AMBUS® Net

Energy data in the Internet

Applications

- M-Bus data central unit for domestic systems, heat cost billing service providers and facility management.
- Internet gateway for communicating via Ethernet or Internet
- Remote data transmission via telephone (analog, ISDN or GSM)
- Remote display with easy touchscreen display, for reading out data using an RS232 or RS485 interface or a plug-in data carrier (CF)

Features

- M-Bus central unit with integrated Web server
- Compatible with www.bill24.ch online cost allocation
- Up to 120 or 250 M-Bus meters
- 5.7" LCD touchscreen and plain text in various languages
- Data logger with plug-in data memory (optional)
- 10 MB Ethernet interface
- For integrating telephone modems (analog, ISDN, GSM)
- RS232 and RS485 interfaces

Benefits

- Remote data readings via Internet with browser
- Ideal for large M-Bus networks
- Simple operation
- Data recording for analysis
- For new facilities or updating existing systems
- Data transmission via LAN
- Data transmission via telephone network
- On-site readings and configuration via PC

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Applications

AMBUS® Net as a modern remote display

AMBUS® Net supplies convenient on-site readings of all meters connected to an M-Bus network (Meter-Bus). For the first time an instrument of this class offers a 5.7" LCD touchscreen with an easy, explanatory procedure in a language that can be selected. Reading requires no PC, no special reading program and no interface cable. This makes AMBUS® Net the ideal solution for data recording without a billing service provider.

The data can also be recorded for long periods of time on a compact flash memory card for later evaluation on a PC. Existing plants can be updated very simply or else expanded as required, since the AMBUS® Net is totally compatible with all earlier AMBUS® FA and ZS systems. The cost-effective M-Bus technology enables standard meters from all manufacturers to be read

AMBUS® Net as M-Bus Internet gateway

With AMBUS® Net your data is now online. The AMBUS® Net links M-Bus and Web technologies in the ideal combination. The data from M-Bus meters for water, heat, gas and electricity are available to your Internet work station in just seconds . Wherever you are and whenever you want. This is a key advantage for the billing service provider and for facility management companies having several locations or supervising mobile operations.

The AMBUS® Net with a standard Java Internet browser can be remotely operated or the data downloaded as an Excel file and later transmitted to a billing system. This saves not only valuable time with reading the data but also saves time for the installation and maintenance work that earlier reading software programs required.

Online cost allocation

The output of AMBUS® Net can be used directly for the online cost allocation platform www.bill24.ch (currently available only in Switzerland). The files can be uploaded to the server with every PC connected to the internet.

Operation

The large touchscreen display provides an ease of operation not previously available to instruments of this class. The plain text display, in one of a number of languages, enables the device to be operated both quickly and easily.

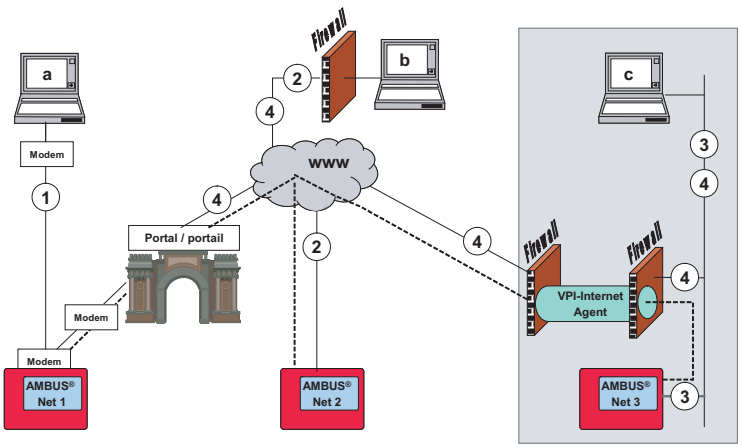
AMBUS® Net is therefore the instrument of choice where procedure needs to be quickly and easily understood.

Communication and safety

The AMBUS® Net itself becomes the Web server when communicating with an Internet browser. This can be carried out in several ways and is described in the table and diagrams below (the numbers and letters in the first three columns refer to the diagram on the next page):

Channel	PC	AMBUS® Net No	Connection	Access protection
①	a	1	Point-to-point connection with modem to rule out unauthorised access.	• Private connection • Access code
②	b	2	PC and AMBUS® Net are connected to the Internet. The PC is protected by a firewall AMBUS® Net is operated using a dedicated IP address supplied by the Internet provider.	• IP address not openly known • Access code
③	c	3	As ②, but within an Intranet protected by a firewall	• Firewall • Protected LAN connection • Access code
④	b, c	1, 2, 3	Access to AMBUS® Net via an Internet portal which has the following tasks: • Monitoring access • Communicating with AMBUS® Net via configured channels (with modem, direct IP address or VPI agent,(see dashed lines) • Carrying out application-specific functions, e.g. data	• Access protection by portal • VPI • Access code
④	b	3	VPI * technology also provides secure access to an AMBUS® Net device within a VPI-protected network. The portal and VPI agent in the DMZ** ensure that only the portal server has access	• Access protection by portal • Access code

