

MBus / BACnet GATEWAY

Type: MBG-MSTP

H V A C

Description

MBus/BACnet GATEWAY Type: MBG-MSTP

is a microprocessor-based device for connection of maximum three various MBus standardised units, such as building energy meters, to the BACnet MS/TP communication network using an integrated MSTP RS485 interface.

The device is a full-duplex data converter designed for conversion from MBus to BACnet protocol.



Applications

MBG-MSTP Gateway is suitable for connection of any standardised MBus units, for example an energy meters:

- Heat meters,
- Cold meters,
- Water meters,
- Electricity meters, etc.

to the BACnet MS/TP communication network.

Features

- All-purpose connections of MBus standardised units
- Microprocessor control
- Modifiable firmware
- Firmware saved in the FLASH memory
- MBus compatibility / communication independence from the exclusive manufacturer and specific MBus unit type
- Number of connectible MBus units: 3
- Wide-spread support of MBus-type signals
- BACnet MS/TP communication - RS485
- MBus scanner / automatic search and initiation of connected MBus units (Autoscan process of MBus line)
- MBus decoder / automatic name and its related physical element generation
- Automatic start and initiation of communication after power supply failure
- Optical LED indicators of power, ready and communication
- MBus link overload protection with LED indication of overload
- Integrated plastic cover with the DIN bar mounting

Specifications

Description of communication interfaces

- MBus port :

Micro MBus Master,
MBus communication speeds: 300, 600, 1200, 2400 up to 9600 Baud

- BACnet port :

Interface MS/TP RS485
(EIA-485) @ 9600, 19200, 38400 or 76800 bps (default setting)

Number of devices on the BACnet MS/TP segment : maximum 128

BACnet - MSTP Slave
(MSTP Master -by additional order) with B-SS (BACnet Smart Sensor) categorisation

Level support : B-ASC (BACnet Application Specific Controller) to B-BC (BACnet Building Controller)

SMD Technology

8-bit AVR processor
Internal FLASH memory

LED Indicators (SMD on the PCB)

BACnet side:

Data Transmission (RED)
BACnet -Ready (YELLOW -lights)
MBus Autoscan (YELLOW-flashes)
Data Receiving (GREEN)
Power +5V (BLUE)

MBus side:

Data Receiving (GREEN-flashes)
- MBus Overload (GREEN-lights)
Data Request (RED)

Connectors

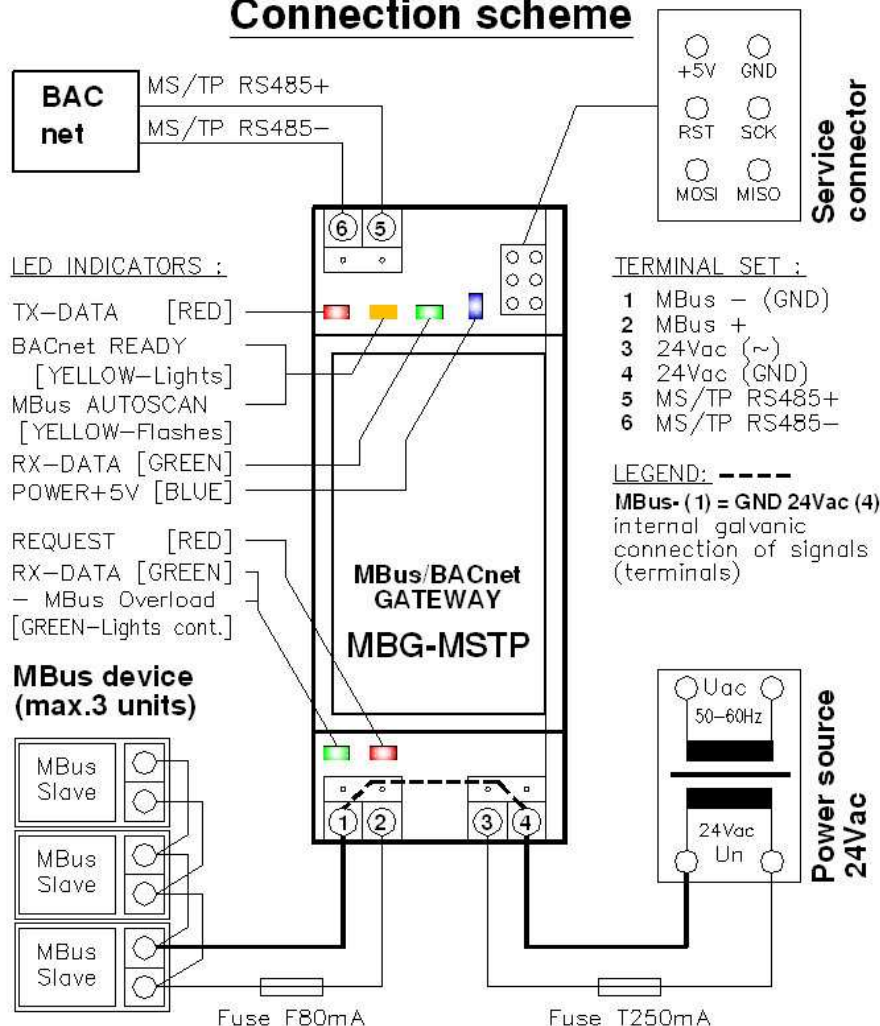
Removable screw connectors for conductors of maximum $\Phi=2,5\text{mm}^2$

