WellWatcher Instruct

Multiwell acquisition unit

APPLICATIONS
- Acquisition platform for reservoir monitoring and control
- Wellsite interface for all connected wells
- Connectivity to real-time data monitoring via the WellWatcher Connect* wellsite data transmission system and SCADA systems

BENEFITS
- Eliminates multiple surface components
- Streamlines optimization, engineering analysis, and troubleshooting by centralizing data gathering and storage
- Increases reliability, expandability, and serviceability due to modular design
- Enables both onsite and remote data recording and control for greater flexibility

FEATURES
- 1 GB of internal memory with a removable USB option (up to 32 GB)
- Multiprocessor architecture to ensure smooth data logging and trending of up to 32 million data points
- Intuitive, user-friendly color graphic display and menu system
- Clear, easy-to-understand prompts, at-a-glance wellsite assessments, and dedicated function keys
- PC-based commissioning and troubleshooting software
- Remote access and control capability from multiple SCADA systems
- Compliant with NEMA 3R and NEMA 4X specifications

The WellWatcher Instruct* multiwell acquisition unit provides a single common platform for monitoring and control of permanent downhole systems. The user can program the WellWatcher Instruct unit to maintain a record of all recent activity, including parameter changes, user activity, and gauge health. Each event is logged with a date and timestamp accurate to within $\frac{1}{100}$th of a second to capture the order of the events that occur. Once the internal memory is full, the logged data begins to overwrite the existing data, starting with the oldest. The event log can also be manually cleared.

Expansion
The WellWatcher Instruct unit supports up to four expansion cards—including three interface cards—and each card is able to power and monitor eight gauges. The fourth expansion slot enables connection to SCADA systems by Modbus® RTU or Modbus TCP.

Universal user interface
The WellWatcher Instruct unit comes with a built-in 5.7-in color VGA LCD display, keypad interface USB maintenance port, and USB flash drive port. The color graphic display provides a graphical representation of different states and parameters and access to menu structures for different setting and controls in the WellWatcher Instruct unit. The home screen displays the key information on the status of the wellsite. The alphanumeric keypad enables the user to enter characters in the setting areas that require user input. The keys can also be used as shortcuts for quick access to certain parameters and settings displayed on the graphic display.

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Communication interface
The communication card interfaces the WellWatcher Instruct unit to landline- or satellite-based SCADA systems. Individually configurable expansion card slots enable the WellWatcher Instruct unit to support multiple communication systems simultaneously. Standard Modbus protocol over an RS-232 or RS-485 connector is used.

The Modbus TCP/IP card interfaces the WellWatcher Instruct unit to to Ethernet-based TCP/IP networks for expanded client SCADA applications. The card uses TCP in accordance with standard RFC 793, and IP in accordance with standard RFC 791.

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Operating Environment Specifications

Humidity, %	Max. relative humidity of 80% (noncondensing) at 88 degF [31 degC], decreasing linearly to 50% at 104 degF [40 degC]
Altitude, ft [m]	10,000 [3,000]
Operating temperature range, degF [degC]	−4 to 149 degF [−20 to 65 degC]
Storage temperature	−22 to 149 degF [−30 to 65 degC]
Installation	Nonhazardous locations

Equipment Specifications

Box dimensions, in [mm] (H × W × D)	7.1 × 8.5 × 7.37 [180 × 215.8 × 187.2]
Faceplate dimensions, in [mm] (H × W × D)	7.64 × 10.59 × 0.71 [194 × 269 × 18]
Mounting	Indoor use only External applications must be mounted in NEMA 3R or NEMA 4X rated enclosure
Protection	Ingress protection rating of IP20 (no special protection)
Shipping weight, lbm [kg]	9.5 [4.3] (subject to change)

Operating Specifications

Power supply rated input (AC)	100–240 V, 50/60 Hz, 75 W
Typical power supply (AC)	100–240 V, 50/60 Hz, 15 W
Protection	Ingress protection rating of IP20 (no special protection)
Maintenance port	USB-B

Enclosure Protection Specifications	NEMA 3R	NEMA 4X
Access to hazardous parts	Yes	Yes
Ingress of water (rain and snow)	Yes	Yes
Ingress of water (sleet)	No	No
Ingress of solid foreign objects (windblown dust, lint, fibers, and flyings)	No	Yes
Ingress of water (hosedown)	No	Yes
Corrosive agents	No	Yes
Ingress of water (occasional temporary submersion)	No	No
Ingress (occasional prolonged submersion)	No	No
Max. temperature rating	131 degF [55 degC]	131 degF [55 degC]

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