



UniMod

Intelligent Communication
for all Metering Application





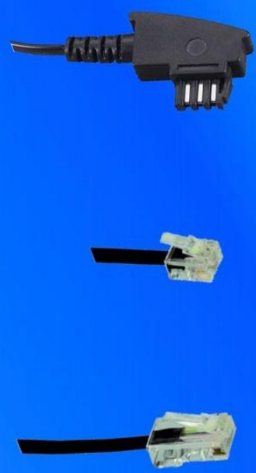
The Solution for Data Communication

The different devices of our UniMod family support transparent data communication with all needed different interfaces to the data source devices and all communication capabilities to the central station. The applications define the best way to communicate adapted to location and metering device.

Metering points of all energy types in industrial or commercial areas can deliver data fast and secure to utilities for billing or control. Industrial users appreciate the possibility to use the existing infrastructure like cables or

LAN for economic data retrieval to optimize energy consuming processes or to distribute energy cost. Using a transparent communication mode all renowned data retrieval software can be used. Our new combination of communication device and LAN improves the cost efficiency and speedy communication. The UniMod family consists of the following devices:

- LTE radio modem (2G/3G/4G)
- GSM/GPRS radio modem (2G)
- LAN communication device (Ethernet)
- PSTN communication device (in consideration of VoIP)



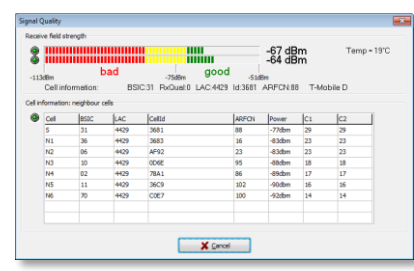
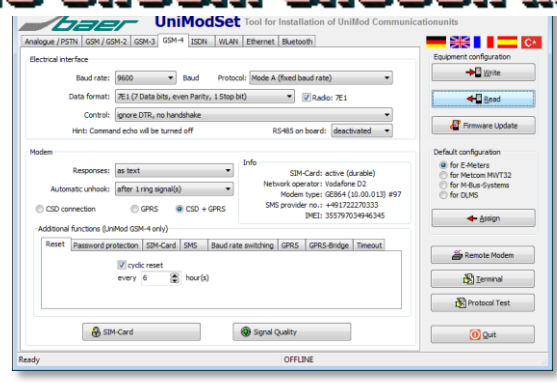
UNI-MODS

The following device interfaces are available:

- RS232
- CS/CL1 (20mA – Current-Loop)
- M-Bus
- RS485

For the GSM-Modem an additional interface can be used for a simple setting of communication parameter. The firmware of the LTE/GSM-Modules can be updated. The parameters in the UniMod can easily be adapted to the desired application and documented by our software UniModSet. It supports the installation and diagnosis of the modem.

The powerful parameterization software (UniModSet) enables the user to adapt the modem to all applications and simplifies the installation, e.g. it shows the field strength of the used transmitter.

