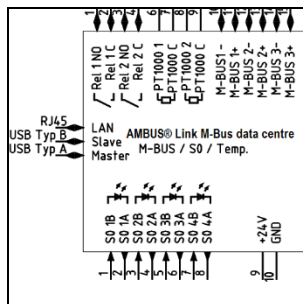
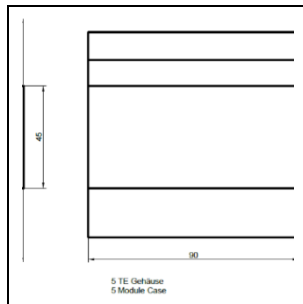


## AMBUS® Link

The new M-Bus data center



### Application

The intelligent M-Bus data center facilitates the configuration, operation and monitoring of M-Bus systems as complete systems featuring modern, customer-friendly operation. Thanks to the integrated web server, the device can be controlled remotely via a network connection and the consumption data can be collected in many different ways.

### Features

- M-Bus center with integrated web server
- For 20, 60, 120 or 250 M-Bus meters
- Data logger with plug-in data memory
- 10/100 Base Ethernet
- Easy language selection
- Transparent access to M-Bus
- Logger files in different formats

### Customer benefits

- Remote data readout via Internet browser
- Also for large M-Bus networks
- Very easy operation
- Recording of data for analysis purposes
- For new systems and for retrofitting existing systems
- Configuration and analysis via mobile devices
- Suitable for energy data management in accordance with ISO 50001
- Simple integration into BACnet/IP

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# 1. Operating principle

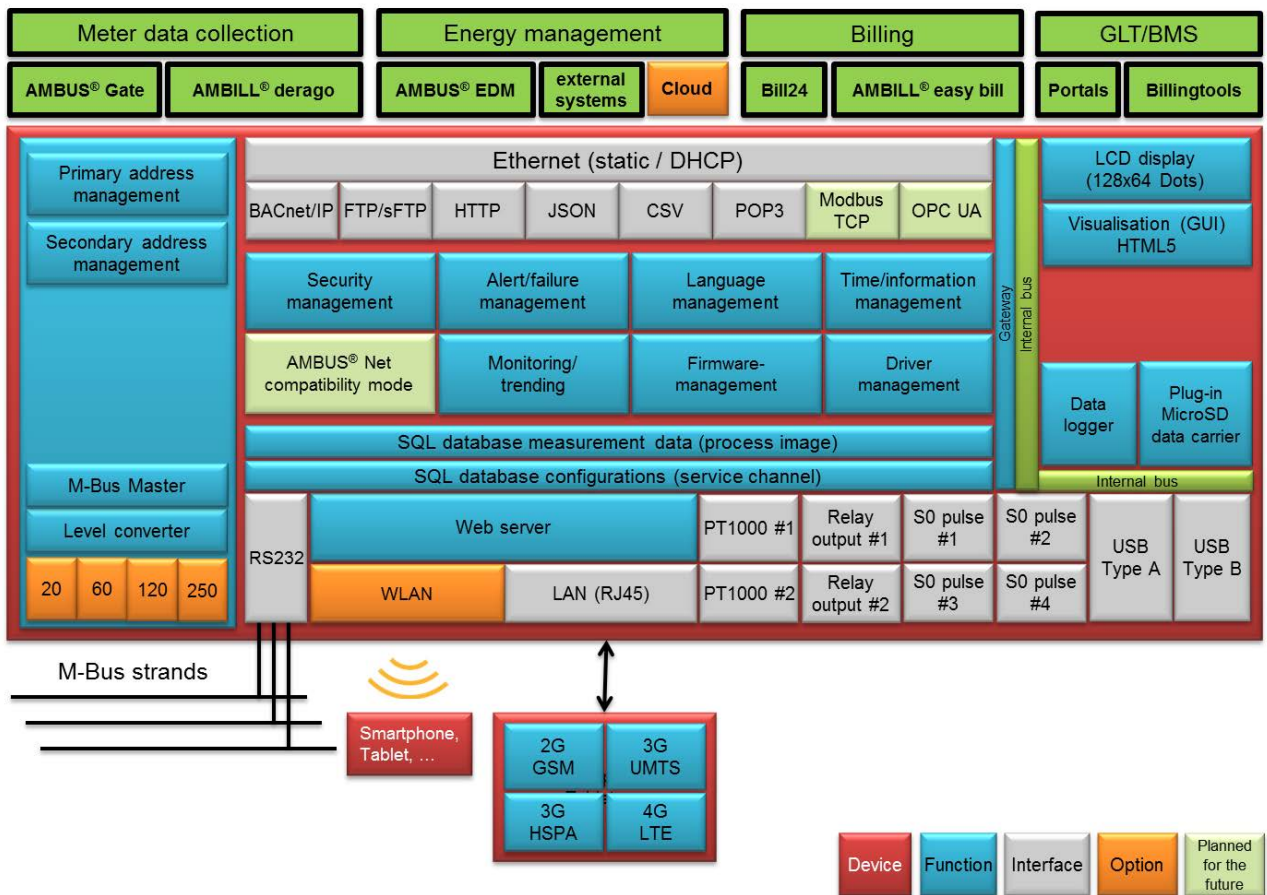
As a successor of the tried and tested AMBUS® Net M-Bus data center, the new, web-enabled AMBUS® Link M-Bus data center automates meter reading and guarantees fault-free, continuous collection of energy and consumption data for subsequent analysis and billing. It makes energy consumptions transparent and identifies potential savings. Consumption data can be analysed from any computer or mobile device. Due to the integrated data evaluation (web server), no M-Bus reading software is required. Integration into a superordinate BACnet/IP system can be implemented virtually without configuration. The AMBUS® Link therefore holds the solution for simple integration.

