

# RUT301 BACnet

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The information in this page is updated in accordance with firmware version [RUT301\\_R\\_00.07.07.1](#).



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## Summary

**BACnet** is a communication protocol for building automation and control (BAC) networks that use the ASHRAE, ANSI, and ISO 16484-5 standards protocol.

This manual page provides an overview of the BACnet functionality in RUT301 devices.

**Note:** BACnet is additional software that can be installed from the **System** → [Package Manager](#) page.

## General Configuration



Field	Value	Description
Enable	off   on; default: <b>off</b>	Enables BACnet router function.
Enable BBMD	off   on; default: <b>off</b>	Enables BACnet broadcast management function.
BBMD interface	network interface; default: <b>eth0</b>	Specifies interface for BBMD function. IP address of this interface should be reachable from WAN.
Allow Remote Access	off   on; default: <b>off</b>	Creates port forward firewall rule to make application port in LAN reachable from selected BBMD interface.
Force gateway	off   on; default: <b>off</b>	Adds configured gateway IP address and port to BBMD packages sent.
Gateway address	ip4; default: <b>none</b>	Gateway IP address.
Gateway port	integer [1..65535]; default: <b>none</b>	Gateway port number.

# BIP Configuration

Communications in BACnet over IP (**BIP**) rely upon the protocol rules of IP and Ethernet.



Field	Value	Description
BIP port integer	[1..65535]; default: <b>47808</b>	BIP UDP port.

# MSTP Configuration

**MSTP** is most commonly used to connect field devices to controllers / routers / control applications. The physical layer uses RS485 which allows up to 31 devices to be installed on a single network.



Field	Value	Description
MSTP MAC	integer [0..127]; default: <b>13</b>	Router MSTP MAC address.
MSTP MAC max	integer [1..127]; default: <b>127</b>	Maximum client address in the MSTP network.
Baud rate	300   600   1200   2400   4800   9600   19200   38400   57600   115200   230400; default: <b>38400</b>	Serial data transmission rate (in bits per second).
Parity	Even   Odd   Mark   Space   None; default: <b>None</b>	<p>In serial transmission, parity is a method of detecting errors. An extra data bit is sent with each data character, arranged so that the number of 1 bits in each character, including the parity bit, is always odd or always even. If a byte is received with the wrong number of 1s, then it must have been corrupted. However, an even number of errors can pass the parity check.</p> <ul style="list-style-type: none"><li>• <b>None (N)</b> - no parity method is used.</li><li>• <b>Odd (O)</b> - the parity bit is set so that the number of "logical ones (1s)" has to be odd.</li><li>• <b>Even (E)</b> - the parity bit is set so that the number of "logical ones (1s)" has to be even.</li><li>• <b>Space (S)</b> - the parity bit will always be a binary 0.</li><li>• <b>Mark (M)</b> - the parity bit will always be a binary 1.</li></ul>
Data bits	5   6   7   8; default: <b>8</b>	Number of data bits for each character.
Stop bits	1   2; default: <b>1</b>	Stop bits sent at the end of every character allow the receiving signal hardware to detect the end of a character and to resynchronise with the character stream. Electronic devices usually use one stop bit. Two stop bits are required if slow electromechanical devices are used..