e-terra rtu600
Compact Remote Terminal Unit for power networks
A concentration of technology and performance for large-scale smart grid deployment

Overview

The e-terra rtu600 is the compact RTU (Remote Terminal Unit) designed for critical electrical environments in small, medium or large SCADA applications. The e-terra rtu600 combines state-of-the-art fundamental RTU functionality with increased processing power providing multiple communications services, high resolution digital input time stamping (1ms), direct CT/VT analogical measurement (amps, volt, power), metering, programmable automatism. Thanks to its multi-processor technology, distributed architecture and its large set of cards, the e-terra rtu600 is a highly flexible, configurable and powerful RTU - developed to meet the industrial and utility sectors’ needs for distribution networks, electrical substations and distributed power generation (wind and solar plants). The e-terra rtu600 will accelerate any smart grid or distribution automation programs deployment. Used with the e-terra software suite for SCADA, EMS and DMS systems, this RTU facilitates perfect integration for your control and data acquisition needs.

Main features and benefits

- Compact standard DIN 3U high racks (30TE to 84TE width)
- Rugged metallic case to resist EMC
- Easy integration into small and standard cabinets (indoor and outdoor)
- 8 to 128 I/O in mono-rack configuration
- Multi-Rack configuration for I/O capacity expansion
- Multi-processor technology & distributed architecture
- Intelligent processor built-in DI, DO, AI cards for high performances
- Fully modular & plug-in type cards designed for easy maintenance
- Plug/Unplug connectors for I/O cards for easy wiring and installation
- Standard IEC and DNP 3 Protocols for control center communications
- Communications interface with meters and protection IEDs
- Direct CT/VT high accuracy measurements for transducer-less application.
- Fault current detection capability
- Integrated meter
- Integrated GPRS radio modem
- Programmable Automatism (Ladder program)
- 1ms time-stamping resolution
- Heavy-duty contact relays for CB and switch direct control
- SBO (Select Before Operate) control with dedicated execution relay
- Local/Remote control management
- All processes and running status on LED displays for easy maintenance
- Interlock checking for control security
- "Improve your power network control environment with e-terra solutions"
Specifications

- Processor Unit Card
  - 16 Bit high-speed microprocessor
  - Master communications with 1 or 2 SCADA control centres
  - 1 isolated RS 232/ RS485 master communications port
  - 1 ethernet 10/100 Mb/s master communications port
  - Master communications protocols: DNP3, DNP3/ip, IEC 101, IEC 104, CDC II, Modbus
  - 1 isolated RS 485 port for communications with IEDs and protections (Modbus, DNP3, IEC)
  - Time remote synchronisation
  - Programmable automation (Ladder)
  - Serial port for programming and maintenance with PC

- Modern Card
  - Integrated GPRS radio modem

- Digital Input card
  - 8 isolated and protected bipolar inputs per card (with one common point)
  - 24-48V dc or 110-125V dc option
  - 1ms time stamping resolution (with SOE function)
  - Configurable Oms to 250ms de-bounce time

- Digital Output card
  - 8 relay points per card (with one common point)
  - Contact type : 1a or 1b selectable
  - 5A / 250V ac, 5A / 30V dc

- Digital Heavy Duty Output Card
  - 4 select relay + 1 main execution relay per card, or 5 select relays per card
  - Contact type : 1a or 1b selectable
  - 10A / 250V ac, 10A/30V dc
  - Max. switching voltage 400V ac/300V dc

- Analog Input card
  - 4 isolated differential channels per card
  - 4-20mA, ±1mA, ±5V dc
  - 1 second scan time
  - 16-bit resolution, 0.1% accuracy ± 25°C

- Analog Output card
  - 4 isolated differential channels per card
  - 4-20mA, ±1mA, ±5V dc
  - 10.0 sec to 0.1% settling time
  - 12-bit resolution, 0.1% accuracy ± 25°C

- Accumulator Input
  - 8 isolation bipolar inputs per card
  - (2-wire or 3-wire)
  - Configurable Oms – 250ms de-bounce time
  - Max. pulse freq. 1

- AC Voltage Input (ACV)
  - 6/8 voltage input per card
  - 0 – 300V nominal
  - 32 samples per cycle, 12-bit resolution 50/60Hz
  - Programmable PT ratio

- AC Current Input (ACI)
  - 4 direct CT 5A / 1A current per card
  - 32 samples per cycle, 16-bit resolution
  - Programmable CT ratio
  - Phase over-current detect function
  - Ground over-current detect function

- Intelligent Power Meter Card
  - 8 direct CT/VT programmable inputs
  - Elaborate up to 90 power & energy high accuracy measurements
  - True RMS conversion
  - 32 samples per period
  - Waveform capture Power Supply
  - 19V dc – 60V dc or
  - 85V ac / V dc – 265V ac / 375V
  - Battery Charger Card

- Auxiliary input : 85-265 V ac
  - Battery set 12V dc

- I/O Capacity & Rack dimensions
  - 4 to 128 I/O in mono-rack configuration
  - Rack 30T: 5 slots (40 I/O max)
  - Rack 42T: 8 slots (64 I/O max)
  - Rack 63T: 12 slots (96 I/O max)
  - Rack 84T: 16 slots (128 I/O max)
  - Rack dimensions: 3U*xxT*185mm (H*W*D)
  - Multi-racks expandable

- Environmental Conditions and Standards Compliance
  - Operating temperature : -20°C to +70°C
  - Operating humidity: 10% to 95% no condensation
  - Dielectric withstand according to IEC 60255-5
  - EMC according to IEC 60255-22 / IEC 61000-4 / EN 55022
  - Mechanical tests according to IEC 60068-21
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