

# AmsMBUS



## Description

The AmsMBUS module is a client interface module in the Amplex Module System. It is designed for two-way communication with M-Bus compatible utility meters from various manufacturers.

The AmsMBUS module can easily be connected with up to ten utility meters. The AmsMBUS module collects readings and other data from the meters and subsequently transfers these data to an AmsCPU module that acts as a data concentrator and WAN module. The AmsCPU module delivers the data to the central server when required. Direct communication and power supply between the AmsMBUS module and the AmsCPU module are handled by an incorporated A-Bus interface, which is based on the industrially proven RS-485 technology.

## Functionality

Topic	Comments
<b>A-Bus communication</b>	A-Bus two-way communication with A-Bus masters, e.g. AmsCPU, AmsPLC+, AmsService.
<b>M-Bus communication</b>	Mini master, EN 13757-2 standard. Only primary addressing is used. A unique primary address within the range of 1 - 250 must therefore be assigned to every meter.
<b>Autodiscovery</b>	The module and all connected meters are automatically discovered by the AmsCPU. In case a module is disconnected from the AmsCPU, this is reported to the server application and the module is listed as missing. If the module is reconnected to the AmsCPU or another AmsCPU, it will be rediscovered by the system.
<b>Real-time clock</b>	The real-time clock is automatically synchronized with the AmsCPU, which in turn is synchronized with the Network Time Protocol (NTP).
<b>LED</b>	AMS Status LED (orange): indicates whether the A-Bus is up and running.

## Connections

I/O	Comments
<b>A-Bus</b>	A-Bus client module
<b>M-Bus</b>	M-Bus+ and M-Bus- connect to one meter or a collection of meters. The AmsMBUS module can be connected to a maximum of 10 meters. The meters are polarization independent. Data transfer rate 300 or 2400 bps

## Reliability & Maintainability

Topic	Comments
<b>Software upgrade</b>	The software on the AmsMBUS module can be updated remotely from the central server.
<b>Installation of new software</b>	New software is transferred without interrupting the normal functionality of the AmsMBUS module. When the software has been transferred, the integrity of the software is checked and the software is installed.
<b>Self-test</b>	A built-in self-test (BIST) is performed after power-up.
<b>Watchdog and brown-out reset</b>	Watchdog and brown-out reset ensure that the system is up and running at all times.

AmsMBUS/2011-09-01/v0021



## Technical Specifications

### Operational specifications

Storage temp.	-40°C to +85°C
Operating temp.	-20°C to +65°C
Max humidity	90% (non-condensing)
IP grade	IP20
Input voltage	12 V DC via A-Bus
Current consumption	Typical 115 mA, Max 170 mA

### Standards and approvals

2006/95/EC, Low Voltage Directive (LVD)  
2004/108/EC, EMC Directive  
2002/95/EC, RoHS Directive




# AmsMBUS

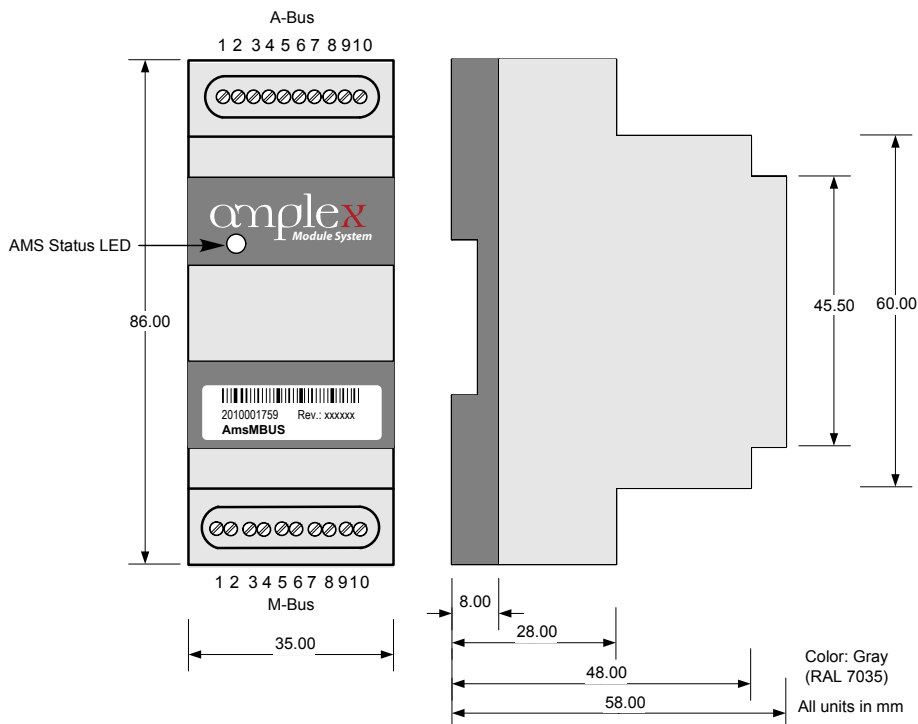
Data Sheet

## Installation Guide

The AmsMBUS module can be connected to any master module in the Amplex Module System, e.g. AmsCPU, AmsPLC+ and AmsService. The A-Bus connections are internally daisy-chained for easy installation.

Topic	Comments
A-Bus cable	Use shielded twisted pair cable.
A-Bus cable length	< 3 m
M-Bus cable	Use twisted pair cable.
M-Bus cable length	< 3 m
0.5 mm <sup>2</sup> terminals	Use a 2 mm slotted screwdriver to loosen/tighten the terminal screws.
Enclosure	The AmsMBUS module must be installed in an enclosure of protection degree IP65 or installed at a location that provides the module with the same level of protection.

## Drawing



## Ordering Information

Product	Order number
AmsMBUS	100-30-009

All specifications are subject to changes

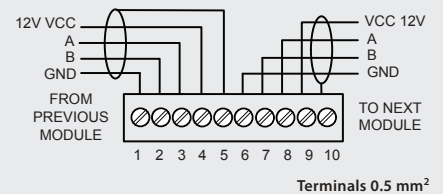
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## Physical Specifications

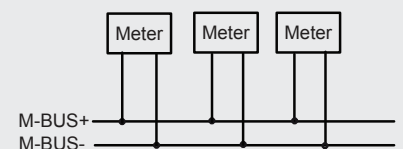
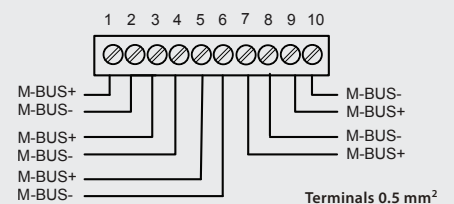
Weight	55 g
Top part	Gray (RAL 7035)
	Lexan 940
Base part	Black (RAL 7021)
	Noryl VO 1550
Coating	Conformal coated
A-Bus connector	0.14 - 0.5 mm <sup>2</sup> (AWG 26-20)
M-Bus connector	0.14 - 0.5 mm <sup>2</sup> (AWG 26-20)
Mounting	DIN-rail (EN50022)

## I/O Schematic

### A-Bus connection



### M-Bus connection



A collection of meters can be connected to each M-BUS+/M-BUS-.

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