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Connection scheme



Technical data

Power supply : SELV AC 24V
50/60 Hz

Input power : $P_n = 2W$

Current consumption :

$I_n = 50 \dots 120mA$

External supply circuit-breaking :
T250mA (current fuse)

MBus Master port

Voltage : 28 to 38Vdc

Load : $I_{max} = 20mA$

Overload protection: $I_{short} \leq 100mA$

Recommended ext. circuit-breaking :
F80mA (current fuse)

MS/TP RS485 port

standard twin-wire : + , -

Cover : IP20

Operational environment : indoor

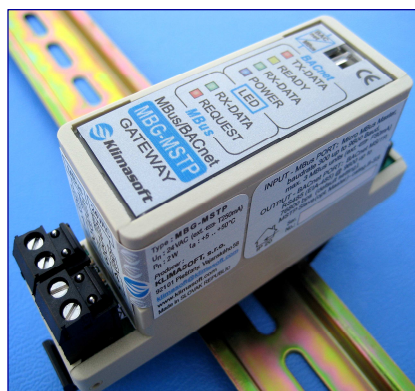
Ambient temperature :
+5°C to +50°C (37°F to 82°F)

Humidity :
10 to 90% RH (non-condensable)

Storage conditions :
- 5° to +55°C (27°F to 87°F)

Dimensions :
98 x 28 x 60 mm (LxWxH)

