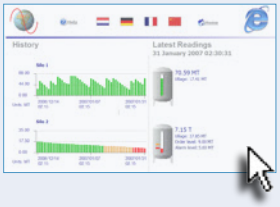
SITEWATCH™ SW8000

Remote Terminal Unit



"For the Remote Control and Monitoring of large systems, the SW8000 RTU is the ideal solution"

Industrial Design

The SW8000 Remote Terminal Unit (RTU) is a modular design comprising a SW8000 Controller and separate input/output (I/O) modules. The SW8000 Controller is 32-bit ARM9 microprocessor based. The SW8000 RTU can be individually configured for a specific application using combinations of plug-in processors and I/O modules.

The SW8000 RTU is designed for rack mount applications and can be supplied in its own wall mountable cabinet to provide easy handling. The lead free components and manufacturing meet the new environmental regulations (RoHS). The use of industrial grade components allows the circuit boards to be used in both high and low extremes of temperature.

The various communication ports offered by both the SW8000 Controller and the Intelligent Communications Interface (ICP) provide the means to collect data from a large range of external field devices, including PLCs and Intelligent Meters.

Industry standard protocols are supported, these include MODBUS; PROFIBUS; DNP3; SNMPv2c; IEC60870.....

Inputs / Outputs

The SW8000 RTU uses modular design and construction concepts to offer a very versatile and expandable solution. All the plug-in modules use the latest design techniques and technologies to provide a robust and cost effective system.

Our range of modules includes :

Digital Input Module (DIM) - 16 optically isolated digital inputs, configured for internally or externally powered contacts.
Digital Output Module (DOM) - 16 relays with change over contacts.
Analogue Input Module (AIM) - 16 differentially selected analogue inputs. The inputs can be configured for 4 to 20mA or 0 to 10Vdc.
Pulse Input Module (PIM) - 16 channels of optically isolated pulse inputs.
Analogue Output Module (AOM) - 4 or 8 channels of output with a resolution of up to 12 bits. The outputs can be selected for 4 to 20mA or 0 to 10 Vdc.
Input/Output Module (IOM) - 16 optically isolated single ended digital inputs and 48 single ended open collector outputs.

For details of other cards in our range please contact our sales department.

Communications

The SW8000 Controller provides 4 serial ports, selectable to RS232 asynchronous and RS485 communications. Additional serial ports can be added using the ICP module. Each ICP provides an additional 4 ports, a maximum of 4 ICPs can be used in one SW8000 RTU. The protocols supported by the RTU include RS232; RS485; Ethernet 10/100 Mbit/s UTP; USB Host Port (standard connector); Cellular Networks (GSM,GPRS); CAN bus.

Software

The SW8000 Controller application runs on the Linux operating system and supports IsaGraf™as an option.

Expansion Card Options

The modular design of the SW8000 RTU allows the I/O modules to be fitted in any combination and so can be tailored to any application.

The SW8000 RTUs can be interconnected via ethernet or a multi-dropped RS485 network.

System Health Monitoring

The SW8000 RTU has extensive self monitoring which include built-in self test routines; hardware and software watchdogs and operational status indicators:

- ☑ Main DC supply voltage available
- ☑ Battery Support Status
- ☑ UPS Battery Low & UPS Mains Fail
- ☑ Watchdog Healthy - System running
- ☑ RTU Temperature
- ☑ RAM Checksum error
- ☑ ROM Checksum error

Physical Interconnection

All modules are accessed from the front of the rack. All field terminations are made at the rear of the RTU using plug-in screw connectors. Modules can be removed from the rack without disturbing the field wiring.

Power Supply

230/115 VAC mains power supply via UPS.

Option for +8V to +30V DC Supply

Dimensions

The SW8000 Controller is a standard 19", 3U in height. The I/O is supplied in a standard 19" rack, 6U in height. Total assembly height of the RTU is 9U (396.5mm).

Typical Applications

Air Traffic Control (Air & Ground side)
Gas & Oil Industry
Water Industry
Chemical Industry

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Sitewatch 8000 Controller

SW8000 Controller

Part No. 9180

The SW8000 Controller is a 32-bit ARM9 microprocessor based Remote Terminal Unit (RTU).
The SW8000 application runs on the Linux operating system and supports IsaGraf™as an option

Communication hardware includes 4 serial ports (selection of RS232,RS485); Ethernet 10/100 Mbit/s UTP; USB: Host Port (standard connector); cellular networks (GSM, GPRS) and CAN bus.

The SW8000 Controller supports a range of protocols including Modbus; Profibus; DNP3; SNMPv2c; IEC60870.

The SW8000 Controller can self monitor its main DC supply voltage; onboard battery; RTU temperature; UPS Battery low and UPS mains fail.

The SW8000 Controller can be mains powered by a UPS or via a +8v to +30v DC supply.

Intelligent Communications Processor

ICP

Part No. 7500

The ICP is used to interface with other intelligent equipment. It supports combinations of synchronous and asynchronous communications at RS232 and RS485 levels with communication speeds of up to 38.4kBaud.

The ICP module communicates with the ISP module via the RS485 network running across the RTU backplane.

- ☑HD64180 processor operating 12Mhz
- ☑512Kbytes of memory - EPROM or RAM
- ☑4 Serial Interface ports capable of operating at speeds between 75baud and 38.4kBaud. 1 port is RS232 asynchronous, 1 port is RS485 asynchronous. The remaining two ports are configurable for synchronous or asynchronous at either RS232 or RS485.
- ☑8 LEDs indicate operational status.
- ☑Hardware and software watchdogs
- ☑Battery backed module memory.

Digital Output Module

DOM

Part No. 7514

The DOM module has 16 changeover relay contacts, each output has a VDR for surge protection on the normally open contact.

16 LEDs indicate the status of each of the relay outputs.

Relay contacts are rated at 0.5 amps/125 VAC or 2 amps/30 VAC.

Plug in screw connectors are fitted at the rear of the module for termination of field wiring.

Power supplies for the module are fed from the PSU via the RTU backplane. +5 volt supplies are used to power the logic circuits and the un-isolated RTU DC supplies are used to energise the output relay coils. The Relay coils are driven via opto-couplers to maintain the RTU power supply isolation.

A link is inserted into one of 16 positions to give the module a unique address within the Maxi RTU.

Digital Input Module

DIM

Part No. 7524

The DIM module has 16 optically isolated digital inputs, protected differentially.
The inputs are configured using links on the PCB to source isolated DC supplies to either dry contacts or operate active (powered) contacts.

16 LEDs on the front panel provide indication to the status of the 16 digital inputs.

All field wiring is terminated in plug in screw connectors at the rear of the module. The modules can be removed and replaced without disturbing field wiring.

Power supplies for the module are fed from the PSU via the RTU backplane. +5 volt supplies are used to power the logic circuits and status LED`s.

A link is inserted into one of 16 positions to give the module a unique address within the Maxi RTU.

Analogue Input Module

AIM

Part No. 7480

The AIM module is micro-controller based and has 16 multiplexed analogue inputs which are protected differentially and bulk isolated from the RTU power supplies.

The 16 inputs can be individually configured for the desired input type using links on the PCB and software configuration.

Inputs can be current, voltage or thermocouple. A plug in screw connector is fitted to the rear of the module for termination of field wiring.

The AIM module communicates with the ISP module via the RS485 network running along the RTU backplane.

Switches on the PCB select the logical address and the RS485 baud rate to correspond with settings on the monitoring ISP module.