

8130 Remote Terminal Unit

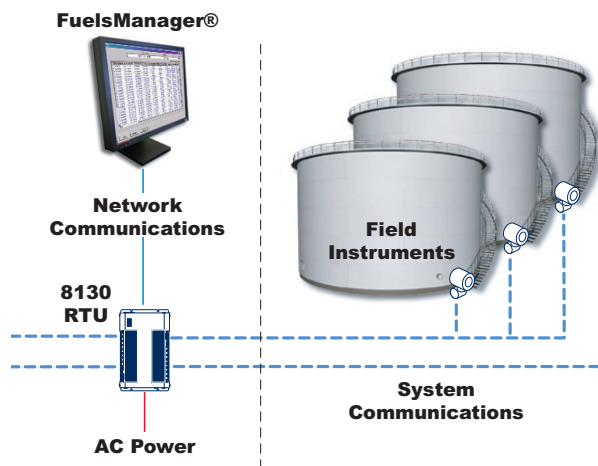
Collect and transmit data from multiple storage tanks to a central system or host using a single tank gauge interface for inventory, alarm and control.

Varec[®]



Highlights

- Easily expandable through the use of plug-in interface modules - reduces cost by integrating all analog, digital and serial data inputs and outputs
- Multiple host ports - adapts to your needs and redundancy requirements
- Supports multiple tank gauge protocols - connect your existing equipment at less cost
- Digital and analog I/O connectivity - allows simple tank farm alarm integration
- Fully compatible with FuelsManager - tank inventory management made easy
- 8130 RTU and gauge configuration data can be exported to other applications, such as Microsoft Excel[®] or Access[®] - document all tank gauge equipment
- Remote configuration of your tank gauges - means less on-tank activities, resulting in less personnel risk



8130 Remote Terminal Unit Basic System Diagram

Applications

The 8130 Remote Terminal Unit (RTU) serves as an effective solution in SCADA or standalone control applications. It supports up to four individual expansion interface modules (digital, analog and serial I/O interface) that can interface to virtually any tank gauge on the market. Each interface module will scan all the connected gauges for measured data, such as level, temperature, density, water level and alarms.

Host Communication

The 8130 RTU connects to most types of sensors or actuators on your site, and to PLCs and DCS computers. It combines with FuelsManager software to provide an extremely cost efficient and reliable tank inventory system. It also provides fully redundant host ports and is compatible with a variety of other host systems through the industry standard MODBUS[™] protocol.

Configuration and Programming

Remote programming can be accomplished from the host or locally using a PC with the Windows-based configuration program ViewRTU. This tool simplifies configuration and diagnostics, allowing uploading of final equipment configurations. Reports can also be generated via a built-in function to assist in documentation.

Software Functionality

8130 RTU software blocks provide a broad range of complex, but commonly needed functions, such as:

- Analog scaling - maps 4-20 mA values into a digital format for host applications
- Flow measurement and totalization - simplifies the implementation of flow computations
- Digital alarm handling - offers the possibility of linking alarm inputs to outputs, such as level switch inputs to claxon or siren outputs
- Pump/valve acquisition and control - allows easy implementation of pump/valve status to the host system or remote control for pumps and motor operated valves

Intelligent Interface Module Architecture

Specific communications modules interface to a wide range of tank gauge equipment. Each 8130 RTU can accommodate up to 4 modules.

- 16-Channel Digital I/O Interface
- Dual RS-485 Communications Interface with MODBUS™ protocol, MTS DDA protocol, Petrosense Probe protocol, Rackbus protocol, or GSI ASCII protocol
- 8 Channel Multi-Function Interface
- 16 Channel Analog Input Interface
- 8-Channel Analog Output Interface
- TIWAY (Texas Instruments IT-111, IT-121, IT-150) Interface
- Varec Mark/Space (Varec 1800, 1900, 4000, 2900) Interface
- Current Loop (GPE) Interface with Whessoe Bus protocol or GPE protocol
- Saab (TRL/2) Interface
- V1 (Varec TGM 3000, TGM 4000, NMS53x, Varec SG6000) Interface
- Enraf (811, 802/812, 854, 873) Interface
- L&J Tankway (MCG 1000, MCG 1500, MCG 2000) Interface
- LON (Barton Instruments 3500) Interface
- Dual RS-232 Interface with Veeder Root (TLS 350), L&J (8100) and Universal Sensors & Devices (CATLAS), Enraf (CIU), or MODBUS

Product Options

Power Supply

- 90 - 130 or 220 - 240 VAC
- 18 - 36 VDC

Host Emulation

- TSU or CIU

Field Communications

- Varec Matrix
- MODBUS
- CIU

Calculations

- Hybrid tank or Hydrostatic tank

Strapping Tables

- Embedded

Approvals

- FM or CSA

Technical Specifications

Host Communication Interfaces

| | |
|------------------------|--|
| Number of Ports | 3 |
| Comm. type | Com #0 : RS-232C Com #1, #2: configurable for RS-232C or RS-485 |
| Baudrate | 1200 - 57600 baud |
| Modem support | RTS/CTS |
| Protocol | MODBUS™ RTU protocol with configurable mapping. Commands supported 1, 2, 3, 4, 5, 6, 15, 16 |
| Mode | RTU mode, master and slave |
| Media access | Master/Slave |

Power Supply

| | |
|--------------------------|--|
| Supply voltage | 110 to 120 VAC or 200 to 240 VAC @ 50/60 Hz or 18-36 VDC |
| Power consumption | 50 mA max @ 110/220 VAC (500 mA) 20 mA max @ 24 VDC |
| Surge protection | ANSI/IEEE standards Gas Discharge Tubes (GDTs) and clamping diodes on all field inputs, power supply inputs and RS 485 input channels |

Mechanical Construction

| | |
|------------------------------|--|
| Enclosure type | NEMA 1 (IP10) |
| Optional Enclosure | NEMA 4 Enclosure for Class I Div 2 operation |
| Dimensions (HxDxW) | 16 x 9.5 x 2.5 inches 406 x 241 x 64 mm |
| Material | Powder coated steel |
| Mounting | Wall |
| Terminals | Plug-in type with screw connections |
| Operating temperature | -40 °F to +158 °F (-40 °C to +70 °C) 5 to 95% (non-condensing humidity) |

Field I/O Communication

A full range of I/O interfaces is available for the 8130 RTU, offering connectivity to virtually every type of signal encountered in industrial environments. The 8130 RTU uses standard transmitter signal levels to interface with:

- Analog input signals, such as 4-20 mA, 1-5 or 0-10 volts
- Digital I/O with isolated solid state relays for connection to 5/24 Vdc and 120/240 Vac
- High frequency pulse input for totalization
- 4-20 mA and 0-10 V analog outputs