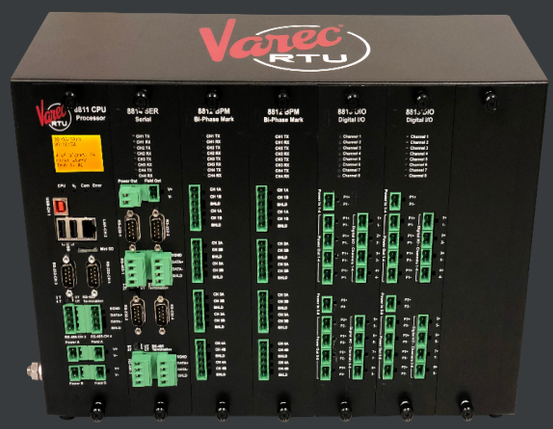
Varec

A COGNESENSE BRAND

8810

Remote Terminal Unit (RTU)

For terminal operators, refinery engineers, inventory managers, and EPCs who need to aggregate tank gauge data from multiple field protocols and publish it securely to SCADA, inventory software, and enterprise networks from a single installation point, the 8810 RTU delivers up to 400 tanks and 24 communication channels per unit, native OPC UA with X.509 certificate encryption, and a modular chassis with six swappable interface module slots. The 8810 normalizes Honeywell Enraf GPU/BPM, L&J Tankway, Varec Mark/Space, Modbus serial, Veeder-Root/ Ronan, Endress+Hauser, Hectronic HLS, Emerson/SAAB FSK, digital I/O, and analog inputs simultaneously. Unlike multi-vendor integration stacks, the 8810 eliminates separate gateways and middleware, with ANSI/IEEE surge protection, US/Canada/IECEE/ CE approvals, native API volume calculations, and browser-based Vertue configuration for major terminals, refineries, and defense fuel facilities.



Key Features

Modular Architecture

Supports up to six interchangeable interface modules- Serial, GPU/BPM, Tankway, Frequency Shift Keying, and more- allowing operators to consolidate diverse field protocols under a single firmware platform without replacing installed gauges.

Native OPC UA Integration

Includes a fully embedded OPC UA server for secure communication with HMI/SCADA and enterprise systems. Encryption and X.509 certificate support ensure safe operation, even across public or shared networks.

Massive Scale Capacity

Handles up to 24 communication channels and 400 tanks per unit, minimizing the number of RTUs required at large facilities and simplifying enterprise level inventory management.

Browser Based Configuration

The Vertue/VeRTUe web interface enables online/offline configuration, remote firmware updates, and system diagnostics directly from any workstation- no field trips required.

Network Redundancy

The 8810 OPU UA and Modbus TCP interfaces support simultaneous dual network connections using two Ethernet ports.

Tank Level and Temperature Redundancy

Native API volume, density, and weight calculations support redundant level and temperature sources. If the primary level or temperature source fails, then native tank calculations automatically switches to the secondary source.

Typical Applications

TERMINAL INVENTORY AUTOMATION

Improves inventory accuracy by aggregating data from mixed field devices into a unified visibility platform.

PIPELINE & REFINERY MONITORING

Centralizes level, temperature, and alarm data for safer, more responsive operations across complex process infrastructure.

DEFENSE FUEL OPERATIONS

Delivers mission critical visibility by connecting both modern and legacy gauges across globally distributed sites.

LEGACY SYSTEM MODERNIZATION

Bridges older analog or proprietary field devices to today's SCADA systems, extending asset life and reducing replacement costs.

MULTIPROTOCOL GAUGE INTEGRATION

Supports Honeywell, Emerson, Varec, L&J, Endress+Hauser, Veeder-Root, Ronan, and others, enabling unified monitoring without replacing existing tank gauges.

SECURE ENTERPRISE DATA EXCHANGE

Encrypted OPC UA communication ensures reliable, near real-time data transfer across secure or public networks.

Benefits

Eliminates Costly Rip-and-Replace Projects

Multiprotocol support allows modernization while retaining installed field gauges and transmitters.

Secures All Communications

X.509 certificate-based encryption protects data exchanges across public or shared networks.

