EC-PWM-P4-MPC2-H   PWM DRIVER

DESCRIPTION

Microprocessor-based PWM driver for remote control of 2 dual-coil proportional solenoid valves.

OPERATION

The EC-PWM-P4-MPC2-H proportional valve driver supplies up to two dual-coil proportional valves with PWM (Pulse Width Modulated) current proportional to input signals coming from potentiometers, PLC or other control systems. The control characteristics (Imin/Imax, ramps, dither) are configurable via PC connected with a RS232 serial line to a configuration kit and PC interface of Tecnord supply.
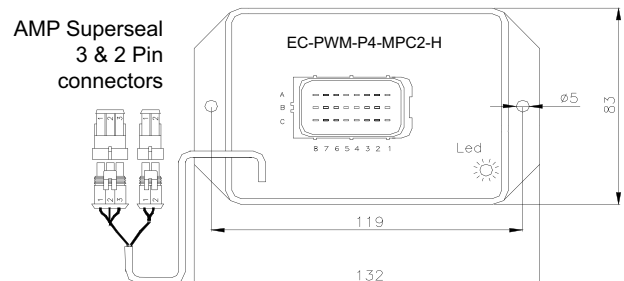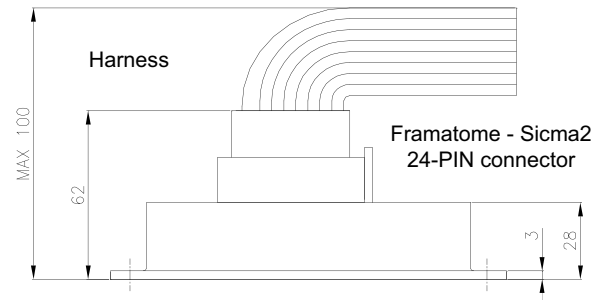
FEATURES

- 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.
- Supply line is protected against reversed polarity and load dump.
- Inputs are protected against short circuits to GND and supply.
- Outputs are protected against short circuits, reversed polarity, over-current and over-temperature.
- The EC-PWM-P4-MPC2-H is completely potted.
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity), EN 61000-6-3 (Emissions).

SPECIFICATIONS

Operating voltage:	9÷30 VDC
Max current consumption:	100 mA (no load applied)
Operating temperature:	-25°C / +85°C
Degree of protection:	IP 67
Input impedance:	100 kΩ
Analog inputs:	4 x 0-5 V
Typical ctrl pot resistance:	1÷10 kΩ
Digital inputs:	analog inputs can be used as digital
Resolution:	10 bit
PWM outputs channels:	2 x dual-coil proportional valves
Current output range (PWM):	100÷1500 mA (3 A version available)
PWM dither frequency:	75÷250 Hz (adjustable)
On-off digital output:	1 (1500 mA)

APPLICATIONS

- Specifically designed for applications requiring accurate adjustments and calibrations.
- 12 VDC and 24 VDC systems.
- Remote control of non-feedback proportional valves.
- Control of a proportional bidirectional valve with a venting valve.

DIMENSIONS

Harness

Framatome - Sicma2 24-PIN connector

MAX 100

62

3

28

AMP Superseal 3 & 2 Pin connectors

EC-PWM-P4-MPC2-H

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Delta Power Company

4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526
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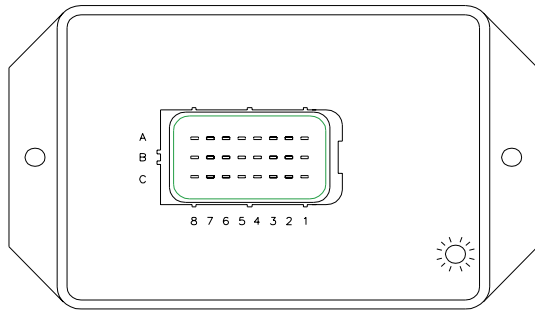
TECNORD •

