

# THE TOOL CONTROL SYSTEM (TCS)

The Tool Control System (TCS) is a general purpose tooling control package. It has the ability to control five hydraulic channels and is capable of delivering 3000 psi at 10 gpm.

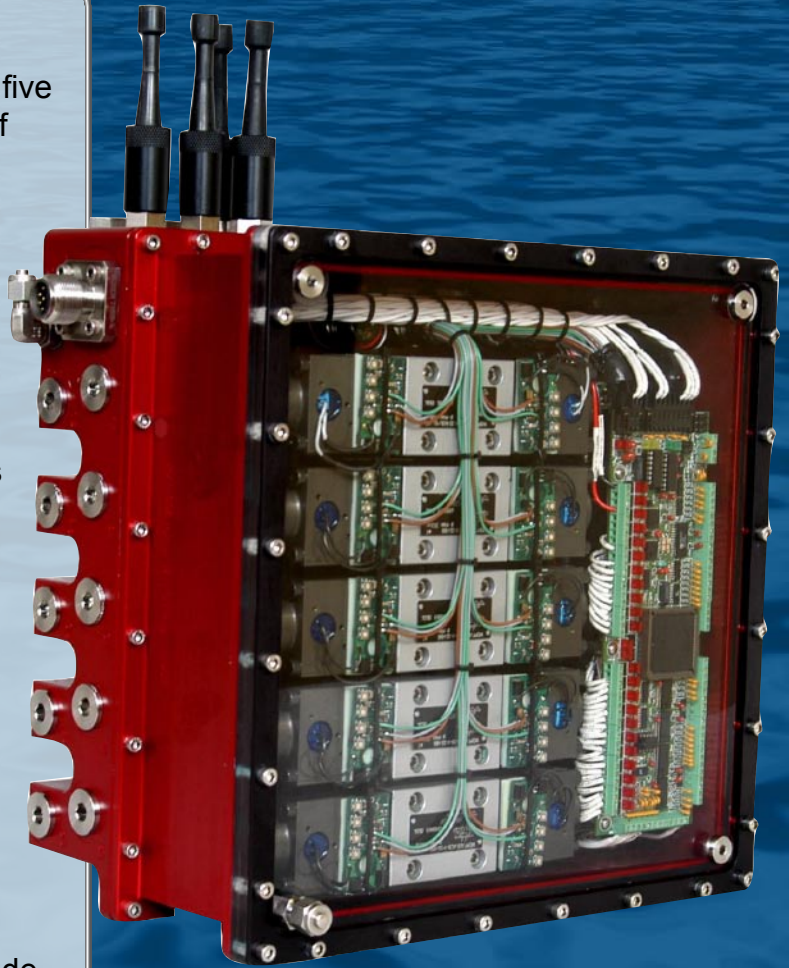
It is designed to interface with the ROV of opportunity, using the ROV's spare communication channel for data transmission.

The TCS is capable of remotely controlling hydraulic pressure and flow to various subsea intervention tooling. Using a laptop computer as the topside controller, the subsea housing will provide necessary power and control signals to a five station valve manifold. The manifold individually, proportionally adjusts pressure and flow to meet the requirements of the subsea tooling. Feedback pressure readings from each of the three stations are transmitted to the topside controller. The manifold has capability to acquire external sensor data. Types of sensors include external pressure, fluid level monitoring, flowmeters or a variety of others custom to the application.

The TCS consists of the manifold unit and the topside control unit.

The manifold unit is a hydraulically compensated enclosure that houses the pressure and flow regulating valves, the pressure transducers and the controller board.

The topside controller consists of a PC laptop computer with the controller Graphic User Interface.



**Subsea Manifold Unit**

Dimensions (overall)

Length 13 in

Width 11 in (excluding fittings)

Height 7.5 in

**Weight**

Weight in Air (Empty) 45 lbs

Weight in Air (Oil filled) 70 lbs

Weight in Water 40 lbs

**Performance Data**

Depth Rating 10000 ft

Temperature Range 0°C to 50°C (30°F to 140°F)

Communications RS232

Hydraulic Working Pressure 3000 psi max

Hydraulic Flow 10 gpm max

Hydraulic Requirement 3000 psi at 10 gpm

Electrical Requirement 24VDC@0.25A IDLE

24VDC@5.50A MAX