Streamlines Field Commissioning

The browser-based tools enable remote configuration, firmware updates, and troubleshooting.

Protects Against Electrical Surges

Built-in surge protection meeting ANSI/IEEE standards safeguards mission critical communications.

Enhances Scanning Efficiency

Activity based scanning accelerates data updates for rapid, real-time visibility.

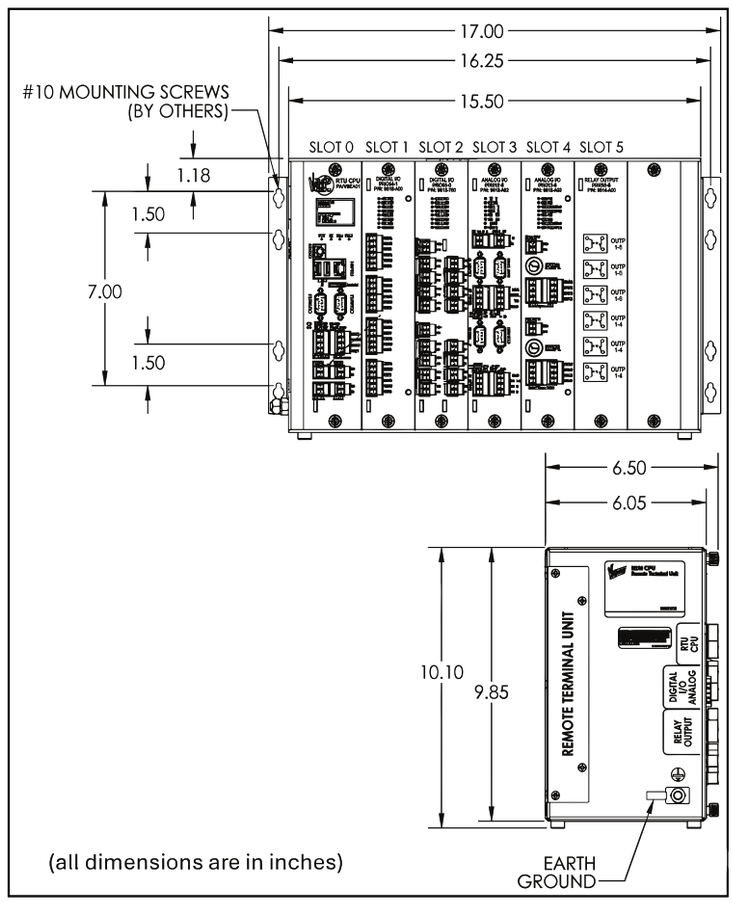
Standardizes Volume Calculations

Performs strict API compliant tank volume calculations to improve reconciliation accuracy.