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

EC-PWM-P4-MPC2-H   PWM DRIVER

CIRCUIT BOARD PINOUT - WIRING DIAGRAM

Connector type: framatome SICMA2

Connector type: AMP-Seal

For software download
1 RTS
2 DTR
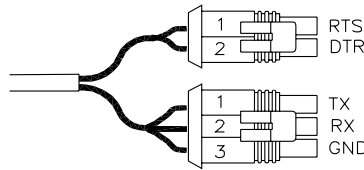
For calibration and adjustments
1 TX
2 RX
3 GND

A
1 ON-OFF OUTPUT
2 NOT CONNECTED
3 NOT CONNECTED
4 NOT CONNECTED
5 NOT CONNECTED
6 NOT CONNECTED
7 ANALOG INPUT FOR FUNCTION 1 (TO DRIVE EV1A/B)
8 FEEDBACK FOR EV1A/B

B
1 +V (POWER SUPPLY)
2 NOT CONNECTED
3 NOT CONNECTED
4 ANALOG INPUT FOR FUNCTION 2 (TO DRIVE EV2A/B)
5 NOT CONNECTED
6 FEEDBACK FOR EV2A/B
7 NOT CONNECTED
8 NOT CONNECTED

C
1 -V (POWER SUPPLY - GND)
2 +5 VDC EXTERNAL SUPPLY VOLTAGE
3 ANALOG INPUT - SPARE
4 ANALOG INPUT - SPARE
5 EV1A PROP. COIL OUTPUT (+)
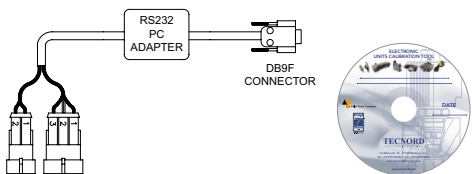6 EV1B PROP. COIL OUTPUT (+)
7 EV2A PROP. COIL OUTPUT (+)
8 EV2B PROP. COIL OUTPUT (+)

ADJUSTMENTS

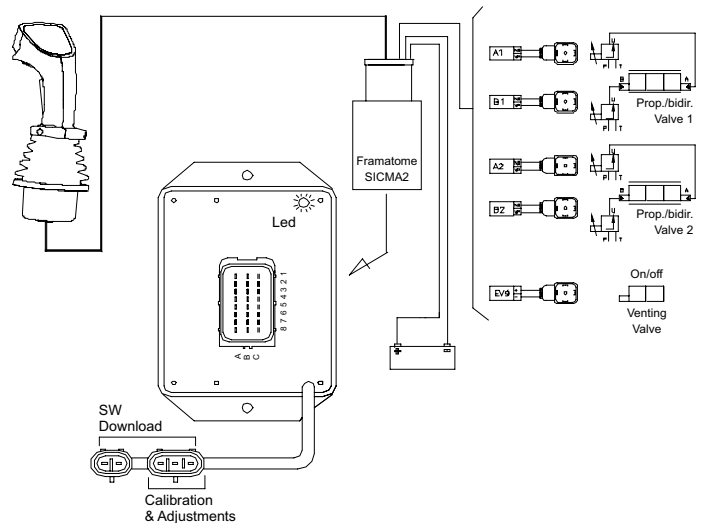Adjustments can be effected via RS232 serial line to modify the following work parameters:
- **Imin (minimum output current)**
- **Imax (maximum output current)**
- **Ramp-up time**
- **Ramp-down time**
- **Dither frequency**

Calibration tool ordering code: 20.1001.026/A
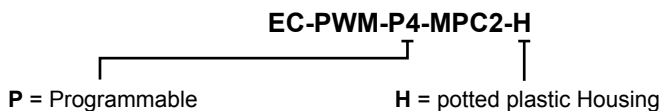RS232 cable adapter for PC connection including calibration software on CD (see page EC44-45).

Note: USB/RS232 interface available on request.

APPLICATION EXAMPLE

Proportional regulation of 2 dual-coil valves with 1 bidirectional joystick.

ORDERING INFORMATION

EC-PWM-P4-MPC2-H

P = Programmable   **H** = potted plastic Housing

Part numbers	Version
23.0409.237	1.5 A
23.0409.238	3 A

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