**EC - PWM - 08 - MPC4 - H PWM Driver**

**Description**
Microprocessor-based PWM driver for remote control of 4 dual-coil proportional solenoid valves.

**Operation**
The EC-MPC4 Proportional Valve Driver supplies up to 4 dual-coil proportional valves with PWM (Pulse Width Modulated) current proportional to the input signals coming from potentiometers, PLC or other control systems. PWM currents are factory pre-set and cannot be adjusted.

**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.
- High environmental protection

**Specifications**
- Operating voltage: 9 - 20 Vdc
- Max current consumption: 100 mA (no load applied)
- Operating temperature: -40 / +100 °C
- Degree of protection: IP67
- Analog inputs: 6x0-5 V
- Digital inputs: 2 x PNP (Active High)
- Input impedance: 100 kOhm
- Typical ctrl pot resistance: 1 - 10 kOhm
- Resolution: 10 bits
- PWM outputs channels: 4 x dual-coil prop. valves
- Current output range (PWM): 100-1500 mA
- PWM other frequency: 75-250 Hz (factory set)

**Applications**
- Specifically designed for applications with factory-set working parameters and requiring no field-adjustments
- 12 Vdc systems only
- Remote control of proportional valves
- Control of a 4 functions proportional bi-directional system

**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.
**ELECTRONIC CONTROL UNITS**

**EC - PWM - 08 - MPC4 - H**

**PWM Driver**

Circuit board pinout - Wiring diagram

**Connector type:** Framatome SICMA2

<table>
<thead>
<tr>
<th>Pin</th>
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<tbody>
<tr>
<td>1</td>
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</tr>
<tr>
<td>2</td>
<td>Prop. coil no. 7 output</td>
</tr>
<tr>
<td>3</td>
<td>Prop. coil no. 4 output</td>
</tr>
<tr>
<td>4</td>
<td>Prop. coil no. 5 output</td>
</tr>
<tr>
<td>5</td>
<td>Input no. 4 (analog)</td>
</tr>
<tr>
<td>6</td>
<td>Input no. 5 (analog)</td>
</tr>
<tr>
<td>7</td>
<td>Common feedback no.0-1</td>
</tr>
<tr>
<td>8</td>
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</tr>
</tbody>
</table>

Adjustments

Factory pre-set for:
- Imin (minimum output current)
- Imax (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency

Factory pre-set values for the standard version (p/n 23.0409.170):
- Imin = 100 mA
- Imax = 1500 mA
- Ramp-up time = 0 sec
- Ramp-down time = 0 sec
- Dither frequency = 100 Hz

Application example

- Proportional regulation of 4 dual-coil valves with 4 bi-directional control levers

Ordering Information:

Part number: 23.0409.170

H = potted plastic Housing

0 = Factory pre-set

**EC - PWM - 08 - MPC4 - H**

**PWM Driver**

Circuit board pinout - Wiring diagram

**Connector type:** Framatome SICMA2

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Factory pre-set for:
- Imin (minimum output current)
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- Ramp-up time
- Ramp-down time
- Dither frequency

Factory pre-set values for the standard version (p/n 23.0409.170):
- Imin = 100 mA
- Imax = 1500 mA
- Ramp-up time = 0 sec
- Ramp-down time = 0 sec
- Dither frequency = 100 Hz

Application example

- Proportional regulation of 4 dual-coil valves with 4 bi-directional control levers

Ordering Information:

Part number: 23.0409.170

H = potted plastic Housing

0 = Factory pre-set
EC - PWM - P8 - MPC4 - H  PWM Driver

### Description
Microprocessor-based PWM driver for remote control of 4 dual-coil proportional solenoid valves.

### Operation
The EC-MPC4 Proportional Valve Driver supplies up to 4 dual-coil proportional valves with PWM (Pulse Width Modulated) current proportional to the input signals coming from potentiometers, PLC or other control systems. The control characteristics (min/max, ramps, deadbands, dither) are configurable via a 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.

### Specifications
- **Operating voltage:** 9 - 30 Vdc
- **Max current consumption:** 100 mA (no load applied)
- **Operating temperature:** -25 / +85 °C
- **Degree of protection:** IP67
- **Analog inputs:** 8x0-5 V
- **Typical ctrl pot resistance:** 1 - 10 kOhm
- **Digital inputs:** analog inputs can be used as digital
- **PWM outputs channels:** 4 x dual-coil prop. valves
- **Current output range (PWM):** 100-1500 mA (3A version available)
- **PWM dither frequency:** 75-250 Hz (adjustable)

### Dimensions

### Applications
- Specifically designed for applications requiring accurate adjustments and calibrations
- Remote control of non-feedback proportional valves
- Control of a proportional bi-directional valve with a venting valve

### Notes
- Joysticks and valve shown in this picture are supplied separately.
- 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.
**EC - PWM - P8 - MPC4 - H**  
**PWM Driver**

**Circuit board pinout - Wiring diagram**

**Connector type:** Framatome SICMA2

**Connector type:** AMP-Seal

### Adjustments

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

- Min (minimum output current)
- Max (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency

### Application example

**Proport. regulation of 4 dual-coil valves with 2 bi-directional joysticks**

### Ordering information for the configuration kit:

**EC - PWM - P8 - MPC4 - H**

**Part number**

- 20.1001.026

**RS232 interface card including PC configuration software tool on CD**

* : USB / RS232 interface available on request

**Ordering Information: EC - PWM - P8 - MPC4 - H**

**Part number**

- 20.0409.081
- 20.0409.071 / 3A version

**H = potted plastic housing

**P = Programmable**