

Climatix™

## Communication module BACnet MS/TP

POL904.00/xxx



**Communication module to connect a Climatix POL6xx.xx controller to a BACnet MS/TP network**

- Integration into a building automation and control system via BACnet MS/TP
- Client communication to other BACnet devices
- The module must be connected to a POL6xx.xx controller
- Supports BACnet MS/TP (B-BC profile) with different baud rates
- Network parameters configurable via controller, HMI or SCOPE tool
- Preloaded generic BACnet server
- The POL904.00/xxx communication module is part of the Climatix product range. Refer also to Data sheet Q3900, Mounting instructions M3910 and PICS document P3939en

### BACnet

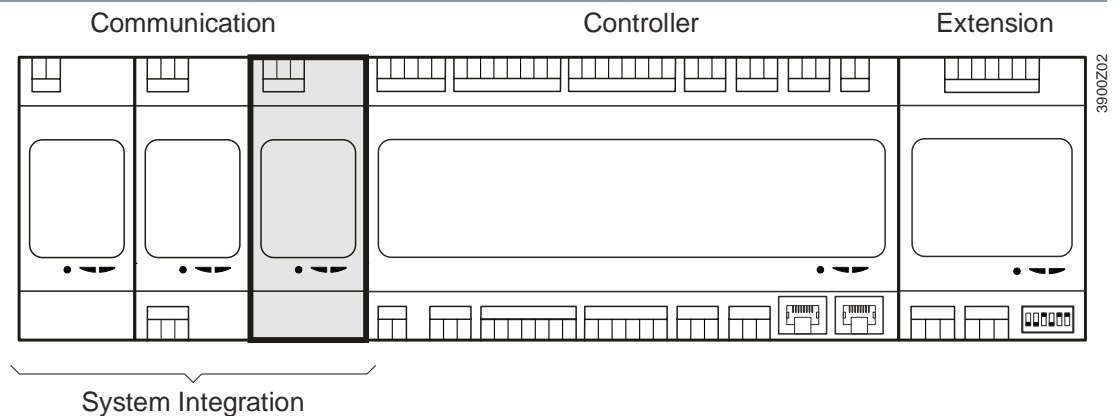
BACnet, an ASHRAE building automation and control networking protocol, was designed specifically to meet the communication needs of building automation and control systems for applications such as heating, ventilation, and air conditioning control, lighting control, access control, and fire detection systems and their associated equipment.

The BACnet protocol provides mechanisms by which computerized building automation devices can exchange information, regardless of the particular building service they perform. As a result, the BACnet protocol may be used by head-end workstations, general-purpose direct digital controllers, and application-specific or unitary controllers with equal effect.

### MS/TP

MS/TP (Master-Slave/Token-Passing) is also unique to BACnet and is implemented using the EIA-485 signaling standard. This is a shielded twisted-pair (STP) LAN operating at speeds from 9.6 kbit/s up to 115.2 kbit/s. This LAN type is low cost and particularly suitable for unitary controller communications.

### Installation concept



## Technical data

### General Data

Dimensions (w x h x d)	45 x 110 x 75 mm
Materials and Colors	<ul style="list-style-type: none"> <li>Base: Plastic, pigeon-blue RAL 5014</li> <li>Housing: Plastic, light-grey RAL 7035</li> </ul>
Weight excl. packaging	98g

### Power supply

Power supply	Via Climatix 6XX bus connector DC 5 V (+5% / -5%), max. 270 mA
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### Interface

BACnet MS/TP	RS-485 (EIA-485)	1 interface on terminal T1
	Bus connection and terminal	A+, B-, REF
	Bus electronic	Galvanically isolated
	Bus cable	Shielded twisted pair (like AWG 24)
	Bus termination*	Switchable by software (120 Ω + 1 nF) with bus polarization
	Bus polarization	Switchable by software (680 Ω) with bus termination
	Baud rate	9600, 19200, 38400, 76800, 115200
	Connected devices	Max. 31

**NOTICE! It is essential to use a network termination on each end of the RS485 line, which matches the cable impedance to prevent signal reflections and corrupting the data on RS485 network.**

