

# ZDUE-GPRS-MUC

## MUC controller for remote supply meter reading via GPRS

### Benefits:

- Standardisation and future prove of investment. Compliant with:
  - MUC performance specs (FNN)
  - IPT Protocol (E-DIN 43863-4)
  - SML specifications
  - OMS wireless M-Bus
- Complied challenges of the EnWG §40
- Maximum safety and data protection
- Flexible integration of meters (Power, Gas, Water, Heat)
- Efficient coverage of households in the centre of area
- Easy local integration with house automation, display, etc.
- Approved and scaleable solution with infrastructure for IP-Telemetry
- Easy installation
- Not subject to legislation on calibration

### Key Features:

- RS232 interface, alternative RS485
- EDL21 meter (eHZ v1.02, eHZ v1.03, three-point; via optical probe), 1107-meter
- Radio interface (wireless M-Bus, S & T mode) with AES-128-encryption
- WAN-communication via GPRS or connection on a DSL-Router, TCP/IP based.
- Software platform of Linux Base
- Remote firmware update
- Time server function
- Two Ethernet interfaces
- Switching output
- Operating status signaling via LED
- Mounts on top hat rail in installation cabinet



The ZDUE-GPRS-MUC from Dr. Neuhaus Telekommunikation GmbH enables multi-line wireless remote data reading from domestic supply meters by means of the GSM/GPRS network. The various consumption values for electricity, gas, water and heat are connected locally and automatically transmitted to one or more headquarters by means of a uniform communication interface.

The meters can be connected to the ZDUE-GPRS-MUC by wire (RS232) as well as via short-range radio (optional). The establishment or restoration of communication takes place entirely independently. The device is configured by the headquarters. Direct access to the measurement values by the supplier's end customer is also possible.

The ZDUE-GPRS-MUC is designed for the requirements of a large-area installation. Only the cable connections have to be created for the local installation.

The ZDUE-GPRS-MUC is state-of-the-art in the field of automatic measurement data recording for private customers via open networks.



**Dr. Neuhaus**

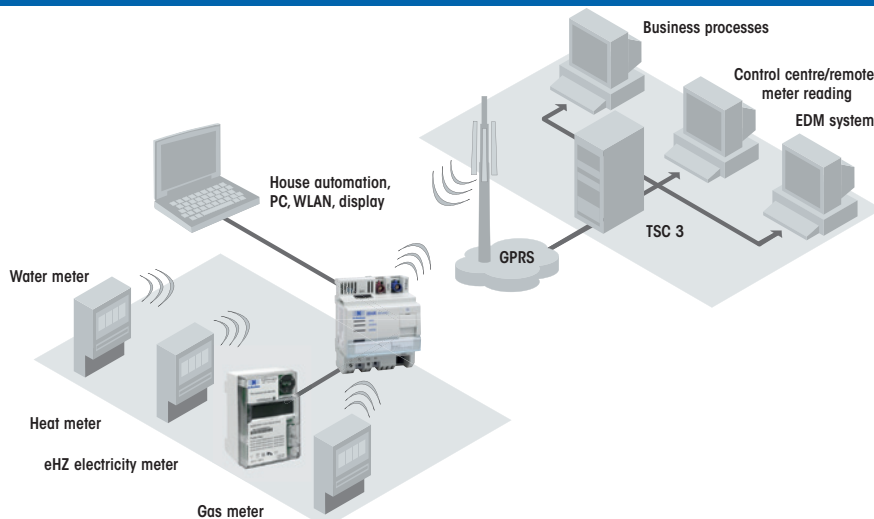
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## System components

- Device: ZDUE-GPRS-MUC
- Antenna
- SIM card with GPRS connection
- Meter: SMARTY ix-130 or others (vide meter list)
- Software: TAINY SwitchingCenter
- Software: SMARTY m.Center

## Topology



## Technical data

### INTERFACE

<b>Interface to elec. supply meter</b>	RS232 – RJ10 (jack) visual scanning unit connection for elec. supply meter: Speed: 1,200 to 115,200 baud (adjustable) data format: Adjustable;
<b>Wireless M-Bus (optional)</b>	Wireless M-Bus: S mode, T mode; bidirectional communication; meter and sensor connection;
<b>Customer interface</b>	Ethernet - interface 10/100 Base T as RJ45; auto crossover; communication: TCP/IP; provision of consumption data
<b>Power supply</b>	Device input voltage: 230 VAC + - 10% (single-phase connection, spring terminals), Fn 50 Hz; power consumption: 2.6 watt (typical), 5.6 watt (peak)

### FUNCTIONALITY

<b>Configuration</b>	OBIS-T key data; local: customer interface via SML; remote: WAN interface via SML; automated establishment of communication paths; Sensors for MUC controller, MUC controller for headquarters, no parameterisation to the measurement point necessary; firmware upgrade per remote; via remote; operating status signalling via LED; service sensor
<b>Clock</b>	Real time clock: 48h power reserve; time synchronisation via NTP or local
<b>Remote shutdown</b>	Switching output / relay; Remote shutdown and connection (incl. security routines), connection via spring terminals; I/O for TSD
<b>Monitoring</b>	Malfunction report to the headquarters: Communication meters & MUC controller interrupted, meter malfunction reports; communication logbook incl status reports
<b>Meter readings</b>	Periodic forwarding of the meter reading to the headquarters; controlled operation for billing and balancing; smart grid; load profile creation: Only in the measurement device, recording interval in MUC controller (gas, electricity, heat) flexible configurable

### RADIO

<b>Connection</b>	GPRS: Class 10, up to 2 uplinks / up to 4 downlinks, max. 5 slots; coding processes: CS-1, CS-2, CS-3, CS-4;
<b>Transmission power</b>	Quad band GSM 850/ 900/1800/1900 MHz;
<b>Antenna port</b>	GSM: Normal impedance: 50 Ohm; jack: Fakra, pluggable; W-MBUS: Normal impedance: 50 Ohm; jack: Fakra, pluggable;

### APPROVALS

<b>Environmental Conditions</b>	Operation -20 °C to +55 °C; air humidity 0-95 %, non-condensing; storage: -20 °C to +80 °C
<b>Inspection/approval</b>	CE Conformity: Telecommunications End Devices (1999/5/EC): EN301419-1, EN301511, Module with GCF Approval; Electromagnetic Security (1995/5/EG): EN 55022 Class B, EN 55024, EN 61036, ETSI EN 301 489-1 & -7; Electrical Safety (73/23/EEC): EN 60950
<b>Conformity</b>	MUC-Papier – MUC Work Group of the BDEW / FNN www.m-u-c.org; OMC (Open Metering Communication) Work Group OpenMetering AG1 and AG2; SML specifications – www.sym2.org; eHZ performance specs – FNN; SyM2 requirement specs – www.sym2.org; M-Bus standards wireless M-Bus; IP-T DIN Work Group AK461.0.14 - Description IP-T - OBIS-T

### MECHANICS

<b>Mechanics</b>	Housing: Standard switching cabinet housing for mounting the top hat rail, IP2x, ignitability according to UL94-V0, dimensions: approx. 70 x 60 x 90 mm (L x W x H); weight: approx. 180 g; SIM card accessible from the exterior, sealable opening, SIM card can only be exchanged once the MUC has been deinstalled; operational securing via mounting behind sealed cover in switching cabinet (applies to all elements except the customer interface, service sensor & LED)
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### MISCELLANEOUS

<b>Accessories</b>	Antennas: GSM, wireless M-Bus
<b>Scope of delivery</b>	Device
<b>Order number</b>	ZDUE-GPRS-MUC, item no.: 817700

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