



iGWlite

Compact all-in-one protocol conversion capabilities with a small, smart and simple-to-use gateway



Lateral mounting model (B)



Simple IEC 61850 Integration

MMS & GOOSE Protocols

- > **Secured, adaptable and modular** communication gateways specifically designed for electrical facilities
- > **From meter data concentration to protocol conversion – full range of protocols** (DNP3.0, **IEC 61850 (MMS & GOOSE)**, DLMS, Modbus, IEC 60870-5-101/102/103/104 etc.) to communicate with all devices and control centers involved in any kind of substation or generation plant
- > **Up to 2 Ethernet ports, 2 RS485/RS422 ports**, and an optional fiber port.

Providing the same protocol conversion and automation capabilities (incl. IEC 61850), only with fewer communication ports, the iGWlite is the compact version of the iGW. Therefore, it is particularly useful to set up, automate and retrofit generation plants, substations and other control networks requiring data concentration or conversion between several protocols, e.g. Modbus to Ethernet or IEC 61850 to DNP3.

The data collection from meters, protection relays, and other IEDs can be performed using any protocol, including IEC 60870-5, IEC 61850 (MMS/GOOSE), DNP3, DLMS, Modbus or Procome, whilst managing a microseconds timestamp resolution via NTP or PTP. Further, the iGWlite can also process and transfer the data to one or multiple control centers and SCADA master stations using upstream protocols such as IEC 104, IEC 101, TASE2.0/ ICCP (IEC 60870-6), IEC 61850-90-2, DNP3, and Modbus RTU/TCP.

A network architecture supported by an iGWlite is open, simple and scalable, allowing to integrate coming generations of devices (IEDs, sensors, routers etc.) and adapt to any kind of changes made to your power distribution network, saving you time, money and space on your DIN rail.



COMMUNICATION PROTOCOLS & IP NETWORKING

The iGWLite was designed to use a high number of protocols and communicate with several control centers at once. The stack includes newer protocols such as IEC 61850 MMS or GOOSE (A level certified by DNV-KEMA), but also older standard and proprietary protocols such as ModbusRTU/TCP, SpaBus or Procome. Other supported downstream protocols for meters and protection relays are IEC 60870-5-102/-103, IEC 62056-21 and DLMS, whereas upstream protocols for control centers also include IEC 60870-5-101/-104 or DNP3.0 serial/TCP.



COMMUNICATION PORTS

The iGWLite features 2 independent 10/100 BaseTX Ethernet ports, each with its own MAC address, providing network redundancy and seamless integration with multiple systems such as SCADA and control centers.

It also supports up to (2) software-configurable serial ports, selectable as RS-232 (TX, RX, RTS, CTS), RS-485, or RS-422, ensuring compatibility with both iRTUe models and third-party devices.

The B#21 model adds an extra RS-422/RS-485 port, offering extended flexibility for multi-drop and long-



IEC 61131-3 PLC AUTOMATION

Thanks to its internal PLC based on IEC 61131-3, the iGWLite can provide powerful automation and control functionalities. For example, you can easily reuse programs on different projects, run multiple PLC instances simultaneously or use triggered variables for control commands and set points. It also allows to run hot program updates, stop PLC executions depending on the quality of selected PLC inputs and debug PLCs online, either cycle-by-cycle or step-by-step.

The iGWLite has a high execution speed – a 2000 ST line program takes less than 3ms.



TIME MANAGEMENT

The iGWLite manages a broad range of time synchronization methods with fault tolerant priority schemes (NTP, IEEE1588/ PTP, IEC60870-5-101, DNP 3.0) to ensure that your network is synchronized and you can retrace any network failures.

The time stamp accuracy of the iGWLite is superior to one 1ms and has a 1 microsecond resolution. In case the time server fails, the iGW can rely on its high accuracy real time clock (1.5ppm) as a backup.



CYBER SECURITY-IEC 62351

iGrid enforces several layers of security measures to protect its devices from all kinds of threats, guided by the propositions of the IEC 62531 standard.

The iGW is a hardened device featuring Role Based Access Control (RBAC) to avoid intrinsic risks such as security holes and unauthorized actions by authenticated users. In addition to encryptions via TLS/SSL, HTTPS, SSH and standard procedures for VPNs (e.g. OpenVPN), its communication can also be secured with network control methods such as firewalls, IP filters, ACL or TCP port blocks.

