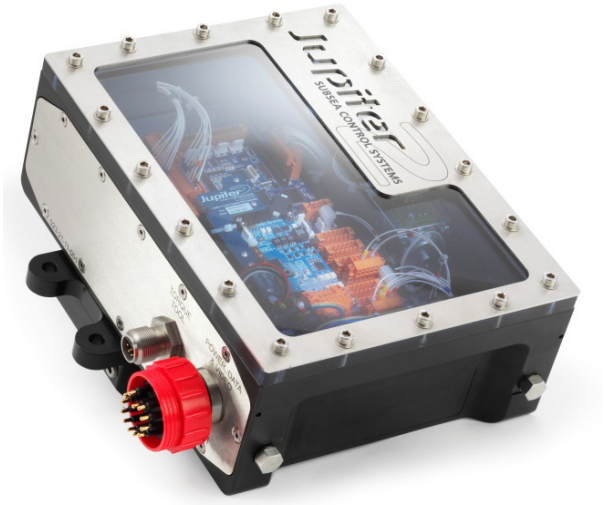
Jupiter™
SUBSEA CONTROL SYSTEMS

Jupiter 2 Torque Tool Control System



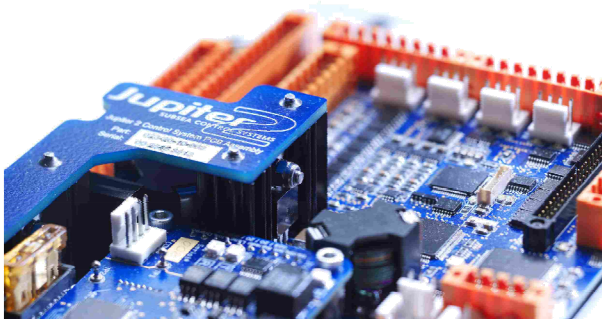
The leaders in subsea control

Zetechtics are world leaders in subsea control systems for ROV Intervention tooling to the oil and gas energy markets, providing proven industry solutions many of which are continually working in high integrity applications.

Description

The Jupiter2 Torque Tool Control System offers an accurate & repeatable solution to client requirements for the control of Torque Tools in high integrity applications.
The system consists of a single valve pack with a fully integrated proportional control system. The compact & low cost unit is suitable for use with hydraulic Torque Tools operated from any Work Class ROV.
The control system is supplied with all the parts required to operate from a standard PC or laptop using the powerful Jupiter GUI software which allows total user control over the operation of the Jupiter system. The user only requires power (AC or DC) & communication (RS232, RS485 or Ethernet).

The system includes options for a Data-logger and features Automatic Calibration of the Torque Tools & Sensors, User Customisable Set-up and comprehensive diagnostics.



Features

- Proven Jupiter performance pre-programmed to operate tooling immediately on deployment
- 'Closed-Box' configuration, no internal access required for links, fuses, datalink settings, etc.
- Field Proven & Supported Worldwide
- Fully Secure Smart Calibration & Setup
- Powerful User Accessible Software Tools
  User retains control over all aspects of Software Functionality & GUI Design
- Surface Software runs on PC or laptop
- Compact, Light Weight & Low Cost
- Calibration, user interface & operation held in secure set-up file which can be quickly changed for multiple tasks or tools

Benefits

- Proportional Pressure & Flow Control
  0-210 Bar, 0-24 lpm, Torque & Speed calibrated.
  250 Bar Tool Pressure Transducer as standard.
- 4 x Bi-Directional Solenoid Valves (15 lpm) adjustable pressure & flow on each valve
- Real Time Torque Feedback and Tool Turns as standard
  4 x Analogue Sensor Inputs (Option).
  8 x Digital / Analogue Sensor Inputs (Option).
  2 x Differential Pressure Transducers (Option).
  All inputs user configurable.
- Strain Gauge Interfaces accurate to 0.5%, designed to handle large strain gauge offsets
- Power - 115v AC 50/60 Hz or 24v Raw DC
  Data – Isolated RS485/232, 18 updates/sec.
- RS232/485, Half/Full Duplex switching via IR remote, Auto Baud Rate Detection.
- Size – 245L x 325W x 195H Weight – 30.5kg
- Depth Rating - 4000m (standard) 6000m (optional) for deeper depth please contact Zetechtics.

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System Specification

Hydraulic Valve Fit	1 x NG6 Pressure & Flow Control Proportional Valve drives use stable 12 bit Constant Current Drive. Pressure Control Valve has 250 Bar transducer to monitor tool pressure 4 x NG3 Bi-directional solenoid valves with externally adjustable fully shrouded meter out throttles.
Optional Fit	Externally adjustable pressure reducing valves for each NG3 valve with corrosion resistant coating.
Sensor Input	8 x Sensor Inputs with software selectable mode: 4-20mA or 0-10V analogue inputs or 24v Digital Sensors with High Speed (2kHz) Counters for TT Turns count, etc. (option).
Precision Analogue Inputs	4 x 12 bit Analogue Inputs 4-20mA, 0-10v, Strain Gauge, etc. 12 bit measurement resolution Auto Zero available on all inputs. Strain Gauge inputs feature Subsea auto zero to remove large scale offsets directly at the subsea input.
Pressure Transducers	250 Bar Tool Pressure Transducer fitted as standard. Typical 400 / 700 Bar additional transducers optional.
Hydraulic System	System I/P Pressure 250 bar max. Tool Pressure 2 - 210 Bar Tool Flow 0 - 24 lpm (cw & ccw) Solenoid ports 2/15 lpm, 5-210 Bar Externally Adjustable flow & pressure
Hydraulic Ports	Pressure & Tank – 3/8" BSP Torque Tool – 3/8" BSP Solenoid – 1/8" BSP Fill & Drain – 3/8" BSP Tool Case Drain - 1/8" BSP
Material	6082 Al Alloy Anodised to BS5599
Power	90-125 Volts ac, 45-66Hz, 150 Watts (+ Lights). 24V Raw, unsmoothed DC (option)
Data	RS485 / 232 fully isolated to 1500v, Auto Baud rate detection. QTP/STP copper link or integrated into ROV data hub if available. Ethernet, fully isolated to 1500v, available or retrofitted if required (option)
Diagnostics	Monitoring of AC Input Volts AC Input Current Valve Volts & Current Electronic Supplies Volts & Current Internal Oil Temperature Hours Run Meter Communication Protocol Alarm Data Logger Insulation Resistance 4 x Water Detectors
GUI	The GUI is completely under the users control with custom graphics, mathematics to suit tool requirements.
Software	All calibration & settings fully password secured with security system that allows user to control which parts of the system are accessible to field technicians Jupiter System Software with comprehensive user settings for calibration, interlocks, semi-automatic control, Alarm Settings Default States, Datalogger, Survey Interface, etc…
Mathematics	Using the integrated maths pack the user can quickly create new functions, interlocks or automatic procedures.
Datalogger	Log job data to disk as required with job notes. All of the Datalogger fields are fully user definable.
Survey Interface	Jupiter can be connected to external hardware or ROV system using user-defined protocol over RS232 link to pass any data backwards or forwards (option).
Camera & Lights	Powers 2 x PAL/NTSC cameras for connection to ROV video suite. Lights options allows for the control of 2 x 250W 115V AC lights for additional skid lighting.
Auto Calibrate	Using a Torque Analyser with a serial output this feature allows rapid calibration of the Strain Gauge Sensor & Pressure Control valve. Smart calibration mode for rapid setup using ROV HPU (option).
Compatible	Most Jupiter 2 spares are retro-fittable into original Jupiter Lite TTCS units as well as all Jupiter 2 control systems