RUTM51 BACnet

The information in this page is updated in accordance with firmware version **RUTM_R_00.07.10**.

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Contents

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 RUTM51 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: **off**	Enables BACnet router function.
Enable BBMD	off | on; default: **off**	Enables BACnet broadcast management function.
BBMD port	integer [1..65535]; default: **47809**	BACnet broadcast management devices port.
BBMD interface	network interface; default: **eth0**	Specifies interface for BBMD function. IP address of this interface should be reachable from WAN.
Allow Remote Access	off | on; default: **off**	Creates port forward firewall rule to make application port in LAN reachable from selected BBMD interface.
Force gateway	off | on; default: **off**	Adds configured gateway IP address and port to BBMD packages sent.
Gateway address	ip4; default: **none**	Gateway IP address.
Gateway port	integer [1..65535]; default: **none**	Gateway port number.

BDT Configuration

This section contains Broadcast Distribution Table (BDT) configuration, where you specify the list of BBMDs (BACnet Broadcast Management Devices) responsible for forwarding broadcast messages between different subnets in a BACnet/IP network.

Field	Value	Description
IP address	ipv4; default: **none**	IP addresses of the BBMDs in the network.
Port	integer [1..65535]; default: **none**	Port numbers on which the BBMDs listen for BACnet/IP messages.
Netmask	netmask; default: **none**	Subnet masks used by the BBMDs to determine the range of IP addresses within a subnet.
Actions	-interactive button; default: **delete**	Deletes BDT configuration.

BIP Configuration

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

Field	Value	Description
Network ID	integer [1..65535]; default: **1**	Unique identifier for the BACnet/IP subnet within the entire BACnet internetwork.
Port	integer [1..65535]; default: **47808**	This specifies the port number used by BACnet/IP devices for communication.
Device	interface; default: **br-lan**	Select the network device to be used for BACnet/IP communication.
Actions	-interactive button; default: **delete**	Deletes BIP configuration.

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
Network ID	integer [1..65535]; default: **2**	Unique identifier for the BACnet MSTP network.
MSTP MAC	integer [0..127]; default: **13**	Router MSTP MAC address.
MSTP MAC max	integer [1..127]; default: **127**	Maximum client address in the MSTP network.

Baud rate	300 | 600 | 1200 | 2400 | 4800 | 9600 | 19200 | 38400 | 57600 | 115200 | 230400; default: **38400**	Serial data transmission rate (in bits per second).
Parity	Even | Odd | Mark | Space | None; default: **None**	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. • **None** (**N**) - no parity method is used. • **Odd** (**O**) - the parity bit is set so that the number of "logical ones (1s)" has to be odd. • **Even** (**E**) - the parity bit is set so that the number of "logical ones (1s)" has to be even. • **Space** (**S**) - the parity bit will always be a binary 0. • **Mark** (**M**) - the parity bit will always be a binary 1.
Data bits	5 | 6 | 7 | 8; default: **8**	Number of data bits for each character.
Stop bits	1 | 2; default: **1**	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..