

AmsBattery



Description

The AmsBattery module is a client module in the Amplex Module System. It is a backup/UPS module which is used for supplying other modules with emergency power in the event of power failure.

All modules in the Amplex Module System incorporate an A-Bus interface which is based on the industrially proven RS-485 technology. The A-Bus interface is used for power supply and for direct communication between the modules.

If the AmsBattery module is installed together with, e.g. an AmsCPU module, it will be recharged with power as long as the battery is supplied with 12 V from the A-Bus interface. If the main power fails, AmsBattery will instantaneously take over the power supply of the A-Bus. This enables the AmsCPU module to store data and send a main power failure alarm to the central server via GPRS/SMS before it shuts down safely.

Functionality

Topic	Comments
Communication	A-Bus two-way communication with A-Bus masters, e.g. AmsCPU, AmsService
Battery charging	Battery charging is performed from 22 p.m. to 6 a.m (UTC), if required. The temperature in this time period must be between 0°C to +40°C.
Autodiscovery	The module is 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.
Real-time clock	The real-time clock is automatically synchronized with the AmsCPU, which in turn is synchronized with the Network Time Protocol (NTP).
LEDs	AMS Status LED (green): indicates whether the A-Bus is up and running. Battery LED (red): indicates whether the AmsBattery module is charging or supplying the AmsCPU with backup power in the event of power failure.

Connections

I/O	Comments
A-Bus	A-Bus client module
Battery	Initial capacity of 900 mAh (7.4 V). Li-Polymer rechargeable, incl. safety circuit

Reliability & Maintainability

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



Technical Specifications

Operational specifications

Storage temp.	-20°C to +70°C
Operating temp.	
Charging mode	0°C to +40°C
Discharging mode	-20°C to +55°C
Max humidity	90% (non-condensing)
IP grade	IP20
Input voltage	12 V DC via A-Bus
Current consumption	
Typical	20 mA
Max	55 mA
Battery charging	160 mA
Output current	Max 300 mA

Standards and approvals

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



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Data Sheet

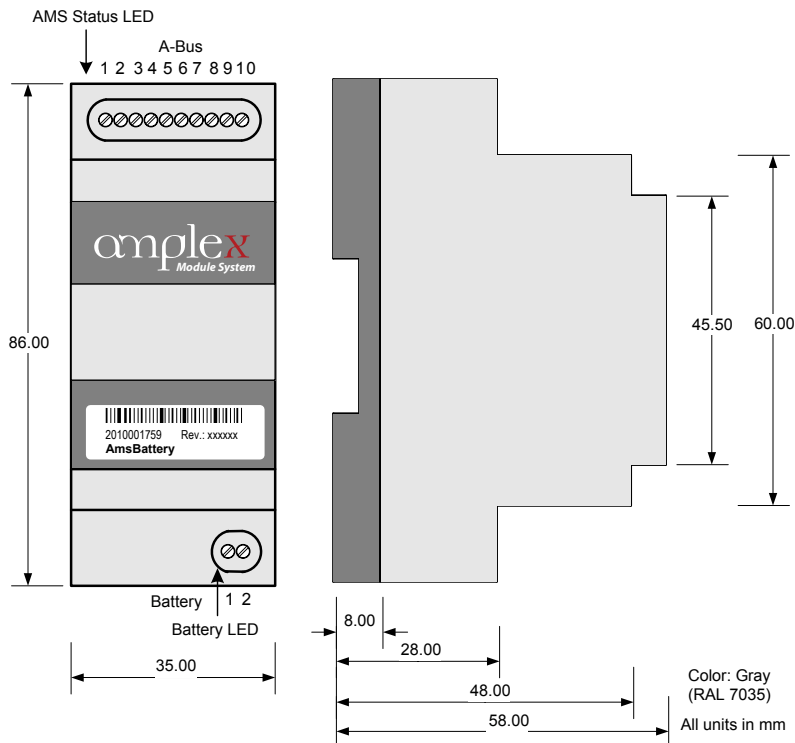
Installation Guide

The AmsBattery module can be connected to any master module in the Amplex Module System, e.g. AmsCPU. 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
0.5 mm ² terminals	Use a 2 mm slotted screwdriver to loosen/tighten the terminal screws.
Battery turn on	To minimize self-discharge the module is delivered with the battery disconnected. To enable the battery, terminal 1 and 2 of the Battery connector must be connected to each other.
Enclosure	The AmsBattery 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.

CAUTION: BATTERY IS NOT REPLACEABLE. RISK OF EXPLOSION IF THE BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSAL OF USED BATTERIES MUST BE IN ACCORDANCE WITH LOCAL ENVIRONMENTAL REGULATIONS.

Drawing

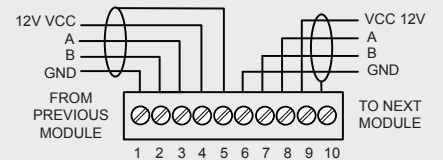


Physical Specifications

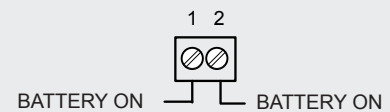
Weight	90 g
Top part	Gray (RAL 7035)
	Lexan 940
Base part	Black (RAL 7021)
	Noryl VO 1550
Coating	Conformal coated
A-Bus connector	0.14 - 0.5 mm ² (AWG 26-20)
Battery connector	0.14 - 0.5 mm ² (AWG 26-20)
Mounting	DIN-rail (EN50022)

I/O Schematic

A-Bus connection

Terminals: 0.5 mm²

Battery connection

Terminals: 0.5 mm²

Ordering Information

Product	Order number
AmsBattery	100-20-006

All specifications are subject to changes

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