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).

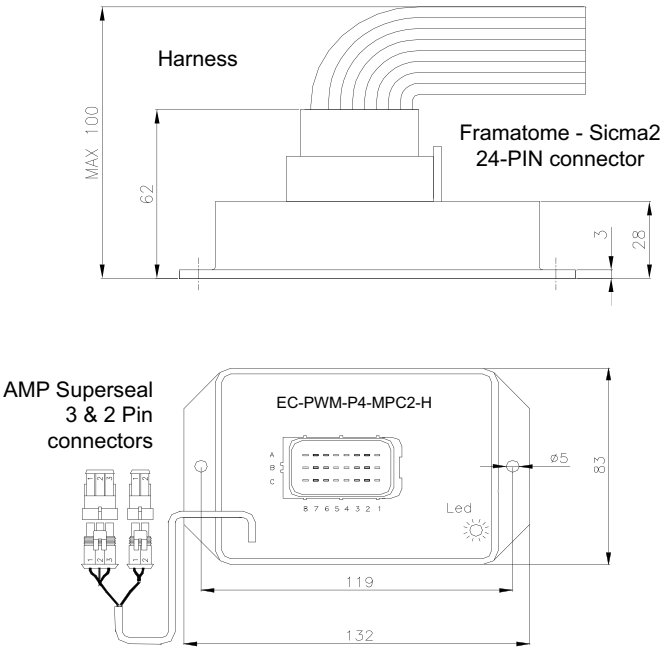
SPECIFICATIONS

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



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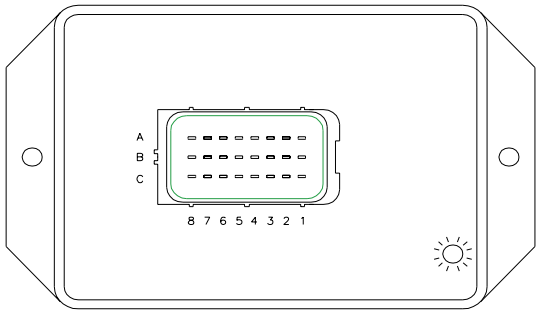
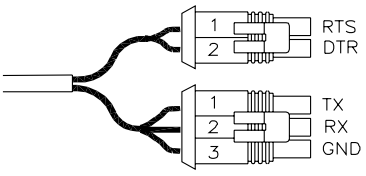
CIRCUIT BOARD PINOUT - WIRING DIAGRAM

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		B		C	
1	ON-OFF OUTPUT	**1**	+V (POWER SUPPLY)	**1**	-V (POWER SUPPLY - GND)
2	NOT CONNECTED	**2**	NOT CONNECTED	**2**	+5 VDC EXTERNAL SUPPLY VOLTAGE
3	NOT CONNECTED	**3**	NOT CONNECTED	**3**	ANALOG INPUT - SPARE
4	NOT CONNECTED	**4**	ANALOG INPUT FOR FUNCTION 2 (TO DRIVE EV2A/B)	**4**	ANALOG INPUT - SPARE
5	NOT CONNECTED	**5**	NOT CONNECTED	**5**	EV1A PROP. COIL OUTPUT (+)
6	NOT CONNECTED	**6**	FEEDBACK FOR EV2A/B	**6**	EV1B PROP. COIL OUTPUT (+)
7	ANALOG INPUT FOR FUNCTION 1 (TO DRIVE EV1A/B)	**7**	NOT CONNECTED	**7**	EV2A PROP. COIL OUTPUT (+)
8	FEEDBACK FOR EV1A/B	**8**	NOT CONNECTED	**8**	EV2B PROP. COIL OUTPUT (+)

ADJUSTMENTS

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

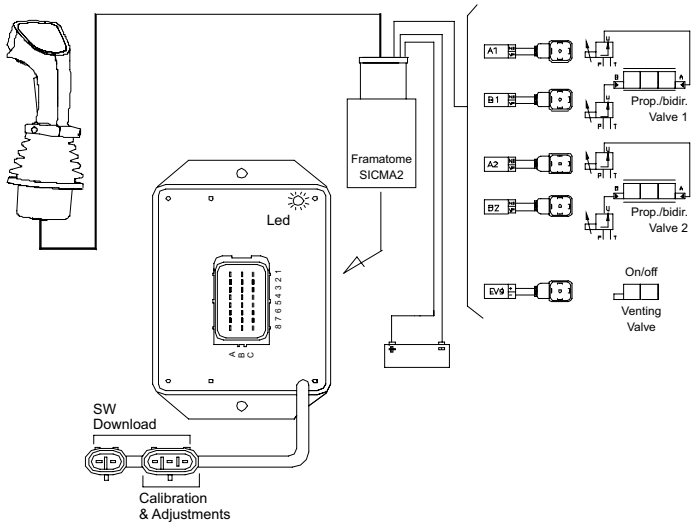
- Imin (minimum output current)
- Imax (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency

PC configuration tool available

Ampseal-DB9 cable adapter ordering code: 20.1001.026/A

RS232 - USB converter ordering code: 21.0801.039

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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