

COMMUNICATION MODULE AM540

AM540 G3-PLC communication module is design to be used with AS3000 and AS3500 polyphase smart electricity meters.

AM540 communication module is Honeywell's answer to G3-PLC communication which is one of the most used communication channel in AMI systems because it is a great cost reduction solution.

AM540 has a specific design and can only function together with AS3000 and AS3500 polyphase electronic meters, manufactured by Honeywell.

The communication module provides reliable two-way communication between the meter and the data concentrator based on G3-PLC, forming an essential part in the AMI system.

It functions autonomously and collects meter readings from the meters. The data can be stored as a virtual meter and passed on to the next data concentrator. The communication module interfaces to the meter securely and always should be sealed after proper installation.



AM540 front view

FEATURES AND BENEFITS

- P0 - local optical communication interface for the installer (optical port of the E-meter).
- P1 - local communication consumer interface - optional;
- P2 - local communication interface for M-Bus meters - optional;
- P3 - G3-PLC communication interface to the data concentrator;
- The AM540 can support a maximum of 5 meters:
 - 1 x E-meter;
 - 4 x M-Bus meters;NOT all the AM540 variants support the wired M-Bus. In this case, the wired M-Bus module acts as a master and supports the OMS standard.
- 4 LED signals to help the installation procedure.
- Sealable front cover.
- Electrically isolated with optoisolators.
- Firmware updates are supported.
- Firmware is kept in a restricted area of the flash memory.
- During update procedure AM540 always remains addressable.
- Power quality functionality is supported:
 - Undervoltage/overvoltage with a configurable threshold;
 - Number and duration of power outages;
- Load management support - control of up to 2 load control relays (in combination with the AS3000 and AS3500 polyphase meters)
- Event logging with timestamp of the event.
- Design in accordance with:
 - DSMR - Dutch Smart Metering Requirements;
 - NTA - Dutch Technical Arrangement;
 - OMS - Open Metering Standard;
- Supported protocols and standards:
 - DLMS/COSEM;
 - IDIS package 2;
 - IEC 60950-1:2005+ A2:2013
 - EN60950-1:2006+ A2:2013
 - IEEE P1901.2
 - ITU G.hnem annex G.9955

AM540 TECHNICAL SPECIFICATIONS

Electrical characteristics	Nominal voltage (U_n)	230 V AC, $\pm 20\%$ (2 wires, L1-N)
	Nominal frequency	50 Hz/60 Hz $\pm 5\%$
	Power consumption	<ul style="list-style-type: none"> • <1,6 W/5,2 VA – no PLC communication • <3,2 W/5,8 VA – with PLC communication • <2,0 W/6,0 VA – no PLC communication + wired M-Bus • <3,6 W/6,0 VA – no PLC communication + wired M-Bus + P1
Communication interfaces	LAN interface	G3-PLC frequency band: A-band (25-95 kHz), per DLMS/COSEM protocol – maximum 40kb Baud
	HAN interface (optional)	Wired M-Bus: EN13757-3
	Customer interface (optional)	RJ12 connector (Tx, data, GND), 5V/300 mA for external device connection EN62056-21, Mode D, 115200 Baud, Push mode, configurable interval
EMC compatibility	Surge withstand (1,2/50 μ s - $R_{source} = 20 \Omega$)	6 kV
	Dielectric test (1 minute, 50 Hz)	4 kV
Real-Time Clock	Backup for RTC	from the E-meter
Mechanical characteristics	Weight	< 0,2 kg
	Protection class	IP51
	Dimensions	167 mm x 53 mm x 35 mm; (for detailed dimensions of the AM540 communication module installed on AS3000 and AS3500 meter please see the AM540 user guide)
	Housing material	Polycarbonate, flame-retardant, self-extinguishing and recyclable
Environmental characteristics	Operating temperature range	-25 °C ... +70 °C
	Transport and storage temperature range	-40 °C ... +80 °C
	Relative humidity	Up to 95% non-condensing

For more information

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