### Terminal, wiring, cables and interface

Connection terminal	Equipped with plug: Phoenix FKCT 2,5 /3-ST
	For other types of plug (optional), refer to: Climatix range document CB1Q3900en
Wiring	Solid wire: 0.5...2.5 mm <sup>2</sup> Stranded wire (twisted or with ferrule): 0.5...1.5 mm <sup>2</sup>
Cable types	3-wire twisted pair, shielded
COMM interface plug	Equipped with board-to-board: ZEC1,0/10-LPV-3,5 GY35AUC2C11

### Ambient conditions and protection classification

Degree of protection of housing to EN 60529	IP20
Climatic ambient conditions Transport as per EN 607213-2	Class 2K3 Temperature: -40...70 °C Humidity: < 95 % r.h. Atmospheric pressure: Min. 260 hPa, corresponding to max. 10000 m above sea level
Operation as per EN 60721-3-3	Class 3K7 Temperature: -40...70 °C Air humidity: < 90 % r.h. Atmospheric pressure: Min. 700 hPa, corresponding to max. 3000 m above sea level

Standards, directives and approvals	
Product standard	EN 60730-1. Automatic electronic controls for household and similar use.
Electromagnetic compatibility	For residential, commercial, and industrial environments.
EU conformity (CE)	CB1T3930xx
RCM conformity	CB1T3909en_C1
Listings	UL916, UL873 <a href="http://database.ul.com/">http://database.ul.com/</a> CSA Class 4812 <a href="http://www.csagroup.org">http://www.csagroup.org</a>
EAC	Eurasian conformity
Environmental compatibility	The product environmental declaration (CB1E3950_01) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

## Functions

### LEDs "BSP" and "BUS" for diagnostics

LED	Color	Flashing frequency	Meaning/Mode
BSP	Red/Green	1 s red / 1 s green	BSP upgrade mode
	Orange	Flashing at 1 Hz	BSP upgrade failed, bad image
	Orange/Green	1 s orange / 1 s green	BSP upgrade partial done, wait for continue
	Green	Steady "on"	BSP operating and communication with controller working
	Orange	Steady "on"	BSP operating, but no communication with controller
	Red	Flashing at 2 Hz	BSP error (Software error)
	Red	Steady "on"	Hardware fault
	Red / Orange	500 ms / 1000 ms	Emergency OS is operating, execute BSP upgrade again
BUS	Green	Steady "on"	<ul style="list-style-type: none"> <li>Ready for communication</li> <li>The BACnet server is started</li> <li>Does not indicate active communication</li> </ul>
	Red	Steady "on"	<ul style="list-style-type: none"> <li>BACnet server down</li> <li>No communication (DCC is set to disable)</li> <li>No other devices detected on bus</li> </ul>
	Orange	Steady "on"	<ul style="list-style-type: none"> <li>Startup initializing</li> <li>Restricted communication (DCC is set to disable-initiation)</li> </ul>

## Ordering

Type	Stock number	Designation
POL904.00/STD	S55390-C104-A100	BACnet MSTP communication module

## Delivery/Included

Phoenix Type	Designation
ZEC 1,0/10-LPV-3,5 GY35AUC2CI1	Board-to-board COMM interface plug
1 x 3 pos - FKCT 2,5/3-ST	Terminal plus


Devices are from PHOENIX CONTACT, [www.phoenixcontact.com](http://www.phoenixcontact.com).

## Product documentation

Document ID	Title	Topic
Q3900en	Climatix range	Climatix product range
M3910	Mounting instruction Climatix	Mounting and installation
P3939en	PICS	BACnet protocol implementation conformance statement

## Notes


### Security: National safety regulations

	<b>⚠ CAUTION</b>
	<b>National safety regulations</b> Failure to comply with national safety regulations may result in personal injury and property damage <ul style="list-style-type: none"><li>Observe national provisions and comply with the appropriate safety regulations.</li></ul>

