATURES

- The current in the solenoid is independent from any change in the coil resistance or in the supply voltage.
- The inherent superimposed dither frequency helps to overcome friction and stiction effects in the controlled device.
- Power supply line is protected against reversed polarity and load dump.
- Input is protected against short circuits to GND and power supply.
- Output is protected against short circuits, over-current and over-temperature.
- The EC-PWM-A1-MPC1 is completely potted.
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity), EN 61000-6-3 (Emissions).
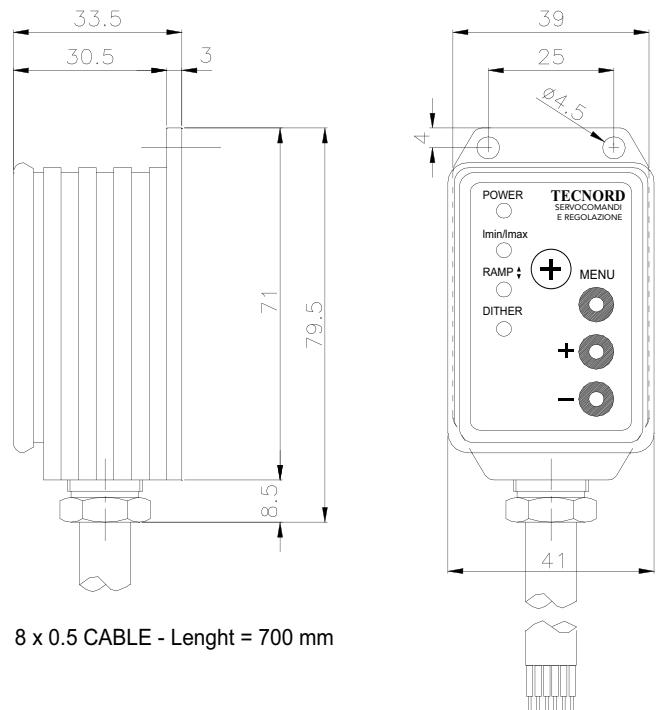
SPECIFICATIONS

Operating voltage:	8.5÷30 VDC
Max current consumption:	100 mA (no load applied)
Operating temperature:	-25°C / +85°C
Input resistance 0÷5 V voltage input:	560 KOhms
0÷10 V voltage input:	1 MOhm
0÷20mA current input:	250 Ohms
Degree of protection:	IP 67
Analog input signals available:	0÷5 V
	0÷10 V
	0÷20 mA
Typical ctrl pot resistance:	2÷47 kΩ
Current output range (PWM):	100÷3000 mA
PWM dither frequency:	55÷200 Hz (adjustable)
Ramp time:	0.05÷5 s (adjustable)
Max. current from auxiliary +5 V:	15 mA

APPLICATIONS

Primary applications are the control of proportional pressure reducing valves and proportional flow regulators to attain smooth acceleration/deceleration and fine-metering control of electro-hydraulic functions.

DIMENSIONS

8 x 0.5 CABLE - Lenght = 700 mm

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CIRCUIT BOARD PINOUT - WIRING DIAGRAM

Connection Diagram for 0÷5 V Version

Wiring Colours

|	
Blue	+Battery
Brown	-Battery (GND)
Red	Command signal supply (+5 V)
Yellow	Command signal in
Gray	Command signal GND
White	Proportional coil output
Green	Proportional coil current feedback line
Pink	Spare / Not used

Note

*A 5A fuse must be inserted on the BLUE wire connecting the PWM driver to the power source.*
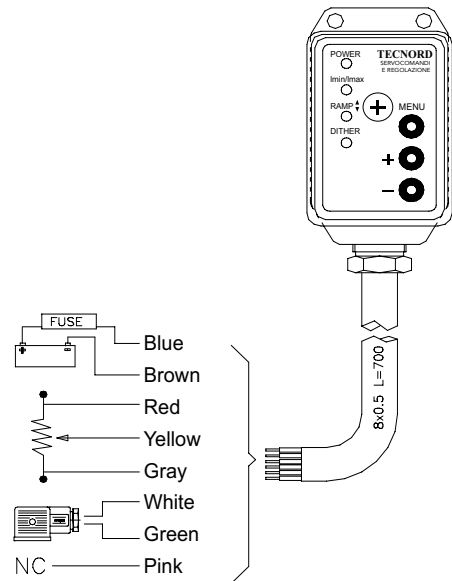
ADJUSTMENTS

The following adjustments can be made directly from the front key-pad by selecting the

- 3-pushpins in appropriate combinations:
- Imin (minimum output current)
- Imax (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency

APPLICATION EXAMPLE

Uni-directional control lever type FTC L1S

Proportional flow regulator
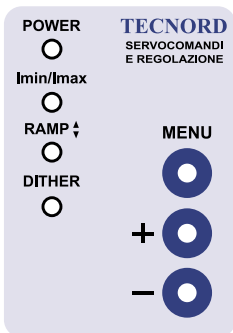
On-off type venting valve
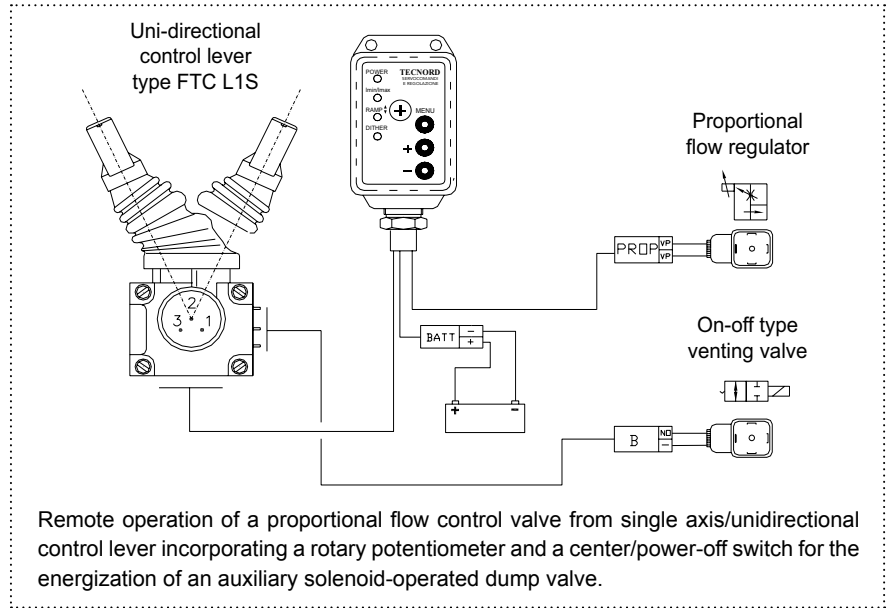
Remote operation of a proportional flow control valve from single axis/unidirectional control lever incorporating a rotary potentiometer and a center/power-off switch for the energization of an auxiliary solenoid-operated dump valve.

ORDERING INFORMATION

EC-PWM-A1-MPC1-P

A = Adjustable   **P** = Panel Mounting
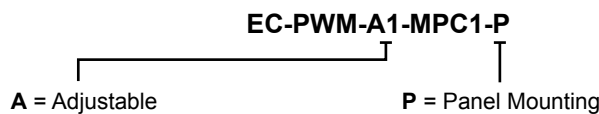
Part numbers	Version
23.0409.045	0-5 V
23.0409.087	0-10 V
23.0409.136	0-20 mA

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