

### DESCRIPTION

MDE-PWM is an electronic regulator that can command three couples of proportional solenoids from three analog input signal centered to 2,5V with range from 0 to 5V.

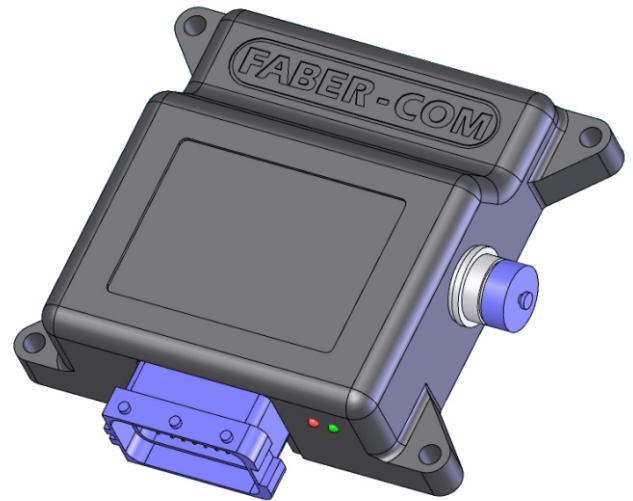
MDE-PWM can have the +5V stabilized output to supply the reference potentiometers.

MDE-PWM can also directly command a safety valve every time a PWM output is activated.

Whenever possible is advisable, for a safer system, to use the "limitation range" feature (enabled by default) that uses a limited input signal range from 0.5 to 4,5V. When an input reference signal exceed the limit thresholds, below 0.25V or above 4,75V the corresponding couple of outputs is turned off.

Each analog input can be configured as:

- single side reference signal (0 ÷ 5V) to command a single solenoid (the other output of the couple remains unused).
- double side reference signal (0.5V ÷ 2.5V ÷ 5V) to command a couple of solenoids.



### INPUTS

- no. 3 analog inputs with range 0 ÷ 5V (or 0.5V ÷ 4.5V if limited range is requested) for single/double PWM output.
- from 1 to 3 on/off inputs (two outputs are bi/directional so they can be used as inputs).

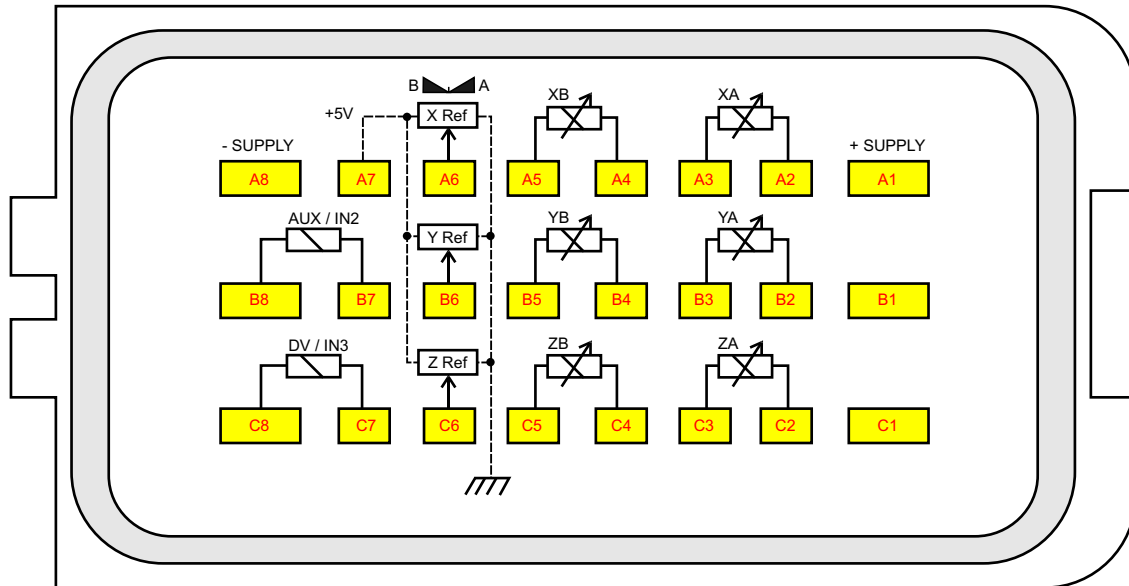
### OUTPUTS

- no. 3+3 PWM outputs for proportional solenoids (a couple for each analog input);
- max 2 on/off outputs (two outputs are bi/directional so they can be used as inputs).
- no. 1 stabilized +5V to directly supply potentiometers (in place of the single on/off input).

### TECHNICAL FEATURES

- Unique supply voltage from 10 to 30 Vdc.
- Individual adjustment of min/max current for each PWM output
- Ramp Up/Down independently adjustable for each PWM output from 0.1s to 10s.
- The output frequency can be chosen from a table of 10 values from 50 to 300 Hz.
- Fast/Slow speed selection allows to choose between two different calibration sets of maximum currents.
- Limited range for reference signals available for a safer system. Limit threshold adjustable.
- Stabilized +5V output for reference potentiometer supply. Dead band adjustable.
- Bypass output that turns ON every time a PWM output is activated. This output has a programmable turn off delay to avoid elevated pressure spikes in the hydraulic circuit.
- Two LEDs give informations on operative state and helps to solve troubles with a series of flashes.
- Serial port to adjust calibration with PRG2 keyboard or PC (with specific adapter and Sepmsim Windows® software).
- IP68 24 way connector.

**CONNECTIONS**



**Male 24 way connector**

**TECHNICAL CHARACTERISTICS**

Supply voltage	10Vdc ÷ 30Vdc
Max current absorption	60 mA + load on outputs
Supply for external potentiometer	+5V - 50 mA max current
Working ambient temperature	from -20 to +60 °C
PWM minimum current regulation range	from 100 to 2500 mA
PWM maximum current regulation range	from 100 to 2500 mA
Time ramp up/down independently adjustable	from 0.1s to 10s
PWM adjustable frequency table values	50-60-70-85-100-125-150-200-250-300 Hz
Max DV output current	2.5 A
Reference input signal range	2,5V at center +/- 2.0V (0.5V ÷ 4.5V) or 0 ÷ 5V
Input signal range limitation selectable	Default = ON (thresholds: 0.25V and 4.75V)
Signal input impedance	11 kOhm towards 2.5V (or 22 kOhm towards GND)
Overall dimensions (+ connector)	138 x 110 (+37) x 38 mm
Drilling interaxis	119 x 99 mm (no. 4 M5 screws)
Protection degree	IP68
Weight	about 490 g