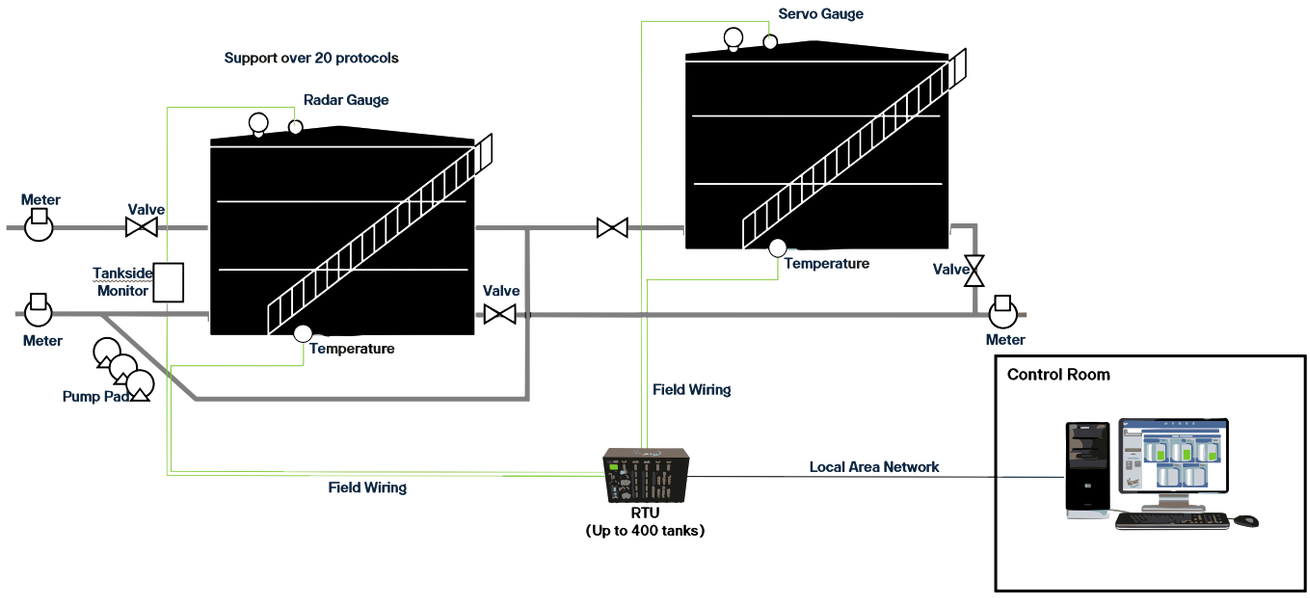
Technical Specifications

Specification	Details
Communications / Host	OPC UA; Modbus TCP/RTU; Modbus over TCP; RS-232/RS-485 legacy support
Capacity	Up to 24 channels and 400 tanks per RTU
Field Protocols	Honeywell Enraf GPU/BPM, Varec Mark/Space, L&J Tankway, Veeder Root TLS, Hectronic HLS, Modbus Master/Slave
Module Slots	Six add-on slots supporting Serial, GPU/BPM, Mark/Space, Tankway, Digital I/O, Analog Input, and FSK
I/O Capabilities	Configurable DI/DO; 4–20 mA and 0–5 V analog inputs
Scanning & Diagnostics	Activity based intelligent scanning; onboard diagnostics; LED indicators per module and channel
Configuration Tools	Browser based VeRTUe for online/offline config, firmware updates, file transfers
Protection & Approvals	Surge protection per ANSI/IEEE; certified for US, Canada, IECEE, and CE requirements

Dimensions



Typical System Layout



Model Number Selection

8810

Part Number	Description
N8810	Base 8810 Housing, 8811 CPU Module, blank covers, and panel mounting brackets
N8811	Spare 8811 CPU Module
N8812	8812 GPU Bi-Phase Mark (Enraf) Interface Module
N8813	8813 Digital I/O Module
N8814	8814 Serial Module
N8815	8815 Mark/Space Module
N8816	8816 L&J Tankway Module
400061639	24 VCD Output, 5A, 100W Power Supply (Sola SDN 5-24-100P)

Part Number	Description
P108-04-024	RS232 DB9 F/F Null Modem Cable, 10 ft
P111-41-008*	DC Output Module, 3-60 VDC, 1.5 mA Max. Off-State Leakage @ Max. Line
P111-41-009*	DC Input Module, 3-32 VDC
P111-41-011	DC Output Module, 4-200 VDC, 0.1 mA Max. Off-State Leakage @ Max. Line
P111-41-012*	DC Output Module, 3-60 VDC, 0.1 mA Max. Off-State Leakage @ Max. Line
P111-41-013*	DC Input Module, 35-60 VDC
P111-41-014*	DC Input Module, 10-32 VDC

Summary

The 8810 RTU is the field communications hub for large-scale petroleum terminal gauging — aggregating data from up to 400 tanks across mixed-manufacturer gauge fleets and publishing it to SCADA, FuelsManager®, and enterprise systems over encrypted OPC UA from a single chassis. Its six swappable interface module slots handle every major terminal field protocol simultaneously, activity-based scanning prioritizes bandwidth to active transfers, and the browser-based Vertue/VeRTUe environment enables remote configuration and diagnostics without on-site visits. For terminals, refineries, pipeline stations, and defense fuel facilities where tank counts, protocol diversity, and data security requirements exceed what smaller RTUs can address, the 8810 is the appropriate integration platform.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request