*) VPI: Virtual Private Infrastructure ensures optimum access protection
**) DMZ: Demilitarised Zone



Open architecture

AMBUS® Net is based on an open architecture and compatible with the following standards:

- HTTP — Hypertext Transfer Protocol (transport medium)
- HTML — Hypertext Mark-up Language (format)
- TCP/IP — Transmission Control Protocol / Internet Protocol
- ARP — Address Resolution Protocol (network command)
- PPP — Point-to-Point Protocol (for communication via a modem)
- ICMP — Internet Control Message Protocol (for transmitting the status of the protocols IP, TCP and UDP between IP network nodes)
- LCP — Link Control Protocol (connecting, configuration, testing and disconnecting a PPP connection)
- IPCP — Internet Protocol Control Protocol (for IP connection via PPP)
- PAP — Point Authorisation Protocol (Authentication method for the PPP protocol)

Communication with other applications is based on the following open standards:

- SOAP — Simple Object Access Protocol (Software interface with XML syntax)
- WSDL — Web Services Description Language (describing the interfaces of the Web service)

Versions

AMBUS® Net is available with or without a local display and operating unit (LCD touchscreen). Except for local operation, the gateway version without LCD has the same functions as the version with a display and is installed in facilities where only operation and remote readout is required and where a rapid network connection is available (e.g. local area network).
AMBUS® Net is available in the following versions:

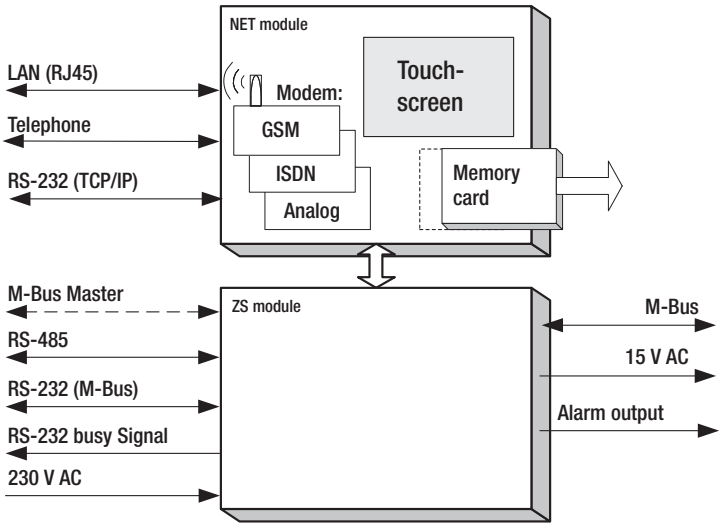
Designation	Number of M-Bus units	LCD	Internet server Ethernet RJ-45	Telephone modem	Data logger with CF board	RS-232 and RS-485	Art. No.
AMBUS® Net LCD 120	120	•	•	optional	optional	•	93178
AMBUS® Net LCD 250	250	•	•	optional	optional	•	93179
AMBUS® Net 120	120		•	optional	optional	•	93180
AMBUS® Net 250	250		•	optional	optional	•	93181

Options, accessories and services:

Designation	Description	Art. No.
Data logger	Data logger CF memory card and locking feature	93182
PSTN-Modem (analog)	Integrated analog telephone modem	93183
ISDN-Modem	Integrated ISDN telephone modem	93184
GSM-Modem	Integrated GSM telephone modem	93185
CF-Card 512 MB	CF-Card 512 MB	19879
Languages	Please state operating language when ordering Languages available: German, French, English (others on request)	

Interfaces

AMBUS® Net consists of the ZS and Net module.
The ZS module has an M-Bus level converter, a power supply for the M-Bus and a 2- or 4-wire auxiliary power supply along with an M-Bus repeater.
It has interfaces to the M-Bus, to any higher M-Bus master, RS232 and RS85 interfaces and 2 signal outputs (relays).
The Net module consists of the display (touchscreen), the processor for evaluating the data and slots for an optional modem and memory card. Each is equipped with an Ethernet, telephone and RS232 interface.



Interface data

M-Bus installation	2- or 4-wire system
Meter power supply (4-wire M-Bus)	15 V AC, ± 20 %
M-Bus data transmission rate	300, 2400, 9600 Baud
As M-Bus Repeater	Yes
Ethernet	10 MB, RJ-45
Telephone	- PSTN V.92 - ISDN - GSM (dual band 900/1800 MHz) Plug: RJ-45
Memory card	Compact flash

Further technical data

Display	LCD Touchscreen 5.7“, gray scale
Power supply voltage	230 VAC (+10, -15 %)
Max. power consumption	120 VA
Ambient temperature	5 ... 55 °C
Housing	Aluminium, red lacquered
Dimensions	W x H x D = 160 x 240 x 66 mm
Weight	approx. 3.5 kg

DISTRIBUTOR:

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