

Orion™ for Coiled Tubing

DATA ACQUISITION SYSTEM FOR REAL-TIME DATA MONITORING AT THE WELLSITE

Orion for Coiled Tubing (CT) is a cost-effective, purpose-built data acquisition system consisting of a hardware controller, OrionNET™ software, and several optional customizations, and upgrades. The system measures, displays, and records parameters during CT operations.

The process involved is as follows: A dual microprocessor acquisition system reads data from the wellsite. The data is then sent to a PC, where it is displayed in digital and strip chart formats before being filtered and saved to a database. This database can be seamlessly linked to NOV® CTES's Cerberus™ modeling software (available separately) to provide real-time fatigue data at the wellsite (critical for applications such as CT drilling), as well as tubing forces and limits monitors.



Orion IV Hardware System

Orion™ for Coiled Tubing

MAIN FEATURES AND BENEFITS:

- Ethernet-based hardware
- Store and print detailed job events
- Real-time fatigue tracking (Cerberus software required)
- Real-time tubing forces modeling (Cerberus software required)
- Real-time burst/collapse (Cerberus software required)
- Purpose-built for coiled tubing
- Retrofits to existing CT units
- Wireless data transmission

The Orion data acquisition hardware consists of:

- Sensors and cabling*
- Controller box
- Electronic Memory Unit (EMU™)
 - 256 MB memory card
 - Stores 10 - 24 hour days of operational data
 - No user intervention required
- Laptop or desktop PC*†

* quoted separately, may be provided by customer

† minimum Pentium II - 1.2 GHz processor recommended

CONFIGURATION:

The Orion system is modular and can be configured to meet user requirements. The standard package provides the following minimum channels:

- Speed / Depth
- Tubing weight
- Snubbing force
- Circulating pressure
- Wellhead pressure
- Pump Rate / Volume
- Nitrogen Rate / Volume

STANDARD FEATURES:

- Laptop or desktop PC-based Graphic User Interface connected to the controller via a standard Ethernet port
- Input power supply options include 10-24 VDC
- NEMA-4X stainless steel enclosure

AVAILABLE OPTIONS:

- Sensors
- Brackets, cables, and reels
- Remote Orion Viewer (ROVer™)
- Wireless data transmission
- Emergency Stop System (ESS™)
- Computer: Standard, "ruggedized" or Hazardous area operation

SPECIFICATIONS:

System Power and Operating Temperature

- Operating Environment: 0° to +60°C, 95% RH (non-condensing) (the QTERM-G70 ROVer display and the Ethernet Switch are controlling factors – other components operate to +85°C)
- Storage Environment: -20°C to 70°C, 95% RH (non-condensing)
- Power: Input supply 75W @ 12V capable of handling inrush current; three DC-DC converters are provided for internal power rails 5V, 12V and 24V

HAZARDOUS AREA CONSIDERATIONS:

- Hazardous area upgrades are available to meet the general requirements of Zone II operations (or equivalent).
- Intrinsically safe sensors, barriers, PC, keyboard or touch-screen
- Dual TFT monitor option

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ATEX Certification

Please contact NOV CTES to discuss specific requirements.

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