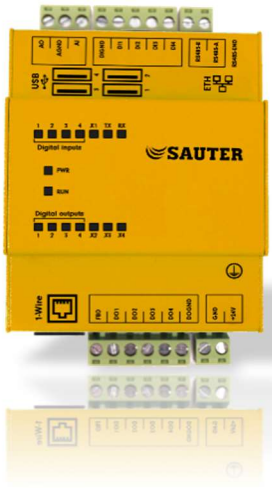
SAUTER Universal IoT Gateway EY-GT485



Functionalities

- Unique gateway for many functionalities using standard REST/SOAP API's
- MQTT communication to IoT servers (SAUTER or Third Party)
- Several communication drivers KNX, BACnet, ModBus…
- Hardware (Linux based) or software (Windows service) version
- Redundancy, logical PLC, VPN, SMS and email, and many other possibilit
- User friendly, easy to use/configure, saving and templates available
- RTU and I/O's, Micro-SD, USB, Watchdog, LED's indicators
- Anodized aluminum DIN rail case, IP20 and terminal blocks accessories
- Fully web enabled (web server) with HTML5 and latest technologies

Hardware Specifications

Specs	Hardware Box GT485 (Linux)	Softwar ion (Windows)
CPU	H3 Quad-core Cortex-A7 H.265/HEVC 4K RTC with backup up to 7 days	Any Inte or AMD processors RTC fro pset, Computer clock
RAM	1GB LPDDR2, socket	N/A, min
Operating system	Linux 4.x, x64 OS	Microsoft Windows 7,8,8.1,10 x32/x64 / Server 2012
Server	Node JS	Node JS included with setup installation
Communication	1x RJ45, 10/100 BaseT Ethernet, 2x RS485, 1x 1-Wire, NTP	N/A
Drivers protocols	KNX Tunneling/Multicast/USB, Virtual DP - Internal Modbus TCP/RTU – Master/Slave SMTP, Weather forecast, SVC, L2TP VPN, MQTT	Modbus TCP – Master/Slave, Virtual DP - Internal SMTP, Weather forecast, SVC, (KNX IP in development)
Memory storage	Micro SDHC (16GB included) / USB up to 64GB	N/A
Dimensions	72x90x59 mm (LxHxP) / Weight 300 grams	-
Power supply	24 VDC	-
DHCP Support	Yes, IPv4 & IPv6	Yes, IPv4 & IPv6

Function Specifications

Functionalities	Hardware Box GT485	Windows service application
VPN / AccessPoint	YES, modem 3G or internet connection needed Open SSL VPN, L2TP	NO, client remote control needed or external VPN
Server	YES, Dashboard, monitoring, console (responsive)	YES, Dashboard, monitoring, console (responsive)
Logical PLC	YES	YES
Visualization	YES, HTML5 and iOS and Android App	YES, HTML5 and iOS and Android App (LAN or NAT)
Redundancy	YES (master/slave mode)	YES (master/slave mode)
I/O's	YES, Maximum hardware capacity	NO
Logging (EDL)	YES, data aggregation	YES*, data aggregation / * with MySQL option enabled
Debug	YES, internal and remote SSH console	YES, Windows MS-DOS console
User management	YES	YES
Routing table	YES, between any virtual gateway	YES, between any virtual gateway
Import/Export	YES, CSV or JSON format	YES, CSV or JSON format
Languages	FR-EN (DE coming soon) additional on demand	FR-EN (DE coming soon) additional on demand
DNS	Native DNS resolution	Alias fixing and 'etc/hosts' locally on computer

References

Type	Description
YZP487F280	SVC Universal Gateway (full version)
YZP487F281	SVC ModBus Driver (ModBus, SVC)
EY-GT485F002	SAUTER Universal IoT Gateway (modbus and BACnet IP/MSTP only)
EY-GT485F099	SAUTER Universal IoT Gateway (full version)

Functionalities

- **MQTT Gateway for IoT solutions**
  - Encrypted in ES256 bits for high security
  - BRICK Schema supported
  - JSON Format
- **Virtual logical PLC**
  - Internal DP with fully configurable format
  - Can be used for logical PLC programming or routes
- **SMTP**
  - Used for email mail relay functionality
  - Port, mode, TLS/SSL configurable
- **Remote (hardware only)**
  - Accessing remotely to the gateway (VPN, Windows Client)
- **Weather forecast**
  - Getting weather information forecast for multipurpose application