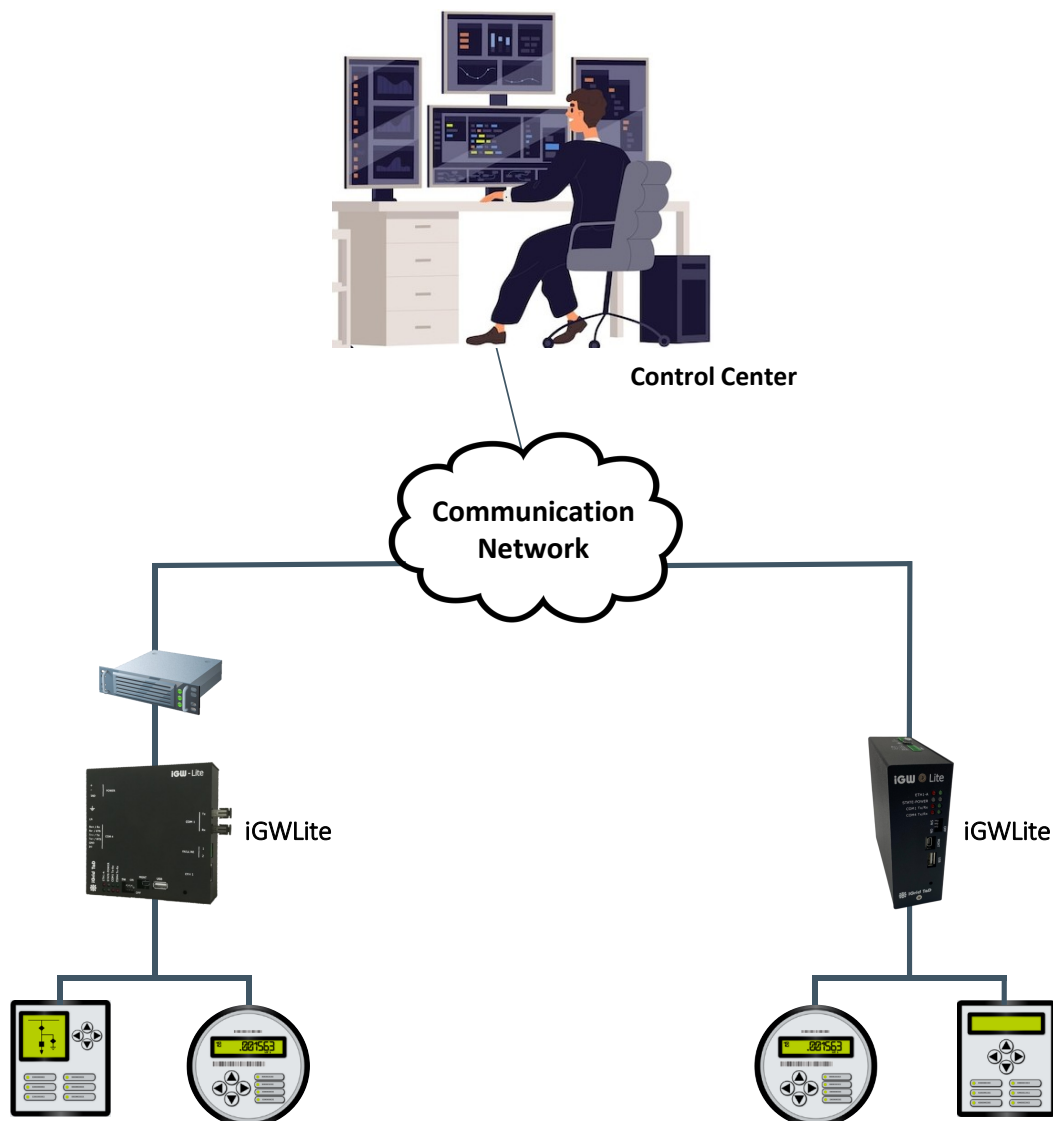
CONFIGURATION WITH ICONF

The iGWLite features **iConf**, a powerful configuration tool tailored for electrical automation systems. It simplifies setup and maintenance, reducing engineering time, costs, and project risk. **iConf** supports uploading/downloading configurations, importing or scanning SCL (IEC 61850) files, and creating reusable templates—enabling faster deployments while ensuring consistency and reliability across multiple installations or projects.



iGWLite
Front mounting model (A)

Front mounting is available only for large-quantity orders

SUBSTATION SCHEMA WITH **iGWLite** FUNCTIONING AS BAY CONTROLLER UNIT**iGWLite (B SERIES)****COMMON FEATURES****GENERAL**

(2) **Software configurable** serial ports with LEDs:

- (1) Basic RS-232/ RS-422/ RS-485 serial port (EXP-422 port*)
- (1) RS-422/ RS-485 serial port
- (1) **USB port** to connect peripheral devices
- (1) **MGMT port** (MiniUSB connector) for local maintenance
- (1) **internal MicroSD** slot for up to 16 Gb of data storage

