etap iCE™ RTU

Remote Terminal Unit

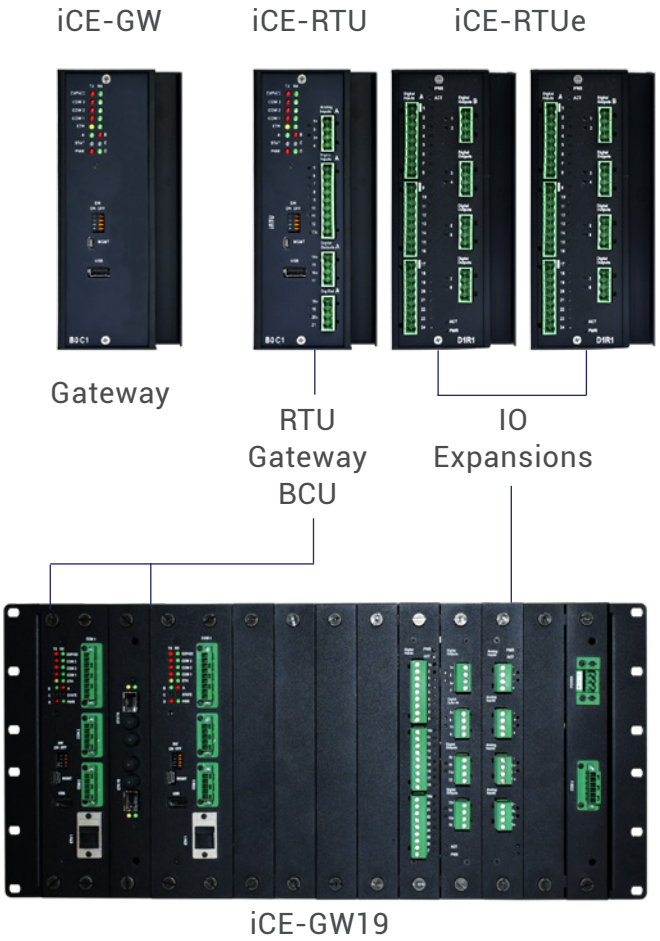
Flexible Expandable Powerful

etap iCE™ RTU is a highly scalable data acquisition device with optimal adaptation to particular needs. The RTU is available with multiple communication options; including embedded Ethernet switches and built-in 4G/3G/GPRS modem. With high I/O density, iCE RTU devices provide I/O capabilities for direct data acquisition, which can be done by using RTUe devices.

Features

- IEC 62351 Cyber security compliance
- IEC 61850-3 EMC compliant
- IEC 61131-3 PLC automation programming
- EEE 1588 and NTP time synchronization
- Internal switch with HSR/PRP/RSTP redundancy
- Multiple communication media support:
  Serial, 10/100TX Ethernet, FX100 Ethernet, GPRS, 3G & 4G modems
- Support for VLAN and VPN connections
- Microseconds timestamp resolution and high accuracy RTC with 1.5 ppm time drift
- Two separate Ethernet interfaces with independent MAC address and multiple IP address configuration
- Remote Terminal Unit - RTU
- Data Concentrator - Gateway
- Bay Control Unit - BCU

General	Configuration & Maintenance	Easy configuration with iConf tool Internal web server, allowing the real-time monitoring of the system and all internal parameters Command console with complete information of packet exchange on all available protocols Local or remote maintenance connection using USB or Ethernet ports
	RTC	High accuracy real-time clock with 1.5ppm drift and microseconds resolution timestamp
	CPU Features	ARM Cortex-A7 @ 528MHz, with 4GB Flash and 256MB RAM
	Communication Ports Options	Serial ports: up to (4) ports with RS-232/RS-485/RS-422 selected by software Wireless connection: internal 4G(LTE), 3G and GPRS modem Ethernet: (2) 10/100BaseTX ports with independent MAC addresses Internal Ethernet Switch: up to (4) 10/100BaseTX ports with RJ45 connection and (2) FX100 with ST, SC connectors or SFP interface, and supporting RSTP, HSR and PRP configurations
Device features	Time Synchronization	**Server**: NTP, IEC 60870-5-101, IEC 60870-5-104, DNP 3.0, NTP **Client**: IEEE 1588(PTP), SNTP, IEC 60870-5-101, IEC 60870-5-102, IEC 60870-5-103, IEC 60870-5-104, DNP 3.0, DLMS, Procome and Profibus DP
	Redundancy	Hot-standby configuration including optional redundant power supply
	Security	IEC 62351-3 and IEC 62351-5 support, including TLS/SSL, SSH and VPN connections
	IEC 61131-3 Automation	Logic and PLC programming, with LD, FBD, ST and SFC editor
	Logical and Mathematical Expressions	LUA language to create simple or complex logic and mathematical expressions
	Power Consumption	Depending on the model
Software application	Power Supply	W: wide range, 32 - 250Vdc / 80 - 250Vac (2.5kVrms isolation) 24: 19.5-60Vdc (2.5kVrms isolation)
	EMC Type Test	IEC 60950-1, IEC 60255-5:2000, EC 60255-22:2000, EN 55022, IEC 61000-6-4, IEC 61000-6-5, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-10, IEC 61000-4-12, IEC 61000-4-16, IEC 61000-4-17, IEC 61000-4-18, IEC 61000-4-29
	Environmental	Operating temperature : -25°C to +70°C IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-3, IEC 60068-2-14, IEC 60068-2-30, IEC 60068-2-38
	Vibration & Shock Test	IEC 60068-2-6, IEC 60068-2-7
	Physical	External dimensions: 173 x 137 x 78.4mm DIN Rail mounting
I/O	Internal Boards	Digital inputs - D1: (24) digital inputs. Combined I/O - C1: (8) digital inputs, (4) relay outputs and (2) DC current analog inputs



Compact RTU

A stand-alone configuration with integrated PSU, powerful RTU and Gateway, flexible PSX and expandable I/O, works well with discrete and distributed power automation applications; from pole tops to MCCs. For critical applications, embedded programming language helps to perform local control functions.

Rack-Mounted Controller

The etap iCE 19" rack-mounted controller has a fully integrated CPU and communication module with add-on I/O unit. A modular controller design allows project hardware configurations with a wide variety of I/O requirements.

I/O Expandability - iCE RTUe

RTUe auxiliary units provide additional input and output ports for data acquisition and control capabilities. Each I/O board is equipped with a RS-422 serial expansion port or a duel Ethernet ST/SC connector to communicate with data collection servers, SCADA servers and other I/O modules.

- 48 Digital Inputs
- 24 Digital Inputs + 8 Digital Outputs
- 24 Digital Inputs + 8 Analog Inputs (0-20mA)
- 16 Digital Outputs
- 16 Analog Inputs
- Other configurations upon request

RTUe I/O Unit

Applications & Industries

etap iCE hardware offers an intelligent control enterprise platform for power system monitoring, control and automation application in a wide variety of industries requiring optimal performance, fast response, and cyber security.

Key Applications

- Substation Data Acquisition & Control
- Field / Pole-mount RTU
- Feeder Remote Terminal Unit - FRTU
- Integrated RTU & Fault Detector
- Substation Automation
- Intelligent Load Shedding
- Generation Control
- Data Acquisition Gateway
- Secure & Scalable Controller

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