Main drivers

- **BACnet/IP & MSTP**
  - Analog
  - Binary
  - Multistates
- **KNX IP/TP**
  - Tunneling / Multicast mode / USB
  - Physical / Group Address space
  - Min ON/OFF TimeDelay management for telegram priorities between routes and gateways
  - ETS 4/5 importation and auto network address sniffing
  - Up to 20'000 addresses per gateway
- **Modbus TCP/RTU**
  - Master / Slave (up to 255 slaves as server) fully configurable
  - RTU sub network access definition
  - Offset registering definition
  - Import/Export mapping function
  - Polling up to 1ms and individual DP configuration
  - Format from bit to 64 bits according IEEE754 standard: Holding Registers, coils, discrete, …
  - Up to 10'000 addresses per gateway (depending on polling configuration)
  - Multiple format and configuration
    - Int8, int16, int32
    - Uint8, Uint16, Uint32
    - BCD8, BCD16, BCD32
    - Floating, Double and MOD1000
    - Multiple register reading (up to 4)
    - Big and Little Endian (BE, LE)
    - Swapping mode (SW)

Exhaustive driver list

- ads
- AWS-IoT
- BACnet
- BMW
- Ealarm
- ESPA
- EVOK
- FS
- Google-IoT
- Hue
- ICX
- KNX
- Lorawan
- Luxmate
- Mbus
- ModBus (RTU, IP, Master, Slave)
- MQTT (client + broker)
- Notification
- OPC UA
- Remote gateway
- Sick
- Smart-Me
- SMPP
- SMS
- SMTP
- SNMP
- SONOS
- SVC
- System
- Uhoo
- Virtual
- Weather Forecasting
- Zwave

Terminals and Controls

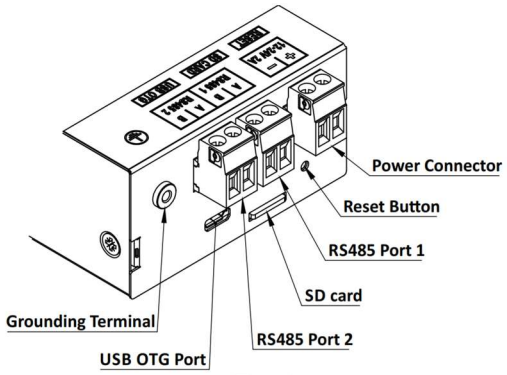


Fig. 1

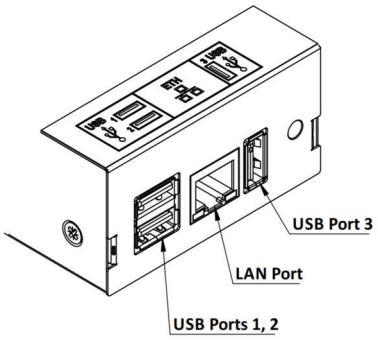


Fig. 2

Mechanical installation

EY-GT485 is attached to a DIN rail in following steps (Fig. 3):

1. Place the bottom edge of the DIN rail under the spring of the DIN rail mount (Fig. 4).
2. Push the case up compressing the spring.
3. Attach the DIN rail mount hook to the upper edge of the DIN rail (Fig. 4).
4. Release the case.

Detaching from the DIN rail is done in reverse order.

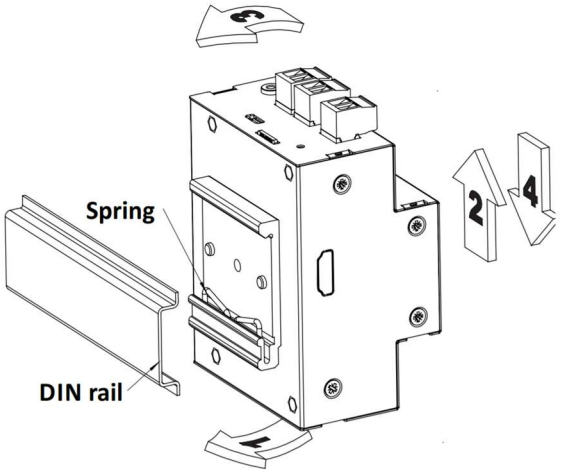


Fig. 3

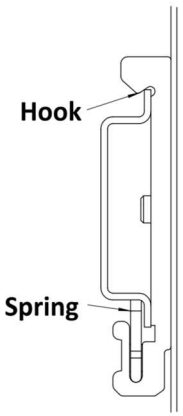


Fig. 4

Electrical Installation – Grounding

EY-GT485 is intended to be installed in a DIN-rail cabinet. It can be connected to the cabinet's grounding via the grounding terminal provided (Fig. 1, M3 screw needed).
In case RS485 shielded cabling is used, it has to be connected to the grounding terminal (Fig. 5). This has to be done at one end of the cable only!
In case RS485 common ground wire is used, it has to be connected to the grounding terminal (Fig. 5) as well.

