



**PERRY SLINGSBY SYSTEMS LTD.  
TECHNIP**

## **SMART VALVE PACK CONTROLLER**

### Features

- **General purpose sub-sea valve controller.**
- **Rated to 4000m ambient depth pressure.**
- **32 Valve drive channels.**
- **Total of 16 sensor inputs.**
- **Full remote diagnostics.**



### Description

This PCB forms part of a 4000m ambient pressure rated multiple hydraulic valve controlling module. It drives proportional and on/off coils for either bi-directional or single solenoid valves. Sensor inputs are provided to the operator to facilitate system measurements e.g. pressure, temperature, position, speed, direction, force, water ingress, etc. Closed or open loop electro-hydraulic systems can be developed and implemented with no additional subsea intelligence required.

The module is specifically designed for use in the ambient oil of ROV valve packs and subsea intervention tooling packages.

Typical applications include:-

- General purpose serial controlled proportional valve pack and associated sensors.
- General purpose serial controller on/off valve pack and associated sensors.
- Low cost open loop rate, variable rate or closed loop position control manipulator systems.
- Thruster valve pack – pressure controlled variable swash open loop control system.
- Intervention tooling packages for subsea use
- Torque tool control systems.

One/multiple modules communicate with the operators master system over a single RS485 bus. This can be through a fibre optic mux, umbilical twisted pair or can communicate directly with a subsea vehicle control system.

The module is designed typically to operate from a single nominal unregulated 28Vdc supply, removing the need for regulated dc supplies normally housed in pressure vessels. The supply range is large, it can be supplied by anything from regulated 24Vdc up to regulated or unregulated dc with maximum peak of 50V with no component changes.

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Specification

Module Supply Voltage Range	Unregulated 24Vdc min. to 50Vmax.pk.dc Regulated 24Vdc min. to 50Vdc max.
Module Power Capacity (Maximum Total)	16 Amps PCB current handling capacity
Valve Drives	32 Channels (comprising 30 Proportional/On/Off + 2 On/Off) Each channel capable of 1.3A Max (For higher drive current ratings consult PSSL)
Valve Current Measurement	32 Individually monitored channels
Sensor inputs	8 Analogue inputs 0-5V/4-20mA switch selectable 2 Water Leak Detectors 2 Platinum Resistance Thermometers 1 AC2626 micro current input 4 Counters comprising 2 high speed + 2 low speed or 2 directional quadrature phase encoded inputs or 4 digital inputs.
Sensed Board Temperature	-40 °C to +125 °C Accuracy $\pm 2$ °C
Communications	Half Duplex RS485
Electrical Protection (Hardware/Software)	Valve drives current limited & short circuit protected Sensor supplies current limit & short circuit protected Module supply undervoltage & overvoltage protected (*Supply must be fitted with suitably rated fuse)
Loss of Communications State	Factory setting: All valves switch off after 0.5sec.
In Oil Pressure	6000 PSI ( $\approx$ 4000M Ambient Depth Pressure)
Suitable Compensation System Oil Types	Transformer oil recommended but resistant to hydraulic oil
Ambient Operating Temperature	-20 °C to +50 °C
Board Dimensions	170 x 130 x 100 mm

The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.

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