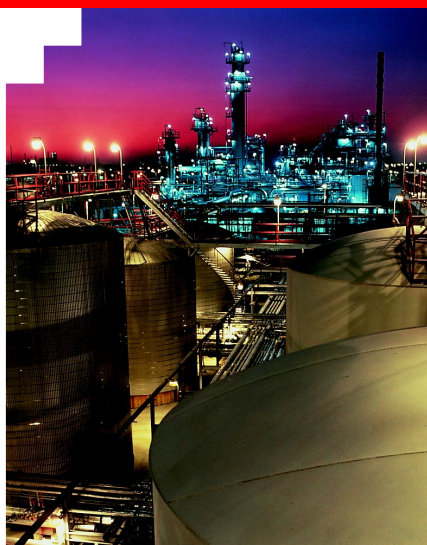


8130 RTU



The Model 8130 RTU is designed for applications where a cost-effective control system is needed for remote collection of field data and control of equipment. The RTU is ideally suited for tank farm, pipeline and refinery applications. It is an effective solution in SCADA or stand-alone programmable control unit applications.

In addition to the Input/Output functions of the RTU, several other features are provided. These include a "watchdog" timer, real-time

clock, a real-time multitasking executive, a built in software library, routines and database management.

The Model 8130 is designed to support a full range of I/O interfaces. Through these interfaces the RTU can connect to virtually every type of signal encountered in industrial environments.

The RTU software platform is based on a real-time multitasking operating system. The software consists of I/O scanning functions for data acquisition, a database manager, and communications functions for data transfer. The software incorporates a variety of protocols allowing the RTU to interface as a master or slave device.

The operation of the RTU is based on a highly reliable, field-proven real-time multitasking executive. It provides task switching based on real-time events, interrupts, message passing and task priorities.



AT A GLANCE

➤ Modular construction

Easily expandable through the use of plug-in modules. Supports multiple modules.

➤ Tank gauging interfaces

Multiple interfaces to field devices can be accommodated through the use of plug-in modules.

➤ Stand alone or integrated

Can be utilised as a master or slave device depending upon the application. Fully compatible with FuelsManager.

➤ Input/output interfaces

Analogue, digital and pulse I/O capability via plug-in modules.

➤ Configuration

Standard function block configuration using Windows* based configuration tool.

➤ Installation

Div II Groups A-G T4 availability
ANSI/IEEE Surge Protection.

8130 REMOTE TERMINAL UNIT

INPUT/OUTPUT

The 8130 is supported by a full range of I/O interfaces. I/O adapters are available for connection to virtually every type of signal encountered in industrial environments. The RTU can interface to analogue input signals using standard transmitter signal levels such as 4-20 mA, 1-5 or 0-10V. For digital I/O, the RTU provides isolated solid state relays for connection to 5 VDC, 24 VDC, 120 VAC or 240 VAC circuits. Other modules are available for high frequency pulse totalisation, 4-20 mA or 0-10 V analogue outputs and thermocouple or RTD inputs.

To interface with 'smart' transmitters, the 8130 has an optional HART interface. The HART interface can be used to collect data, configure the instrument or perform diagnostics. Up to 15 HART devices may be multi-dropped on the HART interface. A HART Multiplexer is also available to extend the communications capability, allowing a maximum of 32 channels.

Additionally, the Series 8130 RTU can interface to virtually every tank gauge on the market using intelligent adapter modules. The intelligent adapter modules scan the tank gauge for its level, temperature and volume information. In many cases multiple tank gauges can be connected in a multi-drop configuration. The data gathered can be uploaded to the host system or used by other software functions for alarm and control purposes.

COMMUNICATIONS

Two high speed serial communications channels are available to interface to host systems using a variety of industry standard protocols. Both channels may be used simultaneously for increased throughput and redundancy, or each may connect to different hosts communicating using different protocols. For I/O expansion, one channel can be used for peer-to-peer communications with other 8130 RTUs or master/slave communications to remote I/O.

