gMUC-GPRS

Multi-Utility Gateway for Smart Metering Applications

Benefits:

- Optimal investment protection for smart metering infrastructure
- Flexible meter integration (electricity, gas, water, heat)
- Flexible communication with central sites (GSM/GPRS or LAN/DSL)
- Compliant with
  – Open Metering Communication
  – EN 62056-21 (IEC1107).
  – EN 13757-3/4 (W-MBus)
- Flexible integration with home area networks and customer display units
- Firmware architecture based on common Internet standards
- Proven and reliable hardware
- Easy installation

Key Features:

- Modular architecture separating the gateway from the meter
- Wired meter interface (RS485)
- DLMS protocol support
- 1107 protocol support
- Wireless M-Bus interface
- Two Ethernet interfaces (local and WAN)
- Support for Internet standards
  – TCP/IP, SSH
  – HTTP/XML
  – NTP
  – DHCP, PPPoE
  – DynDNS, STUN
- Security features
  – HTTPS, firewall, IP white list
  – AES encryption
- Operating status signaled by LEDs
- Remote firmware update
- Alarm messages and logging

The gMUC-GPRS controller from Dr. Neuhaus Telekommunikation GmbH enables multi-line wireless remote data reading from domestic supply meters by means of GSM/GPRS network or DSL connections. Measurement values for electricity, gas, water and heat are automatically transmitted to one or more centrals locations using common Internet standards.

Meters are connected by wire (RS485) or via short-range radio (wireless M-Bus). Other technologies and interfaces, such as ZigBee or RS232, are available upon request. The device can be configured and administered remotely. A local interface enables direct access to measurement values for end customers (e.g. PC, display solutions, mobile devices).

The gMUC-GPRS controller meets all requirements of large-scale deployments. When mounting the gateways locally in households, only cables need to be connected.
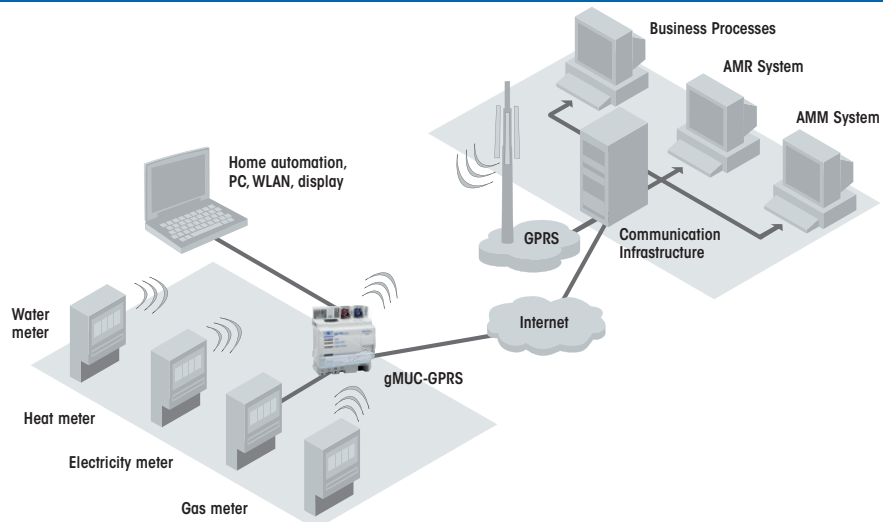
The gMUC-GPRS controller is a state-of-the-art communication module based on proven hardware, and it complies with European Smart Metering standardization activities.

Dr. Neuhaus

System components

- gMUC-GPRS
- Antenna
- SIM card for WAN communication via GPRS
- DSL modem or DSL router (only needed for WAN communication via DSL)

Topology

Technical data

INTERFACE	
Meter Interface Wired	RS485 – RJ10 (jack) for elec. supply meter: Speed: 300 to 115,200 baud (adjustable) data format: Adjustable;
Meter Interface Wireless	Wireless M-Bus: S mode, T mode; bidirectional communication; meter and sensor connection;
Customer Interface	Ethernet interface 10/100 Base T as RJ45; auto crossover; communication: XML/HTTP(S)
WAN Interface	GSM/GPRS or Ethernet interface; communication: XML/HTTP; authentication via HTTP digest; encryption via HTTPS (X.509 certificates)
Power supply	Device input voltage: Un 195 – 253 VAC (single-phase connection, spring terminals), Fn 50 Hz; power consumption: 2.5 watts (typical), 5 watts (peak)
RADIO	
Connection	GPRS: Class 12, up to 4 uplinks / up to 4 downlinks, max. 5 slots; coding schemes CS-1, CS-2, CS-3, CS-4;
Transmitting Power	Quadband GSM 850/ 900/1800/1900 MHz;
Antenna Port	GSM: nominal impedanz: 50 Ohm; Fakra connector; W-MBUS: nominal impedanz: 50 Ohm; Fakra connector;
FUNCTIONALITY	
Configuration	Browser based, via Customer- or WAN interface
Meter Reading	Local recording in gMUC controller, flexibly configurable. Data available through Customer- and WAN interface
Clock	Real time clock; 48h power reserve; time synchronization via NTP or locally
Firmware Update	Local or remote
APPROVALS	
Environmental Conditions	Operation –20 °C to +65°C (>55 °C derating); humidity 0-95 %, non-condensing
Approvals	CE; R&TTE (GSM); GSM/GPRS module with GCF certification; EN 55024; EN 55022 Class A; EN 61000-6-2; EN 60950
MECHANICS	
Mechanics	Top hat rail mounting; enclosure: plastic; protection class: IP40; dimensions: approx. 114.5 x 22.5 x 99 mm (D x W x H); weight: approx. 150g
MISCELLANEOUS	
Accessories	Various antennas
Scope of delivery	Device; installation guide; access to download area
Order number	gMUC-GPRS, item no. 819004

Dr. Neuhaus