

Smart RTU

Overview

G Remote is a compact and cost-effective smart RTU solution that is both flexible and integration friendly, featuring integrated PLC logic engine and sub-RTU aggregation together with I/O and remote communications.

Unlike other RTU solutions, **G Remote** includes open IEC 61131-3 programming and IEC 61850 communications. This not only enables smart remote control but also advanced applications such as distributed automation in wide-area systems.

Local data recording, flexible communications and user programming also allow the user to integrate smart automation with other value-added applications such as condition monitoring or smart alarm systems.

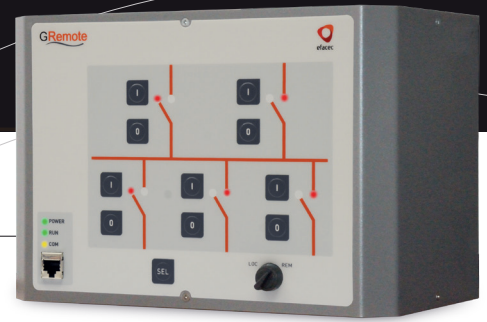
Part of the **SmartGate** product family, the **G Remote** is Automation Studio compatible, hence offering intuitive engineering with either plug-and-play for straightforward setups or template-based approaches for large deployment scenarios.

Key Features

- Multiple Communication Options
- IEC 61131-3 Programming
- Object-oriented
- Integrated Data Recording
- Built-in Power Supply Supervision
- Optional Local and Web-based HMI
- Automation Studio Toolset for Engineering

Customer Benefits

- High Application Flexibility
- Economical Remote Control Solution
- Easy to Specify, Configure, Troubleshoot and Maintain
- Easy to Integrate into Existing or New Systems
- Compliant with State-of-the-art Standards
- Optional IEC 61850 communications



A **SmartGate** Product

IEC 61131-3
flexible programming

IEC 61850
open design



Feature Description

Integration via Open Communication Protocols

The up to four serial ports and Ethernet interface provide alternative slave and master communication protocols in multiple channel configurations for any telecontrol or required local data integration needs. Local clock synchronization can be performed via communication protocol or SNTP.

Interfaces		
Communication		
Ethernet Port	1 x 10/100BASE-TX (100BASE-FX optional)	●
Serial Ports	1 x RS232/RS485 (Copper)	●
	1 x RS232/RS485 (Copper, Glass or Plastic Fiber)	○
	1 x RS232/RS485 (Copper)	○
	1 x RS232/RS485 (Copper)	○
Time Synchronization	SNTP, Communication Protocol	●
IEC 61850	IEC 61850 Server and GOOSE Pub/Sub	○
	IEC 61850 Client	○
Communication Protocols (as Slave Station)	IEC 60870-5-104 (TCP/IP)	○
	IEC 60870-5-101 (Serial)	○
	DNP 3.0 (Serial or TCP/IP)	○
	MODBUS (Serial or TCP/IP)	○
	Others (Please Contact)	○
Communication Protocols (as Master Station)	MODBUS (Serial or TCP/IP)	○
	Others (Please Contact)	○
User Interface		
Local Control Panel	Type 1 Programmable indication/alarm LEDs General purpose function keys	○
	Type 2 Programmable indication/alarm LEDs General purpose function keys Switch/breaker control keys/indication	○
	Type 2 Customized Local Control Panel and Synoptic	○
	Key-switch for Local/Remote Secure Access	○
Diagnostics	1 x 10/100BASE-TX Front Panel Ethernet Port	●
	Status LEDs (POWER, RUN, COM)	●
Remote User Interface	Integrated WebServer	●

● - Base Feature | ○ - Optional Feature

Advanced Applications

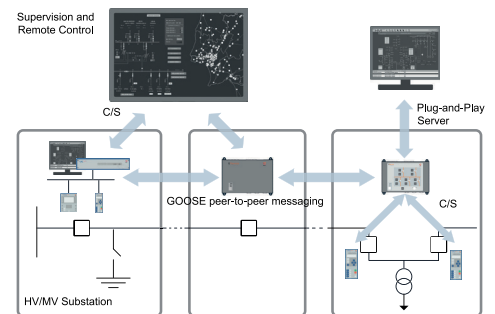
User-defined logic and arithmetic is programmed in IEC 61131-3 languages and complemented with standard blocks such as flip-flops, counters and timers and user-defined blocks and libraries for true PLC applications. Multiple setting groups are available for user-defined functions.

The optional IEC 61850 interface, fully compatibility with compliant devices and tools, enables truly open design and seamless support for advanced wide-area automation system designs or local IED integration. Performance-tuned GOOSE implementation also allows fast distributed peer-to-peer schemes in multi-vendor applications.

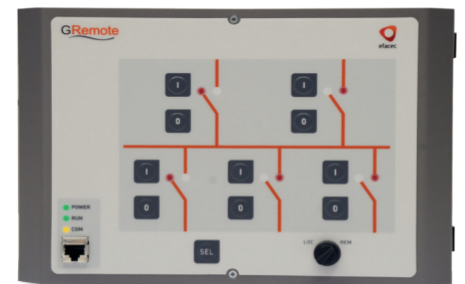
User Interface

The device includes embedded webserver (available at the front or rear Ethernet ports) where all local operations are available as well as access to data records through any web browser. This provides best flexibility for local or remote management and maintenance.

GRemote units can also be delivered with optional onboard LCD, keypad and alarm/indication/status LEDs or with customer-specific control panels, should local operation be required.