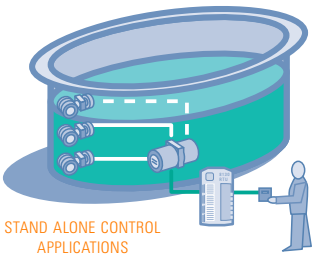
INSTALLATION

To allow use in harsh industrial environments, the Series 8130 RTU incorporates ANSI/IEEE surge protection. The power, communications and field signal lines are protected from surges and voltage spikes using a double layer design. Unlike many RTU's on the market, the 8130 RTU is fully operational over the temperature range from -40 °C to +85° C. It is suitable for installation in a division 2 classified location.

CONFIGURATION AND PROGRAMMING

The 8130 RTU is fully compatible with Whessoe Varec's FuelsManager. It is also compatible with a variety of other host systems including Wonderware, FIX/DMACS, Paragon, Genesis, Control View, and Factory Link through MODBUS, TIWAY or Allen-Bradley Data Highway protocols.

The 8130 RTU is easy to configure. It can be programmed from the host interface or locally using a PC, hand-held terminal or an optional front panel display. VIEW-RTU is a Windows* based configuration program available for configuring the RTU. Configuration data and user defined programs may be downloaded to the RTU. Additionally, VIEW-RTU can interrogate the 8130 and gather real-time data for diagnostics and calibration. The real-time data may also be shared with other Windows* programs via a DDE link.



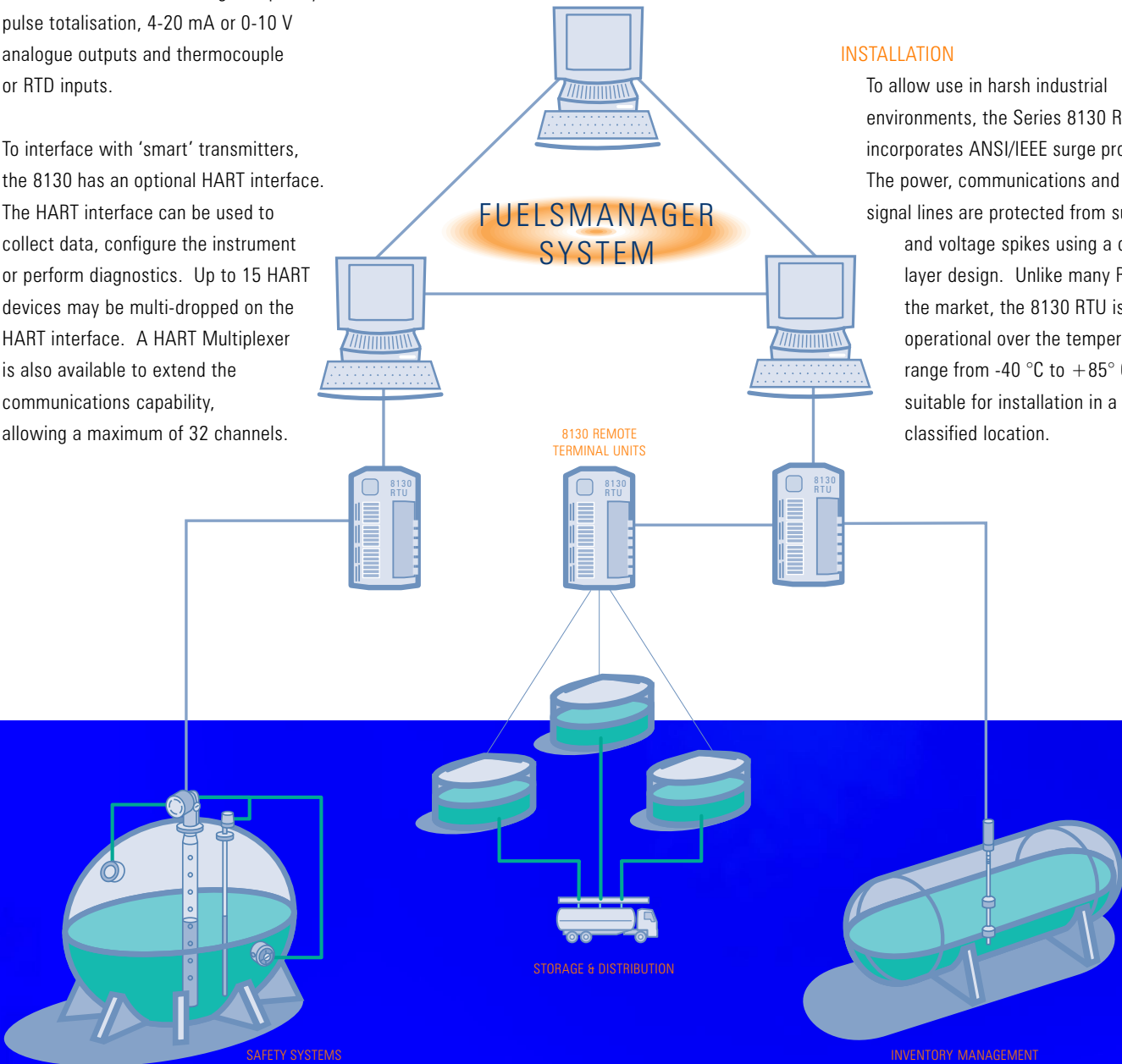
In the case where a hand-held terminal or laptop PC is used to change data locally at the RTU, VIEW-RTU can detect that the configuration is different and upload data to the host system. VIEW-RTU also provides documentation of the configuration of an RTU in the form of reports.

