



Dr. Neuhaus

Smart Metering Solutions



Standardization and Modular Design are Success Factors in Smart Metering

New legislation, the integration of renewable energy sources, intelligent consumption measurement for private households – there are just some of the new challenges and new opportunities that energy providers and network operators face today.



ZDUE-GPRS-MUC

MUC controller for reading of smart meters via GPRS

The ZDUE-GPRS-MUC enables the multi-sector, wireless remote meter reading of household meters via the GSM/GPRS network. The different consumption data for electricity, gas, water and heat is collected locally and automatically transmitted via a uniform communications interface to one or more control centers.



ZDUE-PLC-MUC

MUC controller for reading of smart meters via PLC

The ZDUE-PLC-MUC enables the multi-sector remote meter reading of household meters via Power Line Communication (PLC). The different consumption data for electricity, gas, water and heat is collected locally and automatically transmitted via a uniform communications interface to a data concentrator, which bundles the communication for one or more ZDUE-PLC-MUCs to one or more control centers.

ZDUE-DC-MUC



Powerline data concentrator for the ZDUE-PLC-MUC

The ZDUE-DC-MUC enables the multi-sector, wireless remote meter reading of household meters via GPRS. The different consumption data for electricity, gas, water and heat is collected locally in the ZDUE-PLC-MUC and transmitted automatically via PLC to the ZDUE-DC-MUC (data concentrator), which bundles the communication for one or more ZDUE-PLC-MUCs to one or more control centers.



ZDUE-DSL-MUC

MUC controller for reading of smart meters via DSL

The ZDUE-DSL-MUC enables the multi-sector remote meter reading of household meters by way of connection to a DSL modem. The different consumption data for electricity, gas, water and heat is collected locally and automatically transmitted via a uniform communications interface to one or more control centers.

TAINY SwitchingCenter

Standardized infrastructure for IP telemetry



The TAINY SwitchingCenter (TSC) provides the technological basis for cost efficient, innovative smart metering via IP networks. As a software-based switching center, the TSC solves the problem of dynamic IP address allocation. The connected MUC-Controllers transmit their data in push, as well as in pull operation.

Company with 30 years of experience

Smart Metering – Made in Germany

Dr. Neuhaus stands for innovation in industrial communications and is a pioneer in the field of Smart Metering. In close cooperation with energy providers, a solution portfolio has been developed to meet a wide variety of different needs. It takes into account German and international general prerequisites as well as a broad range of different technical requirements.

To guarantee that the individual components can be efficiently integrated into a complete solution, a special focus was already placed on the use of open protocols and established standards during the development phase.

Interoperability affords independence

Standardization and modular design, key success factors in Smart Metering

Growing environmental awareness and technological progress are revolutionizing the collection of energy consumption data in private households. To some extent, it is new legislation that is acting as the driving force for the introduction of Smart Metering, but the pursuit of greater efficiency and the generation of added value are now also playing an ever-stronger role. Among other things, it is now necessary to meet the requirements of decentralized electricity input from photovoltaic systems, for example, and to take the multi-sector approach into consideration.

Advantages at a glance:

Modular, standardized Smart Metering affords:

- Independence from the manufacturer
- Flexibly upgradeable solutions
- Investment security
- Easy installation
- Wide range of accessories



A Smart Metering infrastructure can only meet this broad range of requirements if the individual components use open standards to make them interoperable. As a result, the customer is never dependent on just one solution provider and it also boosts competition. This is the way that the innovation potential of the market can fully develop.



Another important point is the modular design of a Smart Metering infrastructure. It should be flexibly upgradeable so that an in-house display or an additional energy meter can be added at any time and even allow integration into a house automation system. Thanks to the use of standards in the interfaces of the individual modules, investment security is guaranteed for the complete solution for many years to come.

Separation of communications module and meters

Clever and SMARTY: The modular Smart Metering infrastructure

Dr. Neuhaus Telekommunikation GmbH's product range includes "Clever and SMARTY": "Clever" stands for the universal communications module with its standardized interfaces, the MUC, and "SMARTY" for the electronic household meter. The portfolio also includes the TAINY SwitchingCenter, a standardized software solution for quick and easy communication via the internet, and the SMARTY m.Center, control center software to visualize the measurement data received, e.g. in pilot projects.

Thanks to the separation of communication and the meters, it is easy to integrate additional energy meters into a Smart Metering infrastructure – manufacturer-independent and across all sectors – at any time. The MUC controller collects the measurement data from the local energy meters and transmits it to the control center as well as to the in-house display.



