8810 Remote Terminal Unit

One network to access your process data anytime, from anywhere

Next Generation Communications Device

The 8810 Remote Terminal Unit (RTU) is a modular, Ethernet-enabled, communications device. Its powerful industrial chassis is ideal for integration with tank gauges and other field devices used in inventory management applications. With support for up to six interface modules, it is extremely flexible in handling data exchange across multiple communication protocols.

Key Features

- Ethernet enabled, provides high-speed communications in near real time
- Industry standard OPC UA
- Modbus for host or field integration via Serial RTU, Modbus TCP, or Modbus over TCP
- Channels can be configured as Modbus Slave or Master
- Supports up to 400 tanks
- Supports up to 24 communication channels
- Digital input/output for alarms, monitoring, and control
- Intelligent scanning based on tank activity
- Offline configuration functionality
- Pre-configured diagnostics built in
- Interfaces with multiple different manufacturers' tank gauging devices
- Optional tank volume calculations based on the latest API standards
- Supports remote firmware upgrades and file transfers
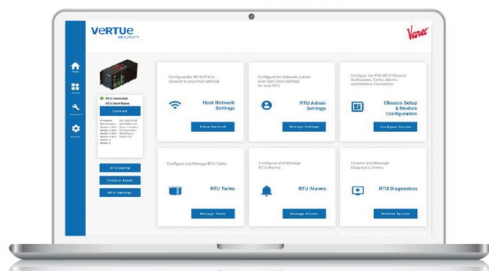- **Includes the VeRTUe browser-based configuration application**

With the CPU module serving as the base functionality for the 8810 RTU, all logic and protocols are handled seamlessly, meaning there is only one firmware application for the entire unit.

The standard, built-in OPC UA server communicates natively over standard internet protocols. This allows human-machine interface (HMI) applications to read data from the 8810 RTU. It is also compatible with a wide range of systems, including legacy Varec systems, using RS-232 and RS-485 standards.

VeRTUe is optimized for bulk liquid applications and has efficiency tools built in for common actions to streamline the configuration process. VeRTUe can be configured using any workstation on the network and supports offline configuration.

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The following add-on modules are available as options: Serial, GPU Bi-Phase Mark, Digital I/O, Mark/Space, Tankway, Analog Input, and Frequency Shift Keying (FSK) Module. Other protocols supported through the Serial module include Veeder Root, Hectronic and Ronan. Each module includes LED indicators to denote status for each channel, i.e. transmit, receive, power selection/fuse*, and bus failure*.

Serial:

- 4 serial channels, each independently configured for RS-232 or RS-485
- Channels can be configured as Modbus Slave or Master
- User configurable master and slave maps allows integration or retrofit/mimic to any system
- Support for user mappings of Modbus registers to 8810 RTU tags and parameters
- Supports host communications via the GPU protocol over RS-232/RS-485 to Enraf CIU devices
- Built-in standard slave map for typical tank data (level, temperature, and status)
- Used for built-in tank points for tank gauge communication, custom configuration for any Modbus device
- Individual surge protection for each channel
- Supports RTU protocol for legacy FuelsManager® systems
- Enables support for Veeder Root, Hectronic

Mark/Space:

- Integrates to multiple Varec transmitters
- Integrates to third-party manufacturer transmitters that talk Mark/Space
- Two independent Mark/Space channels
- Supports Mark/Space transmitters configured for high speed or low speed communications
- Supports communications to Mark/Space transmitters configured for level and temperature (56-bit), or level only (40-bit)
- Flexible power distribution, each channel can be independently powered by the 8810 RTU back plane or an external power supply
- 2500 V(rms) isolation enables a given channel to take a significant surge without impacting surrounding channels
- Each channel has a replaceable fuse

GPU Bi-Phase Mark:

- Supports connection and communication to Honeywell Enraf GPU Bi-Phase Mark loops
- Provides four interface ports per module
- Each port includes two termination plugs
- Individual surge protection for each channel

Tankway:

- Two independent Tankway channels
- Supports L&J Tankway tank gauge transmitters
- Flexible power distribution; each channel can be independently powered by the 8810 RTU back plane or an external power supply
- Each channel has a replaceable fuse
- 2500 V(rms) isolation for each channel from field to internal electronics

Digital I/O:

- Logic and digital signal processing implemented in CPU module
- Includes eight ports for interfacing with digital I/O circuits
- Each channel is individually configurable as input or output
- Supports integration of digital signals, such as alarms
- Optional Watchdog is an independent digital output signal triggered by a hardware failure, event, or alarm

Analog Input:

- Analog input signal processing handled by the CPU module
- Includes eight channels for interfacing with analog instruments
- Each channel is individually configurable
- Supports conversion of analog signals into alarms and tank points
- Compatible with 4-20 mA transmitters, 0-5 volt signals, loop-powered or self-powered signals, and differential or single-ended signals
- Each channel provides current limiting for loop-powered signals
- Individual surge protection for each channel

FSK Module:

- Supports connection and communication with Emerson (SAAB) Rex/Raptor/Pro RADAR tank gauges, DAU local display / Multiple Spot Thermometer input, along with the 2410 Tank Hub
- Two transformer-isolated channels per interface module
- Two 3-position pluggable (removable) terminal blocks per channel for convenient connection of field wiring
- A maximum of 20 tanks may be connected on a single interface module via the Rosemount Modbus TRL/2 protocol that utilizes a Frequency Shift Keying (FSK) signaling method
- 4 LED indicators each for CH1 and CH2; Tx (Transmit), Rx (Receive), CD (Carrier Detect), ENABLE
- Utilize Varec's VeRTUe software for configuration of the 8819 FSK module