

Advanced data recorder and central display

The 9510-RTU unit can serve many uses throughout a facility. This low-cost central display - data recorder can provide HTML web pages and customizable displays to allow easy access to the data and provide E-mail alarming for critical information. This multi-functional unit supports communications to any Modbus RTU device and digital / analog I/O, allowing the 9510-RTU to provide solutions for many different applications.

Features

- Monitor breaker status changes with 1ms resolution
- Collect, log, and scale pulse inputs from water, air, gas, electricity or steam meters
- Act as an Ethernet gateway for serial devices
- Display Modbus slave information and make available as a web page
- Log and e-mail down stream Modbus device data
- Display trip unit data from WL, VL, Static Trip III¹⁾ and SB-EC devices¹⁾
- Trigger and email alarms based on setpoint conditions
- Display feeder energy information for LEED certification
- Engineering service required to setup the 9510-RTU features.

¹⁾ Requires SPI-1000 as an interface.



9510-RTU

www.usa.siemens.com/pds

SIEMENS



Back view



PAC3200 screen



Feeder energy screen

Water, air, gas and steam monitoring

The advanced data recorder comes with digital inputs which can be configured for pulse counting applications where full utility monitoring is required.

Now gas, water, air and steam pulses can be collected in one unit logged and displayed. Up to 16 digital inputs can be added.

E-Mail capable

The advanced data recorder provides multiple communication interfaces, including serial, modem and Ethernet. With an Ethernet network card install, the 9510-RTU can send logged data via e-mail for storage and reporting on a remote PC.

Specifications

Up to 16 digital inputs:

- 8 Inputs: S1-S8, SCOM self-excited, dry contact sensing, no external voltage required
- Minimum pulse width: 1msec
- Maximum pulse rate: 20 pulses/sec.
- Scan Time: 1/2 cycle
- Timing resolution: 1 ms
- Isolation: 300 Vpeak for 10s, 60 Hz.

Relays

- 3 relays: RT – R3
- Contacts: Form C
- Rated voltage: 250 VAC / 30 VDC
- Max. voltage: 380 VAC, 125 VDC

- Rated load @ 10 A AC/DC resistive, Rated voltage: 7.5 A (AC) / 5 A (DC) Inductive (p.f. = 0.4)
- Max. switching load: 2500 VA resistive, 1875 VA inductive (p.f. = 0.4)
- Turn-on time: 15ms max
- Turn-off time: AC: 10ms max, DC: 5ms max
- Isolation: 5,000 VAC for 1 minute
- Lifetime: 10,000,000 operations (no load), 100,000 operations (rated voltage and load)
- Update time: 1/2 cycle or 1-second

Solid state outputs

- 4 solid state outputs: D1-D4
- Contacts: Form A
- Maximum voltage: 30 V
- Maximum current: 100 mA
- Isolation: Optically isolated. max 5000 Vrms isolation (UL:E64380)
- Scan time: 1/2 cycle or 1-second

Power supply

- Rated inputs: AC: 85-240 VAC/VDC (+/-10%) 47-63 Hz or 20-60 VDC (+/- 10%)
- Dielectric withstand: 2000 VAC RMS, 60Hz for 1 min.
- Burden: Typical: 10 VA, Max: 20 VA
- Ride-through: Min: 100ms (6 cycles @ 60 Hz @ 96 VAC) 200ms (12 cycles @ 60 Hz @ 120 VAC), 800ms (48 cycles @ 60 Hz @ 240 VAC)

Communications

COM 1

- Interface: RS-232E DTE (male DB9 connector) or RS-485 (captured wire connector)
- Duplex: Full (RS232E), half (RS485)
- Isolation: Optical

COM 2

- Interface: RS-485 (captured wire connector)
- Duplex: Half
- Isolation: Optical

COM 3

- Interface: IrDA compliant, or 33.6 kbps internal modem
- Duplex: Half
- Distance: 0-1 meter
- Optical range: +/- 15 degrees (min), +/- 30 degrees (max)
- Location: Front of meter (IrDA), com card (MODEM)

COM 4 (Network)

- Interface: IEEE 802.3-1993, ISO/IEC 8802-3:1993 (Ethernet) 10Base-T or 10Base-FL (optional)
- Cabling: 10/100Base-T unshielded twisted pair cable, 0.5 mm (24 AWG). Max. length: 100 meters 100Base-FX Fiber optic cable, 62.5/125 um nominal, wavelength: 820 nm max. length: 2000 meters

- Connectors: RJ45 10/100Base-T, SC 100Base-FX
- Isolation: 10/100Base-T: Transformer isolated. Min. isolation voltage: 1500 VAC RMS/2250 VDC 100Base-FX: Optical
- Protocols: TCP/IP, Telnet, ION, Modbus TCP