Advanced IEC 61850 Configuration Example.

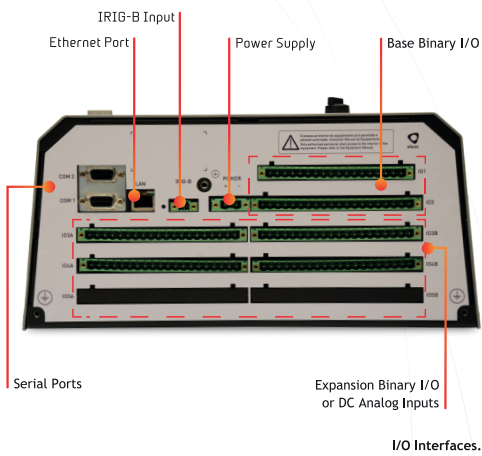


Onboard customer - specific control panel example.

Hardware and I/O Options

Available in three different chassis configurations **G Remote** units support up to 108 independent binary inputs, 56 binary outputs and 24 DC inputs (non-simultaneous). An optional expansion card provides the required I/O for local power supply system supervision including charger and battery checks.

Internal watchdog, watchdog output and self-supervision of all hardware components, including memory, I/O boards and communication ports, and of all software modules, are included.

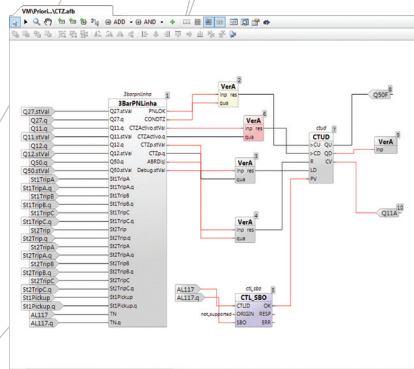
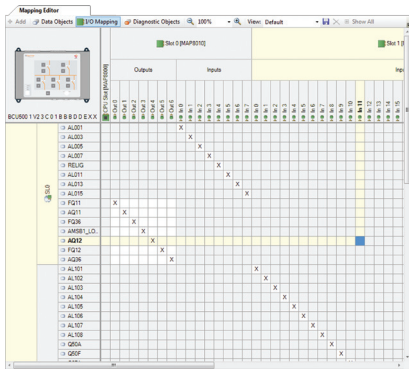


Recording

A local event recorder that can store up to 12000 events of any data source is included together with the general purpose statistical trend recorder for data logging. All data is kept in flash memory.

Engineering and Handling

As part of the **SmartGate** product family, **G Remote** shares common user interface, installation and maintenance procedures as well as Automation Studio integration. Engineering efforts are reduced with intuitive and simple user interface, like the mapping matrix or diagram editors, type-tested configuration templates, libraries or copy-paste.



Automation Studio Toolset.

Hardware Options	
Chassis Version	
1 Expansion Slot	
2 Expansion Slots	○
3 Expansion Slots	
Base I/O	
8 DI + 8 DO	
12 DI + 4 DO	○
Expansion I/O Card Types	
Slot 1	32 DI
	16 DI + 8 DO
	16 DO
	8 DC IN
	10 DI + 4 DO + 4 DC IN (2 DC for Power Supply Supervision)
Slot 2	32 DI
	16 DI + 8 DO
	16 DO
	8 DC IN
Slot 3	32 DI
	16 DI + 8 DO
	16 DO
	8 DC IN
Power Supply	
110/125/220 V d.c. (88 V to 300 V)	
115/230 V a.c. (80 V to 265 V)	○
48/60/110/125 V d.c. (38 V to 265 V)	
Self-supervision	
Hardware Watchdog and Auto-reset (Detection of hardware and RTOS failures)	●
Software Failure Detection and Recovery (Self-healing of software module failures)	●

● - Base Feature | ○ - Optional Feature

Applications

Application Overview

The **G Remote** smart RTU provides a cost-effective solution for multiple automation, control and data acquisition system architectures such as remote control, distributed or PLC-like automation. It is a flexible and open solution that can be easily adapted to fit the requirements of diverse applications.



Product and Life-cycle Support

Efacec fully supports customers with upgrades and stepwise investment strategies by providing future-proof products. Moreover all SmartGate products are complemented with support services from training to engineering and maintenance throughout the system life-cycle.

Example Applications	
General Purpose RTU <ul style="list-style-type: none"> • PLC, Radio, GPRS communications • Local I/O process interface • Device cascading option for I/O expansion • Third-party device integration • IEC 61131-3 programming 	
General Purpose Compact PLC <ul style="list-style-type: none"> • I/O process interface • IEC 61131-3 programming • Ethernet and IEC 61850 communications 	
Distribution Breaker Telecontrol <ul style="list-style-type: none"> • PLC, Radio, GPRS communications • Switch / Sectionaliser Control • Integrated outdoor standard system (enclosure, power supply, etc.) 	
Secondary Station / Ring Main Unit Control <ul style="list-style-type: none"> • PLC, Radio, GPRS communications • Secondary transformer station automation • Local automation and control • Protection relay integration • Condition monitoring integration 	
Advanced Distribution Feeder Automation <ul style="list-style-type: none"> • Smart grid applications • Automated Fault Detection Isolation and Restoration (FDIR) • IEC 61850 communications 	



Automation Business Unit

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View the product on our website.
Due to continuous development, the characteristics may change without notice. Not valid as a contractual item.

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