

Double electronic PWM A+B regulator for Sauer-Danfoss Series 90 pumps

DESCRIPTION

The electronic regulator MDE-V90 can control two Sauer-Danfoss pumps series 90 with option KA or KP.

The input signals can come from two 1kOhm potentiometers supplied directly by +5V regulator output (or by supply voltage in ratiometric version).

To verify the interruption of a wire or the a potentiometer failure it is recommended to connect, in series to each potentiometer, two resistors, each with a value of about 10% of the potentiometer's value to limit the range of the command signal between 0.5V and 4.5V.

MDE-V90 regulator can also control directly an optional safety valve (dump valve) every time a pump is activated.

The two channels for the two pumps, in the "double" version, are completely independent (except the ENABLE signal which is the same for both pumps).



INPUTS

- n° 2 analog input, 2.5V in rest position, with range from 0V÷ 5V (recommended 0.5V ÷ 4.5V with range control); or range 25%-50%-75% of supply voltage (ratiometric version - Danfoss signal).
- n° 1 ON/OFF input to enable outputs (unique for the two pumps).

OUTPUTS

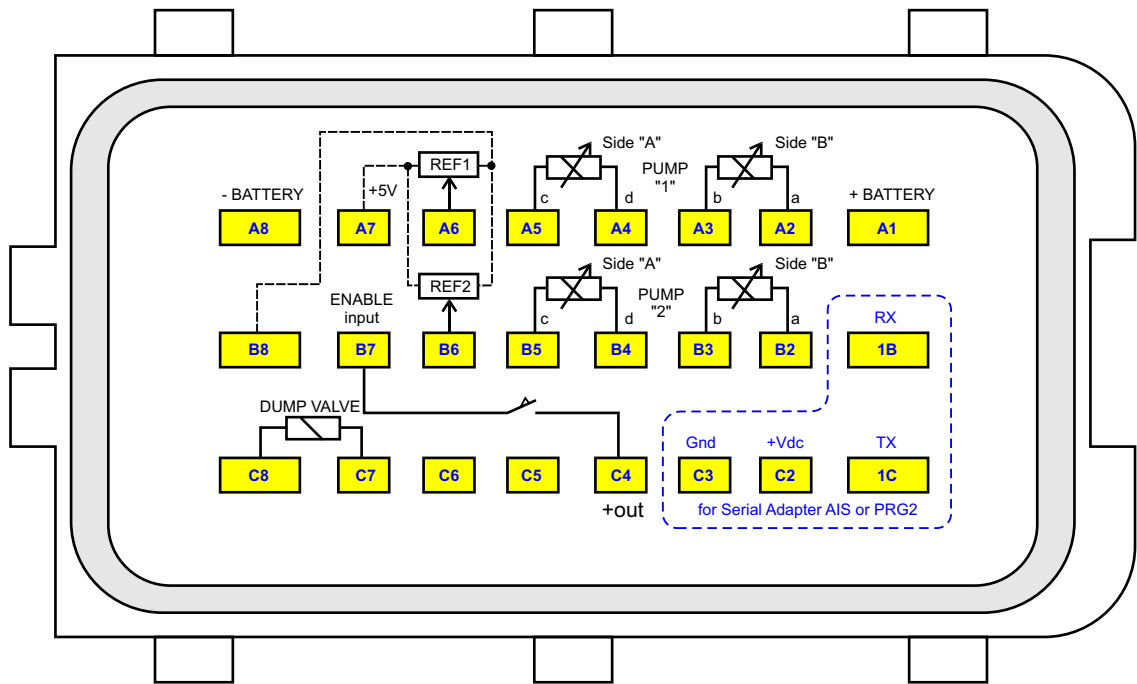
- n° 2 couples of 200Hz PWM outputs to command the two proportional coils of the pump series 90;
- n° 1 ON/OFF output for an optional DUMP VALVE, supplied when at least one pump is activated;
- n° 1 +5V stabilized output to supply potentiometers (maximum output current = 50 mA).

MAIN FEATURES

- Independent minimum and maximum currents calibration for each PWM output signal;
- The validity of analog input signal range, dead band and useful programmable range can be controlled to ensure a greater safety during the operations;
- A power output for the dump valve is activated every time a proportional output is switched on (for this output is possible to set a switch off delay to prevent pressure peaks on the hydraulic circuit);
- Two LEDs provide informations on the operativity of the regulator and help in troubleshooting indicating the fault type with a fixed number of flashes;
- Unique supply voltage from 10 to 30 Vdc;
- 24 pins fast socket connector IP68;
- A serial port with proprietary protocol can be used for calibration using a programming keyboard PRG2 (only current calibration) or a Personal Computer (with special serial adapter AIS and SepSim Windows® software) for complete control of operational parameters;
- a "single" version of the regulator is also available to command a single pump.

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CONNECTIONS



male connector 24 pins (view from side pin)

programming connector

ORDERING CODES

Pwm regulator MDE-V90 (connector NOT included)

Code: **PSCH55**

- R** - ratiometric input signal version 25%-50%-75% (Danfoss)
- S** - for single pump
- D** - for two pumps



- 1 - +Vdc
- 2 - Tx
- 3 - Rx
- 4 - Gnd

24 pins flying female connector kit with crimping contacts, caps, rubber protection and programming connector

Code: **PCVF241**

Serial programming keyboard PRG2

Code: **PPRG2**

Serial interface adapter (AIS) for communication with PC (software SepSim for Windows® included)

Code: **PISPS**

TECHNICAL CHARACTERISTICS

Supply voltage	10Vdc ÷ 30Vdc
Max current absorbption	60 mA + output load
Supply voltage for external potentiometers	+5V - maximum current 50 mA
Working ambient temperature	from -20 to +60 °C
PWM minimum current regulation range	from 9 to 103 mA
PWM maximum current regulation range	from 10 to 103 mA
Max current to the pump	limited to 250 mA
Max dump valve current output	2.5 A
Reference input signal (5V range/ratiometric)	0.5V÷2.5V÷4.5V / 25%÷50%÷75% supply voltage
Dead band input signal (5V range/ratiometric)	0,4V / 5% supply voltage
Input signal limit range (5V range/ratiometric)	0,1V ÷ 4.9V / 5% ÷ 95% Vsupply
Input impedance (5V range/ratiometric)	11 kOhm towards 2.5V / 80 kOhm towards GND
Overall dimensions (+ connector)	130 x 128 (+19) x 38 mm
Drilling interaxis	119 x 99 mm (n° 4 screws M5)
Protection degree	IP68
Weight	490 g