CAPABILITIES**iGWLite B**

B#01 – (1) 10/100BaseTX (RJ45 connector) and (1) configurable serial port RS-232/RS-485/RS-422

B#11 – (1) 10/100BaseTX (RJ45 connector) and (2) configurable serial ports RS-232/RS-485/RS-422

B#21 – (2) 10/100BaseTX RJ45 Ethernet + (1) serial RS232/RS485/RS422 + (1) serial RS485/RS422



PROTOCOL STACK

Master DLMS	Master Spabus	Slave OPC UA Client
Master IEC 60870-5-102	Master/Slave IEC 60870-5-101	SNMP Agent/Manager
Master IEC 60870-5-103	Master/Slave IEC 60870-5-104	TASE2.0/ICCP
Master IEC 62056-21	Master/Slave ModbusRTU	IEC 61850 MMS Client/Server
Master Procome	Master/Slave OPC UA	Master/Slave MQTT*
Master/Slave DNP3.0 (serial, UDP, TCP)	IEC 61850 GOOSE Publisher/Subscriber	Master/Slave Modbus TCP/UDP and JBUS (master)

*Implementation of non standard packaged data payload under quotation

IGCOMMS SOFTWARE APPLICATION

Redundancy deployable on a hot-standby and hot-hot configuration, 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

LUA language can be used to create simple and complex logic and mathematical expressions

COMMUNICATION PORTS & CPU

Serial up to 2 software configurable ports with RS-232/RS-485/RS-422 or multimode fiber optic with ST connector.

Ethernet Up to (2) 10/100BaseTX ports with RJ45

CPU ARM Cortex-A7 @ 528MHz, with 128 MBytes Flash and 256MBytes RAM

CONFIGURATION & MAINTENANCE

Easy configuration with iConf tool

Internal web server, allowing real time monitoring of the system and all its internal parameters

Command console with full information on packet exchanges, with all available protocols

Local or remote maintenance via USB or Ethernet port

RTC & TIME SYNCHRONIZATION

Real-time Clock (RTC) with 1.5 ppm drift and microsecond resolution timestamp

Client IEEE 1588(PTP), SNTP, IEC 60870-5-101, IEC 60870-5-104, DNP3.0

Server IEEE 1588(PTP), NTP, IEC 60870-5-101, IEC 60870-5-102, IEC 60870-5-103, IEC 60870-5-104 DNP3.0, DLMS, Spabus and Procome

GENERAL CHARACTERISTICS

Power supply 24 : 19.5-60 Vdc (2.5kVrms isolation)

Power supply W : wide range, 32 - 250 Vdc (2.5kVrms isolation)

MTBF 177,000h (one hundred seventy-seven thousand hours)

Operating temperature : -25°C to +70°C

***Physical External dimensions:**

IP30 enclosure with DIN Rail mounting

Lateral Mounting

Front Mounting

B01 or B11 (1) Ethernet and (1) port serie:
122 mm (H) × 45 mm (W) × 125 mm (D)

B01 or B11 (1) Ethernet and (1) port serie:
122 mm (H) × 125 mm (W) × 45 mm (D)

B21 (2) Ethernet and (2) port serie:
120 mm (H) × 49 mm (W) × 137 mm (D)

EMC STANDARDS

- IEC 61000-4-2
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- UNE-EN 55022
- 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 61000-4-18
- IEC 61000-4-29

ENVIRONMENTAL STANDARDS

- IEC 60068-2-1
- IEC 60068-2-2
- IEC 60068-2-14
- IEC 60068-2-30
- IEC 60068-2-38
- IEC 60068-2-78

VIBRATION & SHOCK TEST STANDARDS

- IEC 60068-2-6
- EN 60068-2-27
- EN 60068-2-64
- EN 60255-21-2

SAFETY STANDARDS

- IEC 60255-27

ORDERING INFORMATION

iGWhite - b #bb Rvv ms

MAIN BOARD & COMMUNICATIONS

B#01 (1) 10/100BaseTX RJ45 Ethernet + (1) serial RS232/RS485/RS422 ports

B#11 (1) 10/100BaseTX RJ45 Ethernet + (1) serial RS232/RS485/RS422 + (1) serial fiber optic port

B#21 (2) 10/100BaseTX RJ45 Ethernet + (1) serial RS232/RS485/RS422 + (1) serial RS485/RS422

DEVICE ALARM RELAY

- O** Not mounted
- R** Fault relay

SD CARD

- O** No SD memory
- S** Internal industrial grade 16GB microSD card (32GB on demand)

MOUNTING STYLE

- A** Front mounting(*)
- B** Lateral mounting

* options only available upon request and MOQ

POWER SUPPLY

- 24** 19.2-60 Vdc
- WV** 32-250 Vdc / 80-230 Vac