**EC - PWM - A4 - MPC2 - H PWM Driver**

**Description**
Microprocessor-based PWM driver for remote control of two dual-coil proportional valves with auxiliary triggered outputs for two on/off valves.

**Operation**
The EC-MPC2 Proportional Valve Driver supplies up to 2 dual-coil proportional valves with PWM (Pulse Width Modulated) current proportional to the input signals from potentiometers, PLC or other control systems.

Adjustments of "Imin/Imax", "Ramp time", "Deadband" and "Dither" can be effected directly from a key-pad integrated on the front panel.

Mounting option: the EC-PWM MPC2 driver is boxed in a plastic enclosure for wall-mounting by means of 4 x M6 threaded bolts stemming from the rear surface.

**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 stick effects in the controlled device.
- Supply line is protected against reversed polarity.
- Inputs are protected against short circuits to GND and supply.
- Outputs are protected against short circuits, reversed polarity, over-current and over-temperature.

**Specifications**
- Operating voltage: 8.5 - 30 Vdc
- Max current consumption: 100 mA (no load applied)
- Operating temperature: -25 / +85 °C
- Degree of protection: IP65 (‘H’ version only)
- Analog inputs signal: 2 x 0-5 V (Standard) 2 x 0-10 V (Option)
- Typical ctrl pot resistance: 1 - 10 kOhm
- Digital inputs: 2 (PNP, Active High) for signals from field 2 for joystick directional switches
- Resolution: 8 bit
- PWM outputs channels: 2 x dual-coil prop. valves
- Current output range (PWM): 100-1800 mA (3A version available)
- PWM dither frequency: 55-200 Hz (adjustable)
- High side power outputs: 2 (2A each)
- 2-wires RS485 serial interface: Option

**Applications**
Specifically designed for general purpose applications requiring easy field adjustments

- 12 Vdc and 24 Vdc systems
- Remote control of proportional valves
- Control of a 2 functions proportional bi-directional system

**Dimensions**

**WARNINGS:** 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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Circuit board pinout - Wiring diagram

Connectors type: MOLEX Mini-Fit

<table>
<thead>
<tr>
<th>J4</th>
<th>J5</th>
<th>J6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Directional switch A from joystick no.1</td>
<td>Input no.0 from field</td>
<td>Directional switch B from joystick no.1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>+5Vdc supply to joystick no.1</td>
<td>Input no.1 from field</td>
<td>Directional switch A from joystick no.0</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>RS485 serial line+ (out)</td>
<td>Common for inputs no.0 and 1</td>
<td>+5Vdc supply to joystick no.0</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>RS485 serial line- (out)</td>
<td>Prop. coil EV/A feedback</td>
<td>0.5A fused positive power supply</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Signal from joystick no.1</td>
<td>Prop. coil EV/A feedback</td>
<td>Directional switch B from joystick no.1</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>GND</td>
<td>Battery (GND)</td>
<td>!Battery</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>RS485 serial line+ (in)</td>
<td>Prop. coil EV/A feedback</td>
<td>!Battery</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>RS485 serial line- (in)</td>
<td>Prop. coil EV/A feedback</td>
<td>Prop. coil EV/A output</td>
</tr>
</tbody>
</table>

Adjustments

The following adjustments can be made directly from the front key-pad by selecting the 3-pushpins in various combinations:

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

Application example

Proportional regulation of two dual coil valves from two bi-directional levers.

The on/off venting valve is automatically operated by the driver.

Ordering Information:

<table>
<thead>
<tr>
<th>Part numbers</th>
<th>EC - PWM - A4 - MPC2 - *</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.0202.320</td>
<td>A = plastic Housing</td>
</tr>
<tr>
<td>24.0408.107/3A version</td>
<td>C = circuit board with on-board LEDs and pushbuttons</td>
</tr>
</tbody>
</table>

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