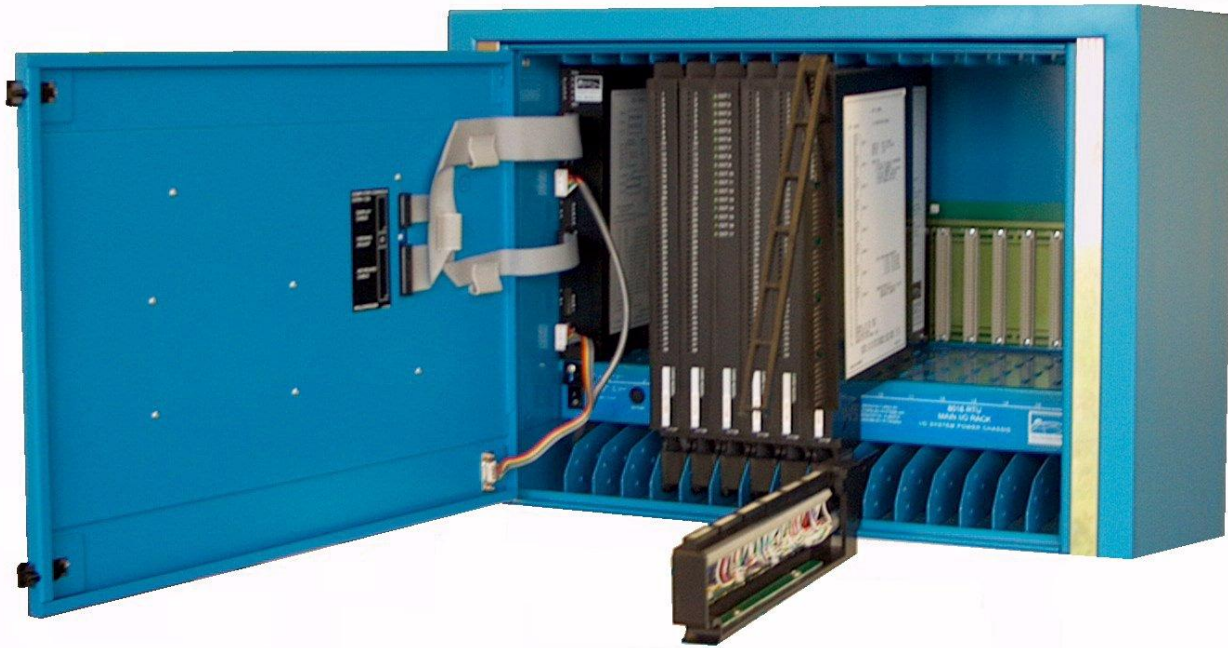


## PRODUCT DESCRIPTION

**General Description**

The Model 2216 Remote Terminal Unit (RTU) is an advanced intelligent electronic device that is used for data acquisition, local/remote control and simple to complex real-time processing of field or plant data.

The 19-inch rack mountable Model 2216 RTU is designed for medium to large size sites. Up to 16 I/O modules can be supported within the main RTU rack and expansion racks can be easily added.

Willowglen's RTUs provide the best solution for a wide variety of control system requirements. Willowglen's intelligent RTUs have plenty of processing power for large I/O systems and calculation intensive applications.

The Model 2216 RTU uses Willowglen's advanced ISC-11870 CPU module which is the powerful fourth generation controller card. This processor card is also available as a swap in replacement for existing ISC modules in Willowglen Model 8016 and Model 1208 RTUs to provide an easy user upgrade.

Field proven RTU software is available for a broad range of process applications such as gas/oil well and pipeline flow control, plant process control and electrical utility power distribution monitoring and control. The RTU has a Web interface for easy configuration from any standard PC, without the need for any custom software. Uses the stable open source Linux operating system.

Provides support for all 5 industry standard IEC 61131-3 PLC programming languages. This provides local intelligent control of RTU.