Internal modem

- Data rate: 300 bps - 33.6 kbps (V.34, V.32 bis, V.32, V.22 bis, V.22 A/B, V.23, V.21, Bell 212A, Bell 103) Automatic data rate detection is supported
- Error Correction: V.42 LAPM, MNP 2-4, MNP 10
- Data compression: V.42 bis/MNP 5
- Interface: RJ11 (Tip and ring)
- Governmental approvals: FCC modem: FCC P68 (USA), Industry Canada CS-03 (CAN)
- CE modem: CTR21 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK)

Environmental conditions

- Operating temp: -20° to +70°C (no formation of ice) (-4°F to 158°F)
- Storage: -40° to +85°C (-4°F to 185°F)
- Humidity: 5 to 95% non-condensing

Internal memory

- 5 meg standard, 10 meg optional

Shipping

- 7.1 lbs / 3.2 kg
- 17 x 10 x 11 inches (0.98 cu. ft.)
40.8 x 24 x 27.9 cm (0.0235 cu. m)

Display

- Type: FSTN liquid crystal display (LCD)
- Resolution: 320 x 240 pixels (1/4 VGA)
- Temperature: Display operational -20° to +60°C
- Backlight: Cold cathode fluorescent (CCFT)

Standards compliance

Safety/construction

- IEC1010-1 (EN61010-1) Safety requirements for electrical equipment for measurement, control and laboratory use
- CSA C22.2 No 1010-1 Canadian Standards Association
- UL3111-1 measuring, testing and signal generation equipment

Electromagnetic immunity

- IEEE C.37-90.1-1989 IEEE standard surge withstand capability (SWC) tests for protective relays and relay systems (ANSI) (All inputs except for the network communication port)
- IEC1000-4-2 (EN61000-4-2/IEC801-2) Electrostatic discharge (B)
- IEC1000-4-3 (EN61000-4-3/IEC801-3) Radiated EM field immunity (A)

- IEC1000-4-4 (EN61000-4-4/IEC801-4) Electric fast transient (B)
- IEC1000-4-5 (EN61000-4-5/IEC801-5) Surge immunity (B)
- IEC1000-4-6 (EN61000-4-6/IEC801-6) Conducted immunity
- ANSI C62.41 Surge immunity
- IEC1000-3-2 (EN61000-3-2) Limits or harmonic currents emissions (equipment input current < 16 amps per phase)
- IEC1000-3-3 (EN61000-3-3) Limitation of voltage fluctuations and flicker in low voltage supply systems for equipment with rated current < 16 amps
- EN51040 Radiated EM Field Immunity (A)
- EN51041 Conducted EM field immunity (A)
- EN50082-2 Electromagnetic compatibility, immunity

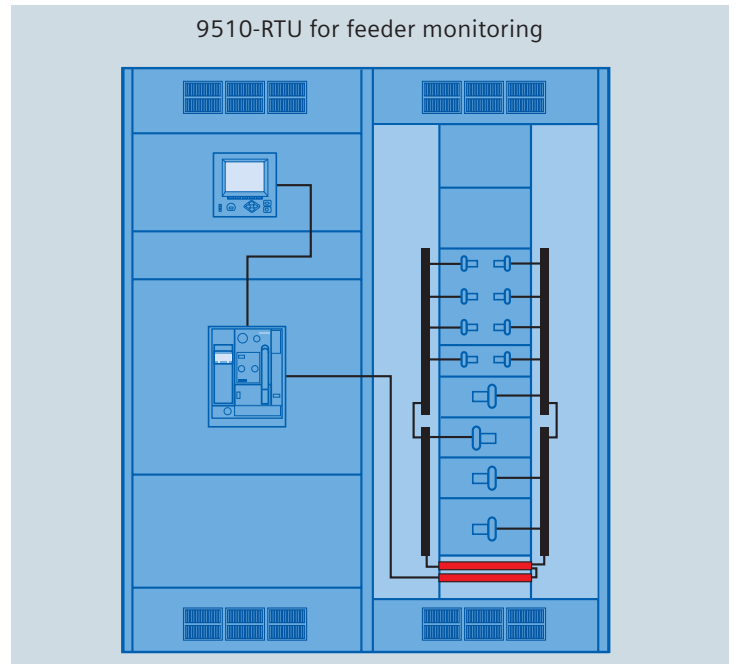
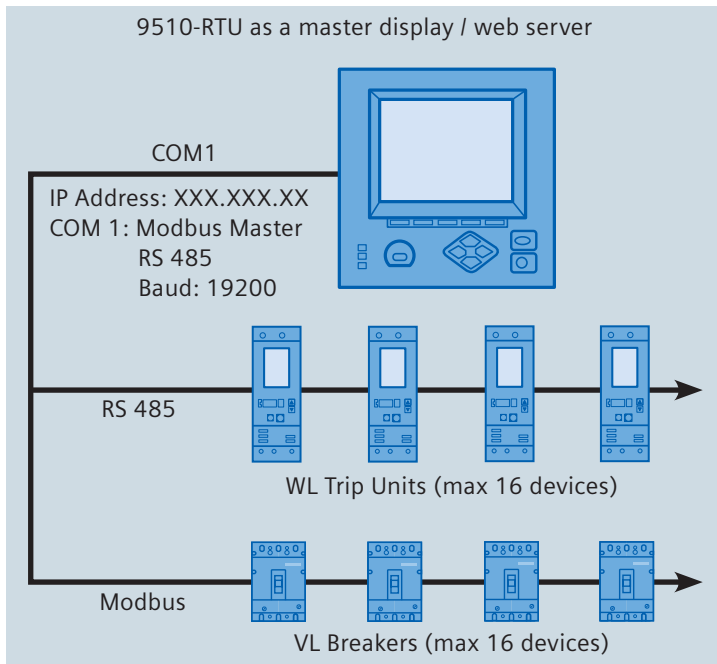
Electromagnetic emission

