

ELECTRONICS

EPC3

ELECTRONIC PUMP CONTROLLER



- BUILT-IN AMPLIFIER
- 5 INPUTS
- 5 OUTPUTS
- 12 CONFIGURABLE PROGRAMS

OilGEAR
BEST UNDER PRESSURE

THE EPC3

The EPC3 is an electronic controller card equipped with an amplifier and many special features. This unit is the third generation of Oilgear's line of EPC3 (Electronic Pump Control) products. The EPC3 module is a fully programmable micro-controller and amplifier for servo operated hydraulic pumps and valves. Programming and tuning is made easy via a standard USB input - no proprietary cable is required.

SUMMARY

The EPC3 allows the (1) single control axis with a power amplifier to drive VS-, VV- and VM-controlled pumps and valves. The basic pump controller configuration allows for closed-loop response with both stroke position and pressure feedback. In addition, two (2) independent function programs can be dynamically selected with a digital input signal. The unit provides a digital output for simple diagnostics or a watchdog signal.

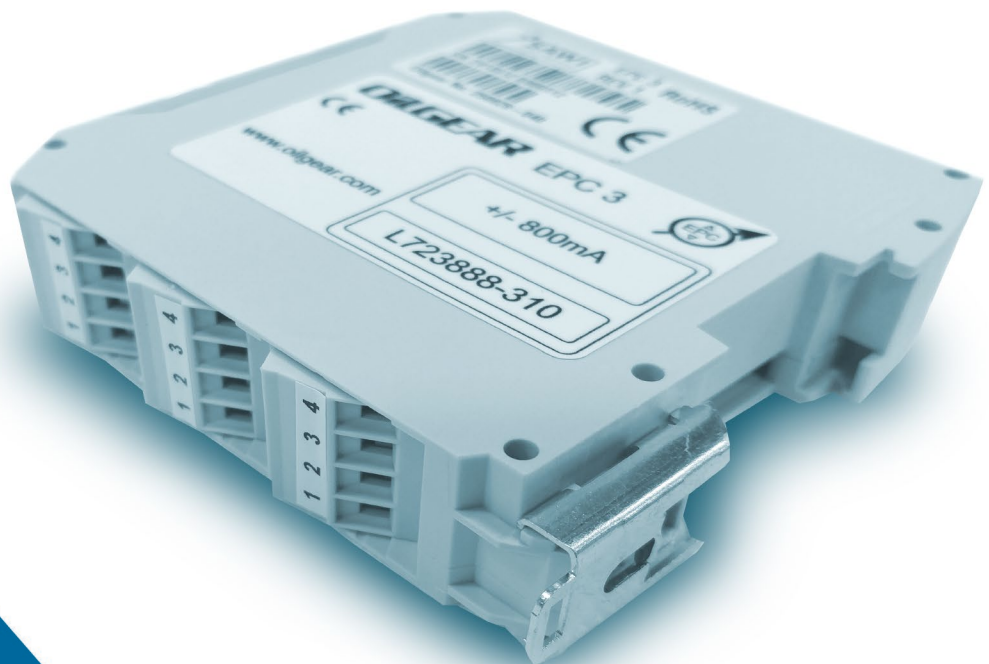
Three (3) general-purpose analog inputs are provided for command and pressure feedback signals,

including 310 VDC, 0-to-20 mA, or 4-to-20mA. Additionally, one (1) analog input is provided as a dedicated fine-adjustable LVDT stroke feedback device. The module allows for (2) two low-power programmable output signals.

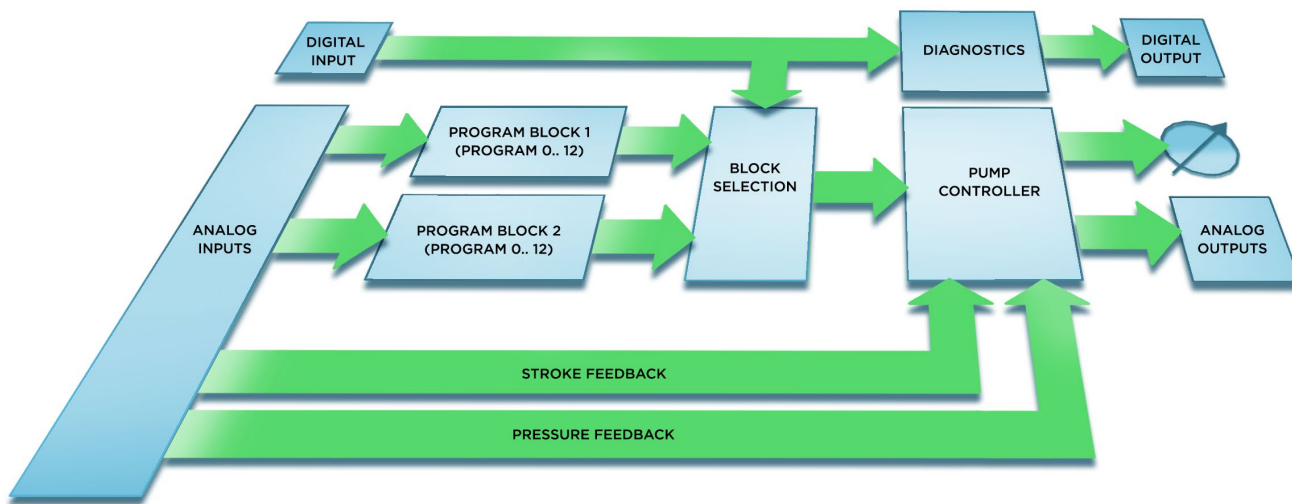
The device is configured by first assigning one of twelve (12) built-in function programs to each of the two (2) program blocks. Typically, the output of the function programs is then passed to the EPC3's internal Pump Controller, which provides the valve command.

If the full features of the EPC3 are used, up to three (3) independent closed-loop PI (Proportional with Integral) control algorithms are utilized. Most function programs provide a closed-loop control algorithm for pressure or stroke, while the Pump Controller can be configured for both stroke and power feedback.

The EPC3 is programmable through the PC Interface software. Please see the attached documentation for detailed information.



EPC3 OPERATION SCHEMATIC



STANDARD FEATURES

- Fully programmable via USB
- 12 built-in programs
- 3 independent closed-loop PI (Proportional with Integral)

INPUTS

- 1 digital
- 3 analog (general purpose)
- 1 analog (fine-adjustable for LVDT)

OUTPUTS

- 1 digital
- 2 (programmable)
- 1 (LVDT excitation sinusoidal)
- 1 (servo valve command)

OPTIONS

The EPC3 unit can be configured for several types of control applications including:

- Flow Control
- Pressure Control or Load Control
- Flow Control with Pressure Limit (PQ-Control)
- Horsepower Control (Pump Stroke and Pressure)
- Pressure Control with Flow Preset
- Advanced Control with Feed-Forward

ABOUT OILGEAR

Founded in Milwaukee, Wisconsin on a tradition of bringing only the most advanced engineering to our customers, Oilgear continues to set the standard in industries requiring precise, high-performance hydraulic systems, often operating in the harshest of environments.

Though Oilgear is most recognized for its robust line of pumping products, Oilgear also offers cartridge valves, subsea pressure control solutions, and electrical embedded controllers. Additionally, Oilgear is a worldwide provider of complex fluid power control systems, and has a strong presence in forging and extrusion press control systems, as well as high-specification HPU and high-pressure hydraulic systems.



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For more information about your application or the products in this brochure, please contact your nearest Oilgear facility.