**Features**

- CPU uses a high performance superscalar architecture Freescale Power Architecture processor with PowerPC core.
- 256 MB of high speed DDR SDRAM and 128 MB of on board Flash memory
- Supports field and remote update of system programs.
- 2000+ I/O point capacity
- Modular design allows user specific configurations
- Multiple serial communication ports

# Unisen Model 2216 RTU Specifications

## Basic Building Blocks

- **Processor:** An Intelligent System CPU (ISC) module plugs into the main RTU rack backplane to connect to the I/O modules and power supply module.
- **Input/Output:** Field I/O is provided through a user-defined flexible combination of several types of standard input/output modules.
- **Communications:** Serial, USB and Ethernet communication formats are available.
- **Power Supply Module:** Removable power supply plugs into the main RTU rack backplane.
- **MMI:** An optional LCD display/keyboard/touch screen console unit can be mounted on the enclosure door and connected by cable to the processor module

The Model 2216 RTU main RTU rack includes a CPU module (ISC), a power supply module, a backplane with 16 slots for I/O modules. For applications requiring extra I/O capacity, up to 15 expansion racks can be added for a maximum of 256 I/O cards in a single RTU.

## Processor Module

### CPU

- Freescale Power Architecture 32-bit processor with PowerPC core has a 400 MHz Clock, Double Precision FPU, MMU, Power saving modes
- **Memory:** 256 MB DDR SDRAM, 128 MB of Flash memory, 1.5 MB static RAM with 100 hour power back-up

### On-Board Peripherals

- 10/100 Mbps Ethernet switch with 4 ports
- USB host controller with 3 external ports and 1 internal port for USB Flash memory device
- Real-time clock with temperature compensated crystal clock. Power back-up using super capacitor
- Ambient temperature sensor

### Serial Communication Ports

- 2 RS-232 serial ports (4-wire interface)
- 1 RS-232 serial port (full 8-wire interface)
- 2 software configurable ports: RS-232 or RS-485 with 4-wire and 2-wire modes
- 1 high speed RS-485 port: software configurable as 4-wire full-duplex or 2-wire half-duplex
- Serial ports use RJ45 modular connectors
- Serial data rates of 110 to 115k baud

### Front Panel User Interface

- LED indicators with automatic power off timer
- 9 LED indicators including RESET and WDT alarm
- All serial ports have LED status indicators for transmit and receive activity
- 2 push-button switches for multiple functions including RESET, WDT alarm clear, LED indicator power enable

## Power Module

Input power is provided by a removable power supply module for 12 VDC, 24 VDC, 48 VDC, 129 VDC, 120 VAC and 240 VAC sources (with optional redundancy and battery backup).

## Input/Output Modules

ACI-11256 Accumulator Input Module  
ASI-11269 AC Sense Input Module  
ASI-11358 Analog Scanner Interface Module  
COD-11561 Checkback Output Driver Module  
DAC-11289 Digital to Analog Converter Module  
DAC-11495 Digital to Analog Converter Module  
DCI-11243 Digital Contact Input Module  
DSI-11559 Digital SOE Input Module  
FRI-11349 Flow Rate Interface Module  
MPI-11348 Meter Prover Interface Module  
ROI-11272 Relay Output Interface Module  
ROI-11297 Relay Output Interface Module  
RSI-11347 RTD Scanner Interface Module  
TOD-11329 Transistor Output Driver Module

Field wiring terminates at screw terminals on the Field Termination Board (FTB). The module can be removed and replaced without disturbing field wiring.

All I/O modules meet the ANSI C37.90-1978 standard for surge protection.

Refer to the individual Input/Output module product descriptions for more information.

## Local User Interface (Optional)

Capable of interfacing to graphic or alphanumeric operator interface terminals using RS-232, USB or Ethernet port.

## Dimensions and Weight

(Including power supply module and I/O cards)

- **Size:** 355 mm by 482 mm by 280 mm  
(14.0 in by 19.0 in by 11.0 in)
- **Weight:** 25.0 kg (56 lb)

## Unisen Software Development Kit

An SDK is available for advanced users who need to go beyond the capabilities of the five IEC programming languages. Willowglen's SDK allows for code to be written using C or C++ and for custom database objects to be created. The SDK is commonly used to embed advanced calculations, and to create special purpose communication protocols. The full power of the Unisen platform, the high speed database engine and the Linux Operating System can be utilized to make a truly custom application. The SDK includes a complete debugging system. Full documentation is provided on the Unisen software libraries including example code.

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Specifications subject to change.



WILLOWGLEN SYSTEMS INC.

Tel: +1 780-465-1530

Fax: +1 780-465-0130

email: sales@willowglensystems.com

Website: www.willowglensystems.com