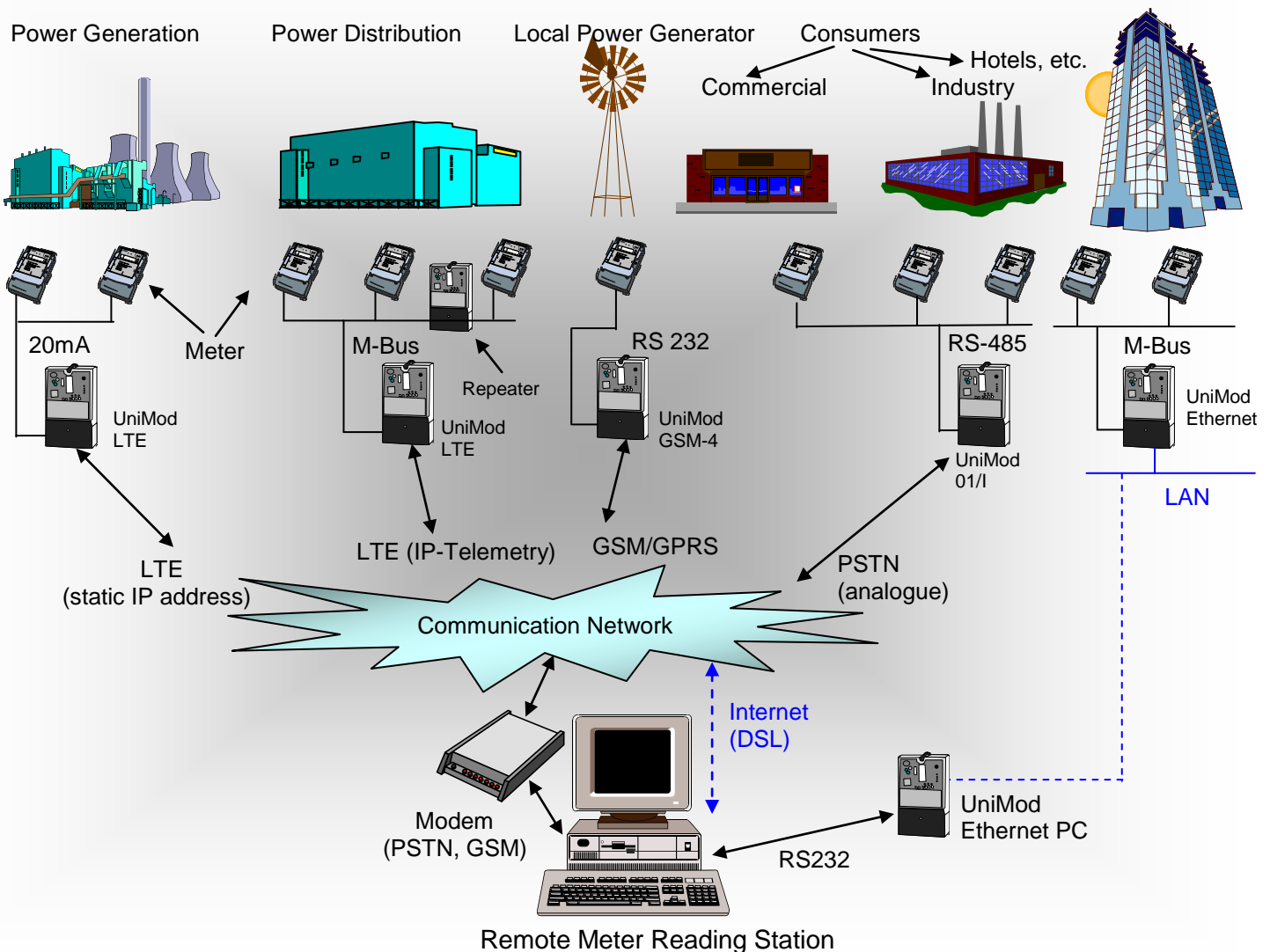


Highlights

- Low loss power supply reduces operating costs.
- Large range of supply voltage increases operating security and reduces logistics cost (e.g. storage).
- Light emitting diodes simplify installation and diagnosis.
- Flexible and fast communication rate starting at 300Bd up to 19200Bd.
- Mode C with baud rate changeover according to IEC 62056-21 (UniMod GSM-3/3+/4 only).
- Optimized use of available bandwidth of the chosen data channel (e.g. LTE > 50Mbit/s) reduces data transfer time.
- Optimized data transfer time means less telephone fees, more devices can be checked in the same period and less channels are needed at the central station.
- IP-Telemetry according to DIN 43863-4 (GSM-4 and LTE).
- Easy to use parameter setting software available.
- EU-approval CE, CETECOM, LABORELEC, ENDESA.
- Proven with all renowned protocols like dlms, M-Bus, ModBus, IEC 62056-21 (61107), IEC 60870-5, SCTM, LSV1.
- Simple installation: the housing fits on meter fixings (according to DIN 43861-2).
- Even if the environment is a little bit rough: with IP52 the UniMod can withstand a lot.
- Works with meters of all metering manufactures.
- Sealable housing prevents tampering.
- Watchdog for GSM/LTE-Modems enhances performance and availability.