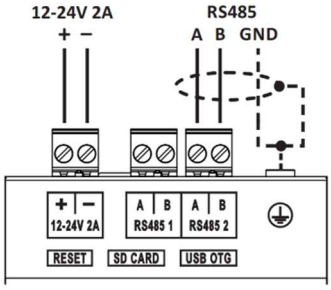


Fig. 5

RS485 bus termination and biasing

EY-GT485 offers fully configurable RS485 ports. Both bus termination and bus biasing are configurable via jumpers (Table 1, Fig. 6, 7). The RS485 bus has to be terminated at both ends. Termination resistors at any intermediate nodes have to be disconnected. Bus biasing can be set at one node only or can be distributed between multiple nodes. Biasing towards GND (0V) and Vcc (+5V) is individually configurable.

		Termination		Vcc Biasing		GND Biasing	
		ON	OFF	ON	OFF	ON	OFF
RS485 1	J5 T1	Closed	Open				
	J1 B1+			Closed	Open		
	J3 B1−					Closed	Open
RS485 2	J6 T2	Closed	Open				
	J2 B2+			Closed	Open		
	J4 B2−					Closed	Open

Table 1

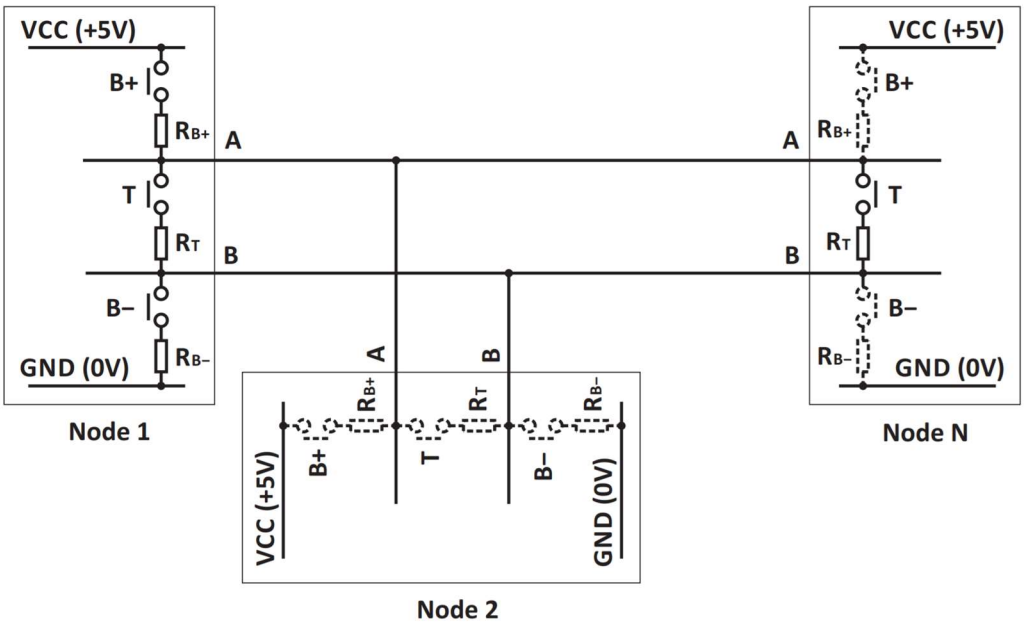


Fig. 6

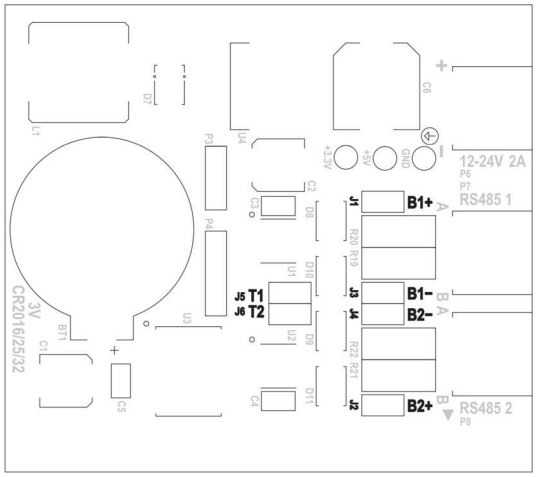


Fig. 7