- FCC Part 15 Subpart B, Class A digital device, radiated emissions
- EN55011 (CISPR 11) Radiated/conducted emissions (Group 1, Class A)
- EN55022 (CISPR22) Radiated/conducted emissions (Class A)
- EN50081-2 Electromagnetic compatibility, emissions

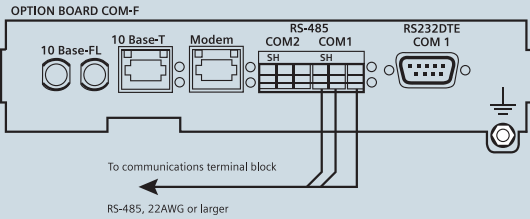


ISO 9002-94
Registration Cert# 0021886

Local display for WL , VL and sub-metering



9510-RTU Communications Board



- A SPI-1000 is required for communication between 9510-RTU and Static Trip III and SB-EC trip unit
- Consolidate data from multiple devices in a central display
- View real-time and breaker status for up to 16 WL/VL Static Trip III units, with 20 points per trip unit
- WL breakers must include a COM 16 module for communication capability
- VL breakers must include the Modbus COM module for communication capability
- Factory configured and installed
- View real-time breaker status for up to 16 Static Trip III units, with 20 points per trip unit

Ordering options – Customize your 9510-RTU

Description

Catalog Number

9 5 1 0 E C - 1 R T U - G Z Z A

Meter base unit and display options

| | |
|---|---|
| Option #1 – Meter with integrated display and 5MB logging memory | D |
| Option #2 – Meter with integrated display and 10MB logging memory | E |
| Option #3 – Meter without display, with a 5MB logging memory (TRAN version) | T |
| Option #4 – Meter without display with a 10MB logging memory (TRAN version) | U |

Communications

ION / Modbus RTU - Factory configured for ION

C

Power supply

85-240 Vac / Vdc

1

20-60 Vdc

2

No display option

Remote transducer option

RTU

Communication cards

| RS232/RS485 (Selectable) | RS485 | Infrared (Note 1) | Modem (Notes 1 & 2) | 10/100 Base-T | 10/100 Base-FX |
|--------------------------|-------|-------------------|---------------------|---------------|----------------|
|--------------------------|-------|-------------------|---------------------|---------------|----------------|

| | | | | | | |
|---|---|---|---|---|---|---|
| • | • | • | | | | A |
| • | • | • | • | | | C |
| • | • | • | | • | | G |
| • | • | • | • | • | | H |
| • | • | • | | • | • | J |
| • | • | • | • | • | • | K |

Auxiliary I/O cards

None (base meter includes 8 digital in and 7 digital out)

Z

8 binary inputs; 4 Analog Inputs 0 to 20 mA and 4 Analog Outputs 0 to 20 mA

F

8 binary inputs; 4 Analog Inputs 0 to 1 mA and 4 Analog Outputs -1 to 1 mA

G

Tropicalization option

None

Z

Yes

T

Specials

Standard (password protected, no locking or sealing)

A

Note 1 – The infrared and modem connections cannot be operated simultaneously. The connection type is configurable.

Note 2 – The listed modems are not suitable for European applications. Contact Siemens for special versions.

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