Applications



Which Interface for which Application?

The data of the meter can be transferred to the modem by many ways. However, one is common to all: the data converted into a serial, binary data stream has to enter the modem via a special interface (Module):

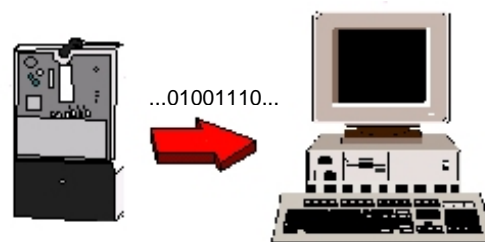


Interface at the meter	Which module?
<ul style="list-style-type: none"> One meter with RS 232 (up to 15m cable between meter and UniMod) 	RS232
<ul style="list-style-type: none"> Up to 3 meters distributed up to 1000m 20mA interface in the meter 	20mA
<ul style="list-style-type: none"> Up to 20 meters distributed up to ca. 5 km, With M-Bus Repeater (optional) up to 250 devices can be connected 2 wire cable to the meters available M-Bus interface in the meter 	M-Bus
<ul style="list-style-type: none"> Up to 32 meters distributed up to 1000m RS485-Bus available (2 wires or 4 wires) RS485 interface in the meter 	RS 485
<ul style="list-style-type: none"> Multiple meters distributed on one site Impulse output (e.g. S0) No serial communication interface 	DLX/DLM6 (more information at www.baer-gmbh.com)

The maximum cable length and the number of devices to be connected to may vary and depend on the local conditions.

Which Modem for which Application?

As soon as the data has arrived at the modem, it can be sent to the central station by different communication channels. Criteria are customer satisfaction, cost, availability and speed.



Application	Advantages	Type
<ul style="list-style-type: none"> Main connection or extension available, customer acceptance available, telephone connection close to modem 	Low price	UniMod 01/I (PSTN)
<ul style="list-style-type: none"> No telephone connection available Costly new installation (long cables, openings, etc.) No customer acceptance to provide telephone connection Short term need due to change of energy supplier or change of tariff Approval for EU, China etc. 	Fast implementation No annoyance for the customer Low price Installation	UniMod LTE (2G/3G/4G) UniMod GSM-4 (2G)
<ul style="list-style-type: none"> Local Area Network (LAN) already available, e.g. for control purposes or for PC communication 	No fees Fast data retrieval	UniMod Ethernet

Note: Features and look of the devices described in this leaflet could be adapted to technological development or changed in any other way.

The Product Family



Modems UniMod



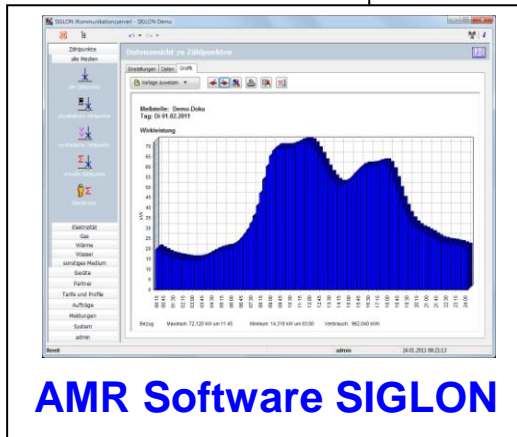
Renewable Energy Management



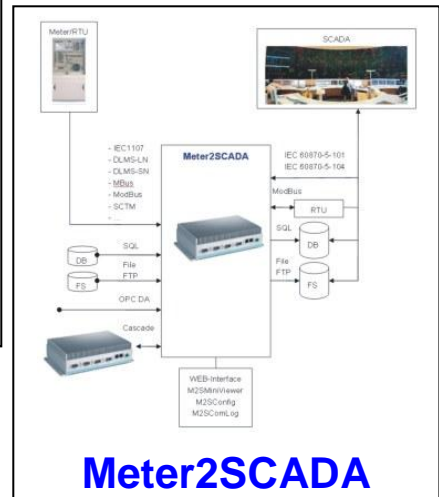
**M-Bus / RS485
BaerFieldControl-System**