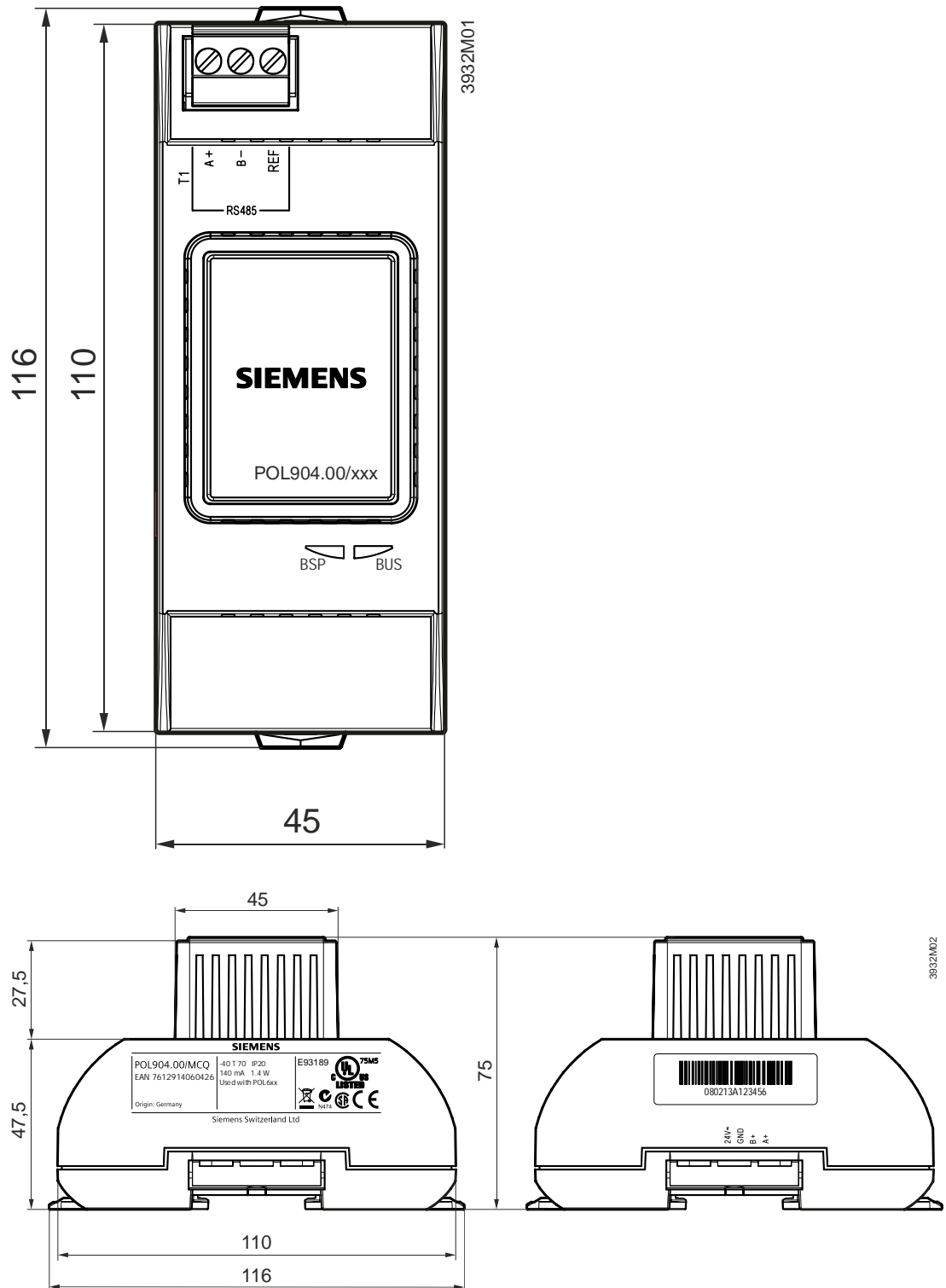
### Engineering: concept

- The communication module is attached to the controller with a board-to-board connector
- The connection to the BACnet MS/TP network is made via the T1 port

### Disposal

	The device is considered an electronics device for disposal in terms of European Directive 2012/19/EU and may not be disposed of as domestic garbage. <ul style="list-style-type: none"><li>Dispose of the device through channels provided for this purpose.</li><li>Comply with all local and currently applicable laws and regulations.</li></ul>
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## Dimensions



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