Most applications can be accomplished using the 8130's RTU-Blocks, which are built-in software routines providing the most commonly needed functions. The user need only assign values to program configuration parameters such as channel numbers and setpoints. For example, a standard RTU-Block is available for pump control.

For applications requiring additional functions not found in the RTU-Blocks, user-definable programs can be created using Whessoe Varec's PDL-II (Process Definition Language). PDL-II is a function block language that allows the user to create control strategies from a complete library of logic and maths functions. The user may integrate the standard RTU-Blocks in the control strategy, thus extending their function-functionality, or may create new function blocks.

OTHER RELATED DOCUMENTS

Whessoe Varec Gauging Corporate Overview:
Gauging & Instrumentation Systems
Advanced SCADA System for Fuels Management:
FuelsManager
Applications for the 8130 RTU:
App note: 8130/APP/1/97
QuickSpecs: RTU_QS / RTU.PDF



TOTAL CAPABILITY

Our total capability is demonstrated through the use of appropriate, field-proven techniques and advanced applications technology and services to maximise your profitability and performance



8130 REMOTE TERMINAL UNIT

TECHNICAL SPECIFICATION

POWER REQUIREMENTS

AC or DC operation
AC: 120/240 VAC, 50/60 Hz @ 500 mA max
DC: 18-36 VDC @ 300 mA + Field Devices
Battery backup for uninterruptible operation

ENVIRONMENTAL

Operating temperature: -40° to +85° C
Humidity: 5 to 95% RH, non-condensing
EMI/RFI protection
Suitable for installation in Division 2
NEMA 4/12 enclosure

PHYSICAL

Height: 406mm(16")
Width: 241mm(9½")
Depth: 64mm(2½")

COMMUNICATIONS

Choice of MODBUS, TIWAY, ALLEN-BRADLEY data Highway
HART or Fieldbus protocols
Redundant host communications channels
Supports two independent protocols simultaneously
Communications via RS-232, RS-485, radio, fibre optics or modem
Peer-to-peer connection of 8130 RTUs for data sharing
ANSI/IEEE surge protection for RS-485
Built in operator interface via RS-232, hand-held terminal or panel display (option)