Weight :
0.075 kg



**Orders
and technical support :**
(preferred e-mail communication)

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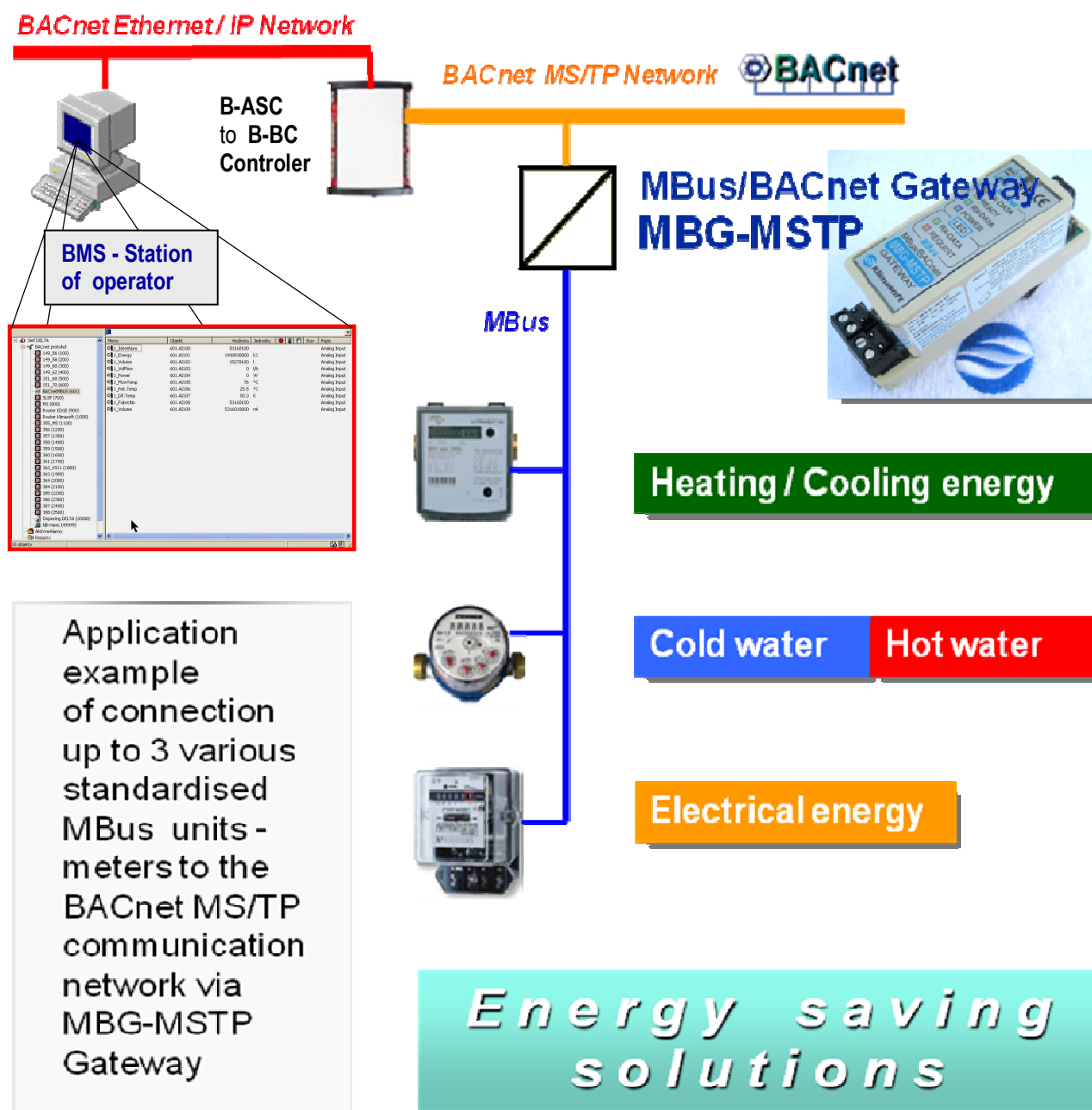
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Application



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Visualisation of MBus device - HEAT METER in the BACnet network

- in the programme operational environment „ORCAview“
from the producer of Delta Controls (CA) building management systems



ORCAview

Network

- BACnet Protocol
 - 149_56 (100)
 - 149_58 (200)
 - 149_60 (300)
 - 149_62 (400)
 - 151_68 (500)
 - 151_70 (600)
 - BACnetMBUS (601)**
 - SLSP (700)
 - M5 (800)
 - Router EDGE (900)
 - Router Klimasoft (1000)
 - 355_MS (1100)
 - 356 (1200)
 - 357 (1300)
 - 358 (1400)
 - 359 (1500)
 - 360 (1600)
 - 361 (1700)
 - 362_V511 (1800)
 - 363 (1900)
 - 364 (2000)
 - 384 (2100)
 - 385 (2200)
 - 386 (2300)
 - 387 (2400)
 - 388 (2500)
 - Dispeping DELTA (20000)
 - NB-Hanic (49999)
- Active Alarms
- Reports
- Graphics

10 object(s)

Name	Object	Value	Units	Status	Description
1_IdentNum	601.AI100	53160100			Analog