"We are happy about the great response to our products and the positive feedback that we get in Germany and from abroad," says Ludger Böggering, head of Marketing at Dr. Neuhaus Telekommunikation GmbH. "This gives us a firm foundation on which to continue to build and expand our position on the growing market for Smart Metering solutions together with our customers and our partners."



gMUC-GPRS

Multi-utility gateway for Smart Metering via GPRS

The gMUC-GPRS controller enables the multi-sector, wireless remote meter reading of smart meters via the GSM/GPRS network. The different consumption data for electricity, gas, water and heat is collected locally and automatically transmitted via a uniform communications interface to one or more control centers.



gMUC-DSL

Multi-utility gateway for Smart Metering via DSL

The gMUC-DSL controller enables the multi-sector, wireless remote meter reading of smart meters via a DSL line. The different consumption data for electricity, gas, water and heat is collected locally and automatically transmitted via a uniform communications interface to one or more control centers.



SMARTY ix-110

1-phase eHZ for Smart Metering

The SMARTY ix-110 is an electronic 1-phase multi-tariff smart meter based on the FNN technical specifications. It meets all the requirements at a metering point acc. to §21 EnWG. The reliable eHZ design allows easy plug-in mounting at any modern meter location. The measurement data is shown on a two-line display.



SMARTY ix-130

3-phase eHZ for Smart Metering

The SMARTY ix-130 is an electronic 3-phase multi-tariff smart meter based on the FNN technical specifications. It meets all the requirements at a metering point acc. to §21 EnWG. The reliable eHZ design allows easy plug-in mounting at any modern meter location. The measurement data is shown on a two-line display.

SMARTY m.Center

Data visualization in Smart Metering Pilot projects



The SMARTY m.Center is control center software for Smart Metering systems. The product offers a reliable visualization of the smart meters connected or the MUC controller and their status, and it visualizes the measurement data received in a meter status process.



Dr. Neuhaus

Dr. Neuhaus Telekommunikation GmbH – a company with 30 years of experience

Dr. Neuhaus Telekommunikation focuses primarily on the development and production of GSM, GPRS, LAN and PLC-supported communications solutions for wireless and wired data transmission. These innovative hardware and software products for portable as well as stationary data communications. The universal solutions are used in such professional applications as Smart Metering, in automated remote meter reading and in industrial automation.

Quality Made in Germany

The close connections between sales, development and production make it possible to efficiently implement all requirements to the benefit of the customer. The company employs 100 people; more than 40% are qualified engineers.

Product Matrix	ZDUE- GPRS- MUC	ZDUE- PLC- MUC	ZDUE- DC- MUC	ZDUE- DSL- MUC	gMUC- GPRS	gMUC- DSL	SMARTY ix-110	SMARTY ix-130	SMARTY m.Center	TAINY Switching- Center
INTERFACES										
RS232	■	■		■	□*	□*	■	■		
RS485	□*	□*		□*	■	■				
Wireless M-Bus	■	■		■	■	■				
Customer interface	■	■		■	■	■				
VOLTAGE										
230 VAC	■	■	■	■	■	■	■	■		
FUNCTIONALITY										
SML (LAN/WAN)	■ ■	■ ■	■ ■	■ ■	■ /-	■ /-	- / ■	- / ■	- / ■	
XML (LAN/WAN)					■ ■	■ ■				
1107/DLMS/HTTP	■ /- /-	■ /- /-	■ /- /-	■ /- /-	■ ■ ■	■ ■ ■				
Configuration (local/remote)	■	■	■	■	■	■			■	■
Software									■	■
RADIO										
GPRS	■		■		■					
PLC		■	■							
DSL				■	■	■				
IP telemetry E-DIN 43863-4	■	■	■	■					■	■
ENVIRONMENTAL CONDITIONS										
- 20 °C to + 55 °C	■	■	■	■	■	■	■	■		
- 25 °C to + 55 °C							■	■		
MECHANICS										
Top-hat-rail mounting	■	■	■	■	■	■				
70 x 60 x 90 mm	■	■		■	■	■				
160 x 60 x 90 mm			■							
114,5 x 45 x 99 mm							■	■		
Sealable							■	■		
IP20	■	■	■	■	■	■	■	■		
IP51							■	■		
ORDER NUMBER	817700	817109	817208	818205	819004	819011	818540	818502	818700	317708

□* optional

Dr. Neuhaus Telekommunikation GmbH,
Papenreye 65, 22453 Hamburg, Phone: +49 (40) 55 304 - 0, Fax: +49 (40) 55 304 - 180
Internet: <http://www.neuhaus.de>, E-Mail: info@neuhaus.de

05/2011, Doc.-No.: 8166AQ210 Rev. 1.0

Subject to technical modification. No guarantee or liability for incorrect entries or omissions.