TANK GAUGE INTERFACES

Whessoe Varec series 1800 & 1900 and ATT transmitters
Texas Instrument TI 120 and 150 tank transmitters
L&J and GSI Mark/Space tank gauges
Whessoe ITG 50/60/70 and 1315 transmitters
Varec Model 4110 Hart Level
MTS, Magnentrol, Metritape, Enraf Series & Saab Radar Gauge

SOFTWARE FUNCTIONS

Analogue scaling
Flow measurement & totalisation
Digital and analogue alarms
Tank gauge scanning
Pump & valve control
Leak detection
User definable functions using PDL-II software language

I/O EXPANSION MODULES

The 8130 can interface to a variety of field devices and intelligent instrumentation via expansion modules. Several diverse products are compatible with the I/O expansion connector. (see product code table)

8130 REMOTE TERMINAL UNIT

CODE A	POWER SUPPLY
1	110/120 VAC
2	220/240 VAC
3	24 VDC
CODE B	OPTIONS
0	None
1	Battery Backup
2	Front Panel Display
3	Hart Communication
CODE C	DIVISION 2 HAZARDOUS LOCATION CERTIFICATION
0	None
1	Factory Mutual - FM
2	Canadian Standards Association - CSA
CODE D	ENCLOSURE OPTIONS
0	None
1	20" H x 24" W x 8" D (48 Vdc supply included)
2	24" H x 16" W x 6" D

8130 A B C D

Choose options from suffixes to complete the catalogue order code

CATALOGUE ORDER CODES

8130 REMOTE TERMINAL UNIT INTERFACE MODULES

CODE A	MODEL 8201
1	16 - channel Digital Input/Output
CODE B	MODEL 8202
1	8 - Channel Analog Input
CODE B1	DIVISION 2 HAZARDOUS LOCATION CERTIFICATION
1	None
2	Factory Mutual - FM
3	Canadian Standards Association - CSA
CODE B2	OPTIONS
1	None
2	HART Multiplexer Interface (must have HART Communications)
CODE C	MODEL 8203
1	Dual RS485 Communications Interface - Modbus/Rackbus Only
CODE C1	OPTIONS
1	TIWAY
2	Modbus
3	MTS DDA
4	Petrosense Probe
5	RackBus
CODE D	MODEL 8204
1	8 - Channel Multi-Function Module
CODE E	MODEL 8205
1	16 - Channel Analog Input
CODE E1	DIVISION 2 HAZARDOUS LOCATION CERTIFICATION
1	None
2	Factory Mutual - FM
3	Canadian Standards Association - CSA
CODE F	MODEL 8206
1	6 - Channel High Speed Pulse Input
CODE G	MODEL 8210
1	Whessoe Varec Mark/Space Gauge Interface (48 VDC Required)
CODE H	MODEL 8211
1	Current Loop Interface (Whessoe)
CODE K	MODEL 8212
1	Saab Interface
CODE L	MODEL 8213
1	Sakura Endress V1 Interface
CODE M	MODEL 8214
1	Enraf Interface (Bi-Phase Mark)
CODE N	MODEL 8215
1	L&J Tankway Interface
CODE O	MODEL 8216
1	ITT Barton (LON Interface)
CODE P	MODEL 8217
1	Dual RS232 Interface

8130 IM A B B¹ B² C C¹ D E E¹ F G H K L M N O P

Ordering example for the RTU Unit : 8130 -2 -1 -0 -0

8130 RTU with a 220/240 VAC power supply and battery backup.

Interface modules: 8130 IM -1 -0 -0 -0 -1 -3 -0 -0 -0 -0 -0 -0 -0 -0 -1 -0

16-channel digital input/output, Dual RS-485 comm's interface for Modbus/Rackbus only with MTS DDA option and ITT Barton (LON Interface)

RTU8130-DS1.P65 9/98