

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 (I_{min}/I_{max} , 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).



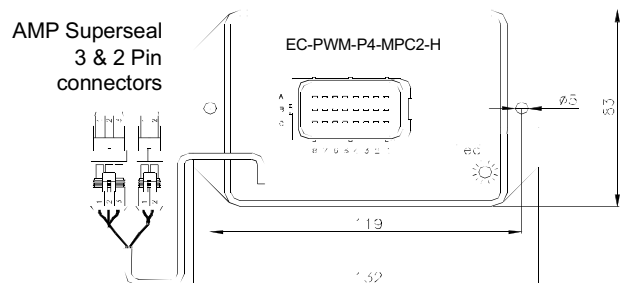
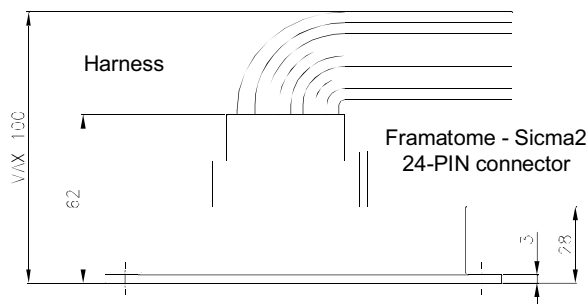
SPECIFICATIONS

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



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.



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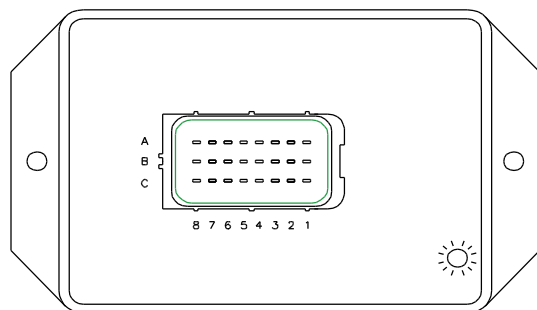


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EC-PWM-P4-MPC2-H PWM DRIVER

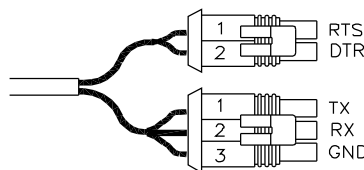
CIRCUIT BOARD PINOUT - WIRING DIAGRAM

Connector type: framatome SICMA2



- 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

Connector type: AMP-Seal



For software download

- 1 RTS
- 2 DTR

For calibration and adjustments

- 1 TX
- 2 RX
- 3 GND

- 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

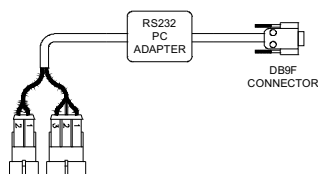
- C**
- 1 -V (POWER SUPPLY - GND)
 - 2 +5 VDC EXTERNAL SUPPLY VOLTAGE
 - 3 ANALOG INPUT - SPARE
 - 4 ANALOG INPUT - SPARE
 - 5 EV1A PROP. COIL OUTPUT (+)
 - 6 EV1B PROP. COIL OUTPUT (+)
 - 7 EV2A PROP. COIL OUTPUT (+)
 - 8 EV2B PROP. COIL OUTPUT (+)

ADJUSTMENTS

Adjustments can be effected via RS232 serial line to modify the following work parameters:

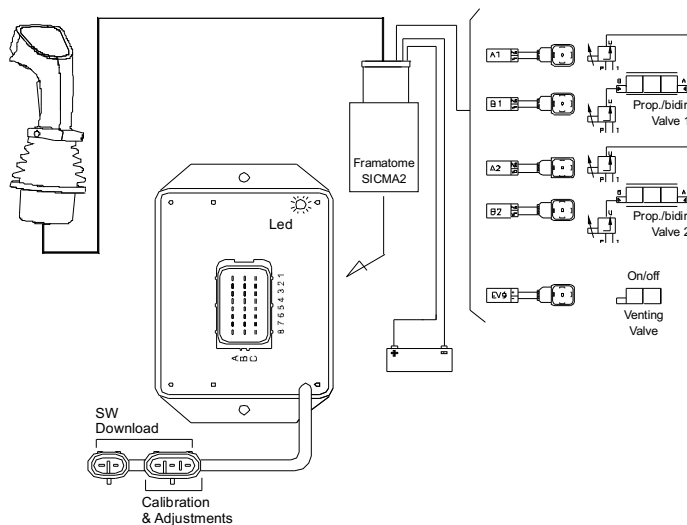
- **I_{min}** (minimum output current)
- **I_{max}** (maximum output current)
- **Ramp-up time**
- **Ramp-down time**
- **Dither frequency**

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