Gillam

FREQUENCY, ELECTRONICS & TELECOMMUNICATIONS

USC

IEC 61850 RTU

IEC 61131-3 PLC

Mont Saint-Martin 58 - B-4000 LIEGE – BELGIUM Tel.: +32 4 232 95 95 / Fax: +32 4 223 42 76 www.gillam.be – info@gillam.be

ENERGY SUBSTATION AUTOMATION RTU & PLC

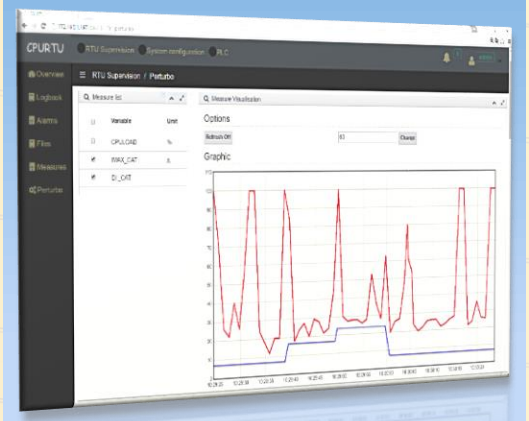
USC is a modular **Remote Terminal Unit** with **Programmable Logic Controller** designed for power grid automation.

USC offers highly flexible **communication gateway** to interoperate easily with your various substation fieldbus IED.

Soft **PLC** allows programmable automation of local I/O and remote fieldbus information.

USC supports **flexible, redundant communication** to your SCADA. You can also take advantage of the USC **local computation** ability and **measurement archiving** before transmitting your real-time data.

USC built-in **cyber resilience** is designed to keep your critical application safe of cybersecurity concerns.



HUMAN-MACHINE INTERFACES

- Embedded WEB server and optional touchscreen provide intuitive maintenance information. Consultation of measurement archives through integrated graph analyzer tool.
- Programmation of the PLC performed through STRATON IDE workbench. This best-in-class programming suite provides an intuitive support for the 5 PLC programming languages (FBD, ST, LD, IL, SFC) with powerful debugging tools (online step-by-step debugging, variable browser, soft oscilloscope , ...)

POWERFUL MAIN CPU

Built around a powerful ARM9 communication processor, USC includes 3 Ethernet ports, 1 isolated RS-485 and 1 USB interfaces.

Embedding Straton core (from Copa-Data company), the CPU realizes IEC61131-3 PLC, and multi-protocol binding.

PLC & FIELDBUS PROTOCOLS

Modular input/output cards are provisioned upon demand to monitor and control your industrial application (switchgear enclosures,...).

USC is able to interoperate with other fieldbus communicating devices. USC provides a large panel of Northbound protocols (i.e. to SCADA) as well as Southbound protocols (i.e. to IED, fault indicator, protection relay, power meter, PLC, ...).

Programmable logic and advanced computation is implemented through Straton IDE.

CYBERSECURITY

The use of Ethernet based communication in substation environment raises the focus on cybersecurity. Threats are evolving as well as standards. USC is hardened to provide a robust solution for today as for the future.

CYBERSECURITY

- ✓ User Account Management
- ✓ Password protected accounts
- ✓ Encrypted password storage
- ✓ Role based access control
- ✓ Access history
- ✓ Account inactivation
- ✓ Local history logging

- ✓ Robust Linux OS
- ✓ Remote software update
- ✓ NTP time synchronisation
- ✓ protocol timestamping validation

- ✓ SSH encryption tunnel
- ✓ TLS1.2 | AES256CBC | SHA256 | DHE RSA
- ✓ X.509 digital certificate
- ✓ Secure File Transfer Protocol
- ✓ HTTPS Webserver

COMMUNICATION

- ✓ Modbus Master & Slave (ASCII, RTU, RS485, UDP, TCP IP)
- ✓ IEC60870-5-101 Master & Slave
- ✓ IEC60870-5-104 Client & Server
- ✓ IEC61850 Client, Server & Goose (v2)
- ✓ Gillam USC3000
- ✓ Other (contact us)

POWER SUPPLY
- 48VDC or 110VDC
- Redundancy (option)
- Auxiliary supply for sensors
- 2 kVrms isolation

ANALOG INPUT
- 4 analog inputs
- 16 bits sampling
- Custom card upon request

PLC DI / DO
- Optional 12DI and 8DO cards
- IEC61131-3 PLC
- 1ms timestamping
- 3.7 kVrms isolation (input)
- 5.0 kVrms isolation (output)
- 48 or 110 VDC inputs

CPU
- Arm9 - 456MHz / 32 bits
- 128MB RAM / 64MB FLASH
- Micro-SD slot for FLASH extension
- 3 Ethernet ports
- 1 USB port
- 1 RS485
- Web or Touchscreen HMI
- Linux embedded (kernel >3.4)

NETWORK PROTOCOLS
- DHCP Client and Server
- NTP Client and Server
- HTTP / HTTPS Web server
- SSH Server for encryption tunnel TLS1.2 | AES256CBC | SHA256 | DHE

RSA
- SFTP Server

DISPLAY
- Optional LCD display 7''
- 800x480 resolution
- touchscreen
- Built-in or panel mount

MECHANICS
- ½ 19'' version - 8 slots
- Full 19'' version - 16 slots
- 3U height (131 mm)
- Stainless steel
- Rackable or backwards mounting
- spring-in or screw type connectors
- ≤ 1.5 mm² wire cross-section

ENVIRONMENT
- Operation : -20°C to +55°C
- Storage : -40°C to +70°C
- EN 50121-5
- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-12