Data Loggers DLM6 / DLX



AMR Software SIGLON



Meter2SCADA



Cubical Design and Installation



Relais

How to Order the UniMod

Type

UniMod	Universal Communication Device
	Communication to Central Station
LTE	Radio modem (LTE/UMTS), one internal interface: RS485 2 wires, one additional interface is possible
LTE/24	UniMod LTE with 24VDC (10VDC to 36VDC) power supply
GSM-4	GSM-Modem with Quad-Band GSM and GPRS option (multi-slot class 10) three internal interfaces: RS232 (Service), RS485 2 wires, 20mA (CS, current loop)
GSM-4/24	UniMod GSM-4 with 24VDC (10VDC to 36VDC) power supply
GSM-4/48	UniMod GSM-4 with 48VDC (20VDC to 72VDC) power supply
01/I	PSTN Modem (analog), available on request only
Ethernet+	LAN-Modem to connect devices to a local area network using Ethernet technology
	Interface Modules
	10 RS232 interface via terminals (also for connection of a PC to the UniMod Ethernet)
	15 RS232 interface via terminals; with 9VDC power supply (used e.g. by some gas flow computers)
→	20 20mA (CS) interface, active (standard, if supplements are missing), only UniMod 01/I and Eth
	21 20mA (CS) interface, passive
	40 M-Bus interface, active, up to 20 devices
	41 M-Bus interface, passive
	72 RS485 interface, 2 wires
	74 RS485 interface, 4 wires

Order supplements

	Antenna (only UniMod LTE... and GSM..)
→	A00 No antenna (standard, if supplements are missing)
	A06 LTE-Antenna with magnetic foot; 5m cable
	A07 LTE fixed antenna with mounting device; 5m cable
	Baud rate of the electrical interface at delivery time
	B00 Mode C according to IEC 62056-21 (supported by UniMod GSM-4 only)
	B01 1200 Baud
	B02 2400 Baud
	B03 4800Baud
→	B04 9600 Baud (standard, if supplements are missing)
	B05 19200 Baud
	Data format of the electrical interface at delivery time
→	D01 7E1 (7 Data bits, Even Parity, 1 Stopbit) (standard, if supplements are missing)
	D02 8N1 (8 Data Bits, No Parity, 1 Stopbit)
	D03 8E1 (8 Data Bits, Even Parity, 1 Stopbit)
	External power supply
	PS24 Power supply; input: 100-240VAC, output: 24VDC, 2,5A (Order No.: #12202)
	Telephone connection (only UniMod 01/I)
→	T00 No cable (standard, if supplements are missing)
	T01 Telephone cable for TAE 6N-socket; 3m length
	T02 Telephone cable for RJ-10/11/12 socket; 3m length

→ = if no order supplements are given, this will be the standard delivery

Software, Accessories

UniModSet	Software to change parameters and to support installation using a RS232 interface (OS: MS Windows NT, XP, Vista, 7, 8, 10 or Server 2000/2003/2008/2012)
UniModSet P	Software to change parameters and to support installation using a RS232 interface; additional: protocol test procedures e.g. for M-Bus, IEC 62056-21 (61107), IEC 60870-5, SCTM, Elster-Gas, dlms, Modbus
USB-Adapter	Adapter for UniMods with Micro-USB connector and 1,8m connection cable (Order No.: #12823)
RS232 cable 9pol.	Standard RS232 cable 2m, only for UniMod GSM-3/3+/4 (Order No.: #4301)

Order Examples

UniMod GSM-4 10 A00	GSM-Modem with RS232 interface, without Antenna, baud rate set at 9600 Baud, 7E1;
UniMod LTE	LTE-Modem with RS485 interface (internal), without antenna, baud rate set at 9600 Baud, 7E1;
UniMod 01/I 20 B02	PSTN modem (analog) with 20mA interface, active, baud rate set at 2400 Baud, 7E1, no cable;

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Subject to change without notice!