

# Unisen DR RTU



## General Description

The Model 2208 Dual Redundant (DR) Remote Terminal Unit (RTU) is an advanced intelligent electronic device used for data acquisition, local/remote control, performing custom logic programs, and simple to complex real-time processing of field or plant data.

The compact Unisen model is designed for small to medium sized sites. Up to 8 I/O modules can be supported within the main RTU rack and expansion racks can be easily added for more I/O.

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 2208 DR RTU can be housed in a NEMA/CEMA enclosure or in a standard 19-inch rack mount enclosure.

The Model 2208 DR RTU uses two of Willowglen's advanced ISC-11870 CPU modules - a powerful fourth generation controller card - that ensures dual redundancy. In addition, the unit also includes two power supplies for maximum availability.



## Field Proven

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. Unisen is based on a stable and reliable open source Linux operating system.

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

## Industry-Driven Features

- 2 x CPU cards each with a high-performance processor
- 2 x power supplies for dual redundancy
- 256 MB of high speed DDR SDRAM and
- 128 MB of onboard Flash memory
- Supports field and remote updates of system programs
- 2,000+ I/O point capacity
- Modular design allows user specific configurations
- Multiple serial communication ports
- AREMA compliance

## Specifications

### Basic Building Blocks

- **Processor:** Two (2) Intelligent System CPU (ISC) modules plug into the main RTU rack backplane to connect to the I/O modules and two (2) power supply modules
- **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:** Two (2) removable power supply modules plug into the main RTU rack backplane.
- **HMI:** 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 2208 DR RTU main rack includes two CPU modules (ISC), two power supply modules, and a backplane with 8 slots for I/O modules. For applications requiring extra I/O capacity, up to 31 expansion racks can be added for a maximum of 256 I/O cards in a single RTU.

### Processor Modules

#### 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 Modules

Input power is provided by a modular, removable power supply with 24 VDC input.

### Communication Module

A removable module is available for specialized communications such as cellular, wireless or wire-line modems.

### Input/Output Modules

ACI-11519 Accumulator Input Module  
ASI-11516 Analog Scanner Interface Module  
ASM-11524 AC Sense Input Module  
COD-11606 Checkback Output Driver Module  
DAC-11518 Digital to Analog Converter Module  
DCI-11517 Digital Contact Input Module  
DCI-11654 Digital Contact Input Module  
DSI-11605 Digital SOE Input Module  
FRI-11665 Flow Rate Interface Module  
GPS-11749 GPS Time Interface Module  
MPI-11664 Meter Prover Interface Module  
ROI-11520 Relay Output Interface Module  
ROI-11521 Relay Output Interface Module  
RSI-11699 RTD Scanner Interface Module  
TOD-11620 Transistor Output Driver Module

Field terminations to screw terminals on pluggable field termination connector provides for module removal and replacement 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: 296 mm by 241 mm by 241 mm (11.65" by 9.5" by 9.5")  
Weight: 7.62 kg (16.8 lbs)

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