# 2. System design

In essence, the AMBUS® Link consists of a TCP/IP interface with integrated M-Bus level converter, combining the functions of an M-Bus data logger and M-Bus reading software within one unit. All energy meters (e.g. water, heat, electricity and gas) with an M-Bus interface in accordance with EN 13757-2,-3 (previously EN1434-2,-3) are connected by means of a two-wire line. The measured values and the consumption values are archived in an SQL database. For instance, the inside and outside temperature is measured with two temperature sensors. The operating system of the AMBUS® Link M-Bus data centre has a modular structure and can easily accommodate functional extensions.

The firmware is updated continuously (new functions or compatibility with M-Bus energy meters) and can be updated via the graphical user interface.

The connected M-Bus energy meters and their measured values are automatically mapped in BACnet objects and can be read out immediately via BACnet/IP.



Overview of the functional blocks of the AMBUS® Link

### 3. Technical data, certificates and approvals

The following tables contain information on the technical data of the available functions. Please refer to the price list for possible combinations.

<b>Basic data</b>	
Power supply	24VDC
Power consumption	Max. 1A
Temperature range	0 - 55°C
Display	Backlit LCD display (128x64 dots)
Weight	Approx. 400g
Installation	35mm DIN rail
Housing	Polycarbonate, recyclable, non-combustible
Evaluation	Web server / chart
Data export	As JSON or CSV file
Data memory	Micro SD card (must have at least 32 GB of free memory)
Firmware update	Yes, possible
Configuration	Local and remote configuration using a web browser
Inputs	3x M-Bus 2x Temperature PT1000 (-20°C to +100°C) 4x S0
Outputs	2x Relays
Interfaces	1x Ethernet 10/100 Base RJ45 1x USB type A 1x USB type B

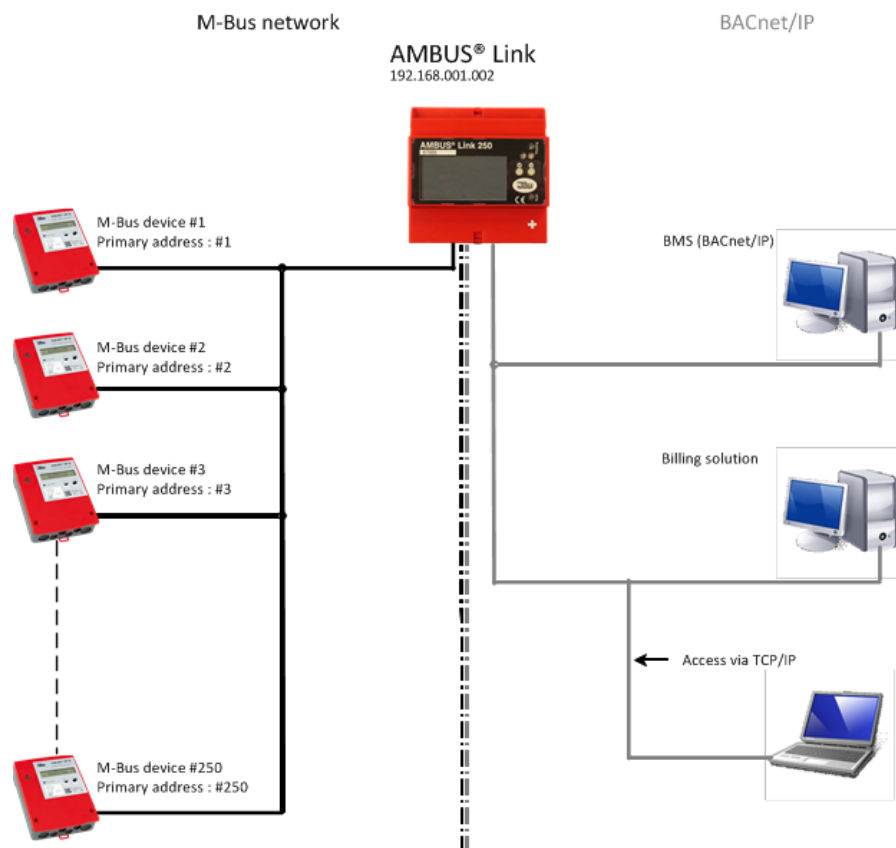
<b>M-Bus</b>	
Baud rates	300, 600, 1200, 2400, 4800, 9600
Compatibility	Heat, water, gas and electricity meter with M-Bus in accordance with EN 13757-2,-3 (previously EN1434-3)
Level converter	Integrated Can be operated in a transparent manner via USB type B
M-Bus closed-circuit current	Max. 375mA (250 x 1.5mA)
Number of M-Bus slaves	Max. 250 (see order information)
Electrical isolation	Yes
Short-circuit protection	Yes
Overload protection	Yes

<b>BACnet/IP</b>	
Specification	All M-Bus meters registered on the AMBUS® Link are automatically converted in BACnet/IP objects
BBMD	Yes
Protocol Implementation	The PICS document can be found on our website at <a href="http://www.integra-metering.com">http://www.integra-metering.com</a>
Conformance Statement	

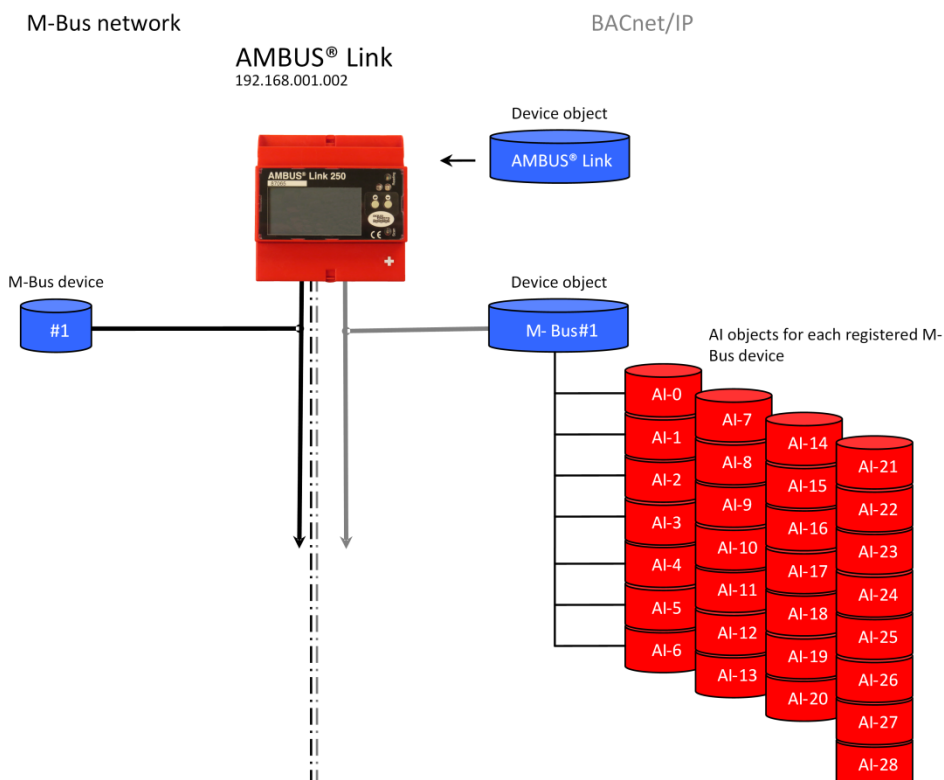
<b>Approvals and standards</b>	
Safety	CE Mark
EMC measurement	EN 61000-6.2
Immunity	EN 61000-6-3
M-Bus standard	EN 13757-2,-3
Energy management	Suitable for ISO 50001
BACnet	Certified

## 4. BACnet/IP Gateway

In addition, the AMBUS® Link is an ideal system component for integration into a BACnet/IP network. As soon as an M-Bus device has been registered with (read in) the AMBUS® Link, it can immediately be read out via BACnet/IP. The AMBUS® Link then shows one device object for the AMBUS® Link itself, and one device object and one static list of analogue input objects for every registered M-Bus device. Integration into a superordinate BACnet/IP system can be implemented virtually without configuration.



Overview of a possible system integration



Presentation of the BACnet objects

## 5. Indicators and user interface

The AMBUS® Link is configured completely via an appealing user interface, which can be done using any well-established web browser (HTML5). The IP address, whether static or DHCP-assigned, is shown on the screen.

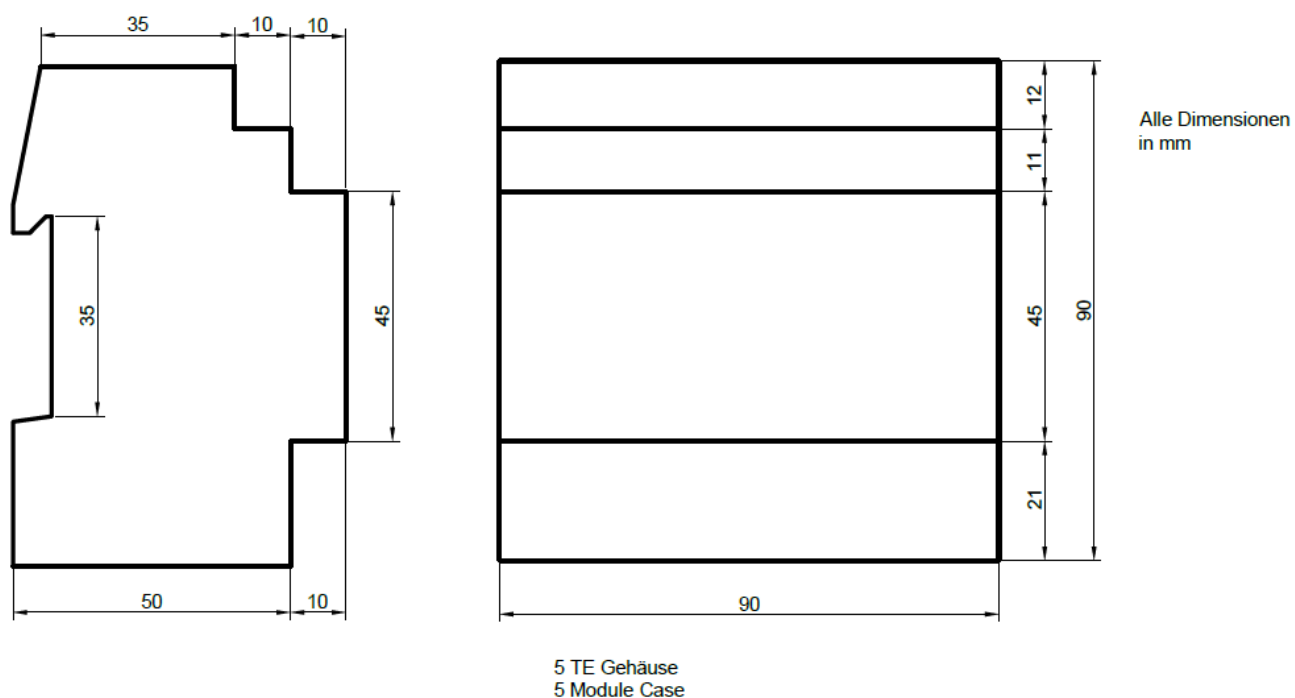


Of course, this unit can also be fully operated via mobile devices.



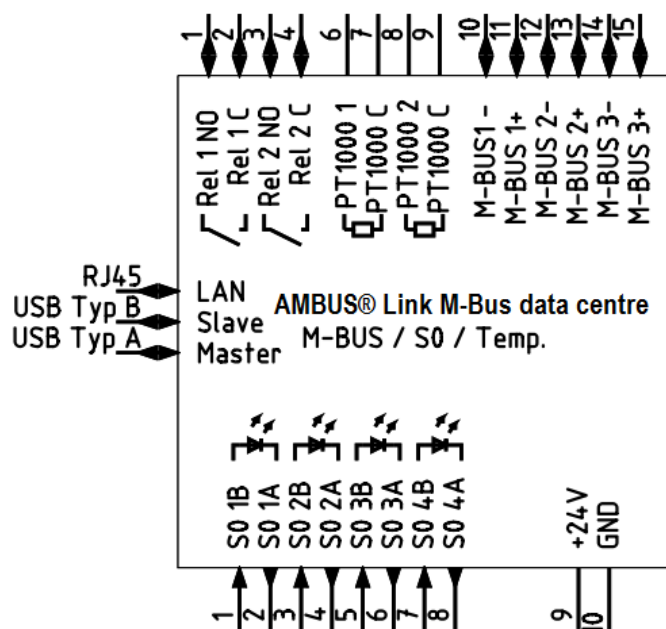
## 6. Housing, dimensions

The AMBUS® Link, which is a mere 90mm in width, is attached to a DIN rail.



## 7. Electrical connections

The terminal schematic of the DIN rail device version is the same for all variants.



## 8. AMBUS® Link versions

The AMBUS® Link is available in the following versions:

<b>Version</b>	<b>Quantity M-Bus devices</b>
AMBUS® Link 20	20
AMBUS® Link 60	60
AMBUS® Link 120	120
AMBUS® Link 250	250

We will be happy to advise you with respect to the deliverable versions and availability.