

**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.

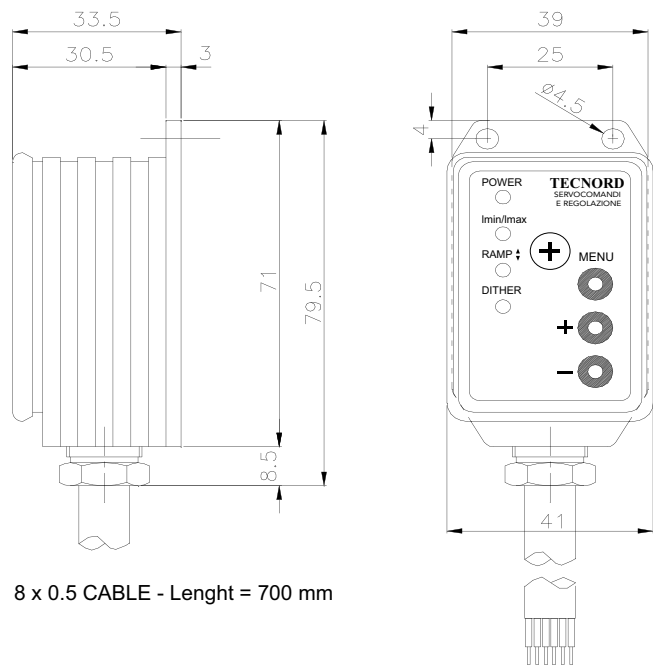
**Mounting option:** panel-mounting style with INPUT/OUTPUT multi-core sheathed cable.

**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

**DIMENSIONS****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.

**WARNING:** the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.



4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526  
mail: delta@delta-power.com • www.delta-power.com

**TECNORD** •

Via Malavolti, 36 • 41122 Modena • ITALY • Phone +39 (059) 254895 • Fax +39 (059) 253512  
mail: tecnord@tecnord.com • www.tecnord.com

**EC-PWM-A1-MPC1-P PWM DRIVER**

**CIRCUIT BOARD PINOUT - WIRING DIAGRAM**

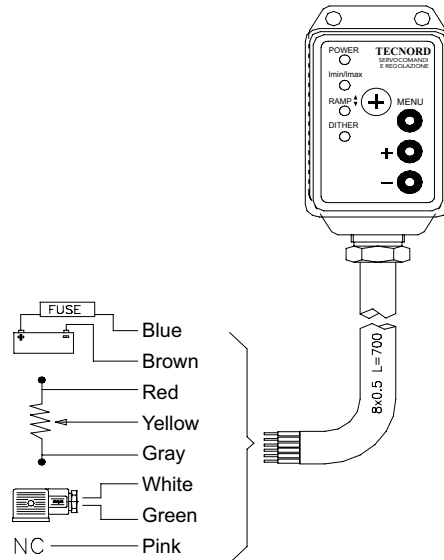
**Connection Diagram for 0÷5 V Version**

**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**

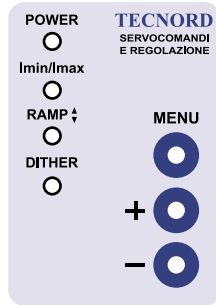
A 5A fuse must be inserted on the BLUE wire connecting the PWM driver to the power source.



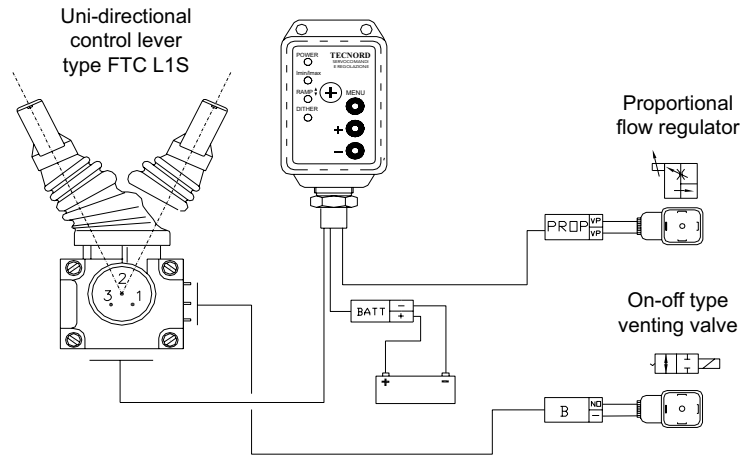
**ADJUSTMENTS**

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**

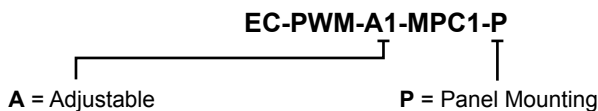


**APPLICATION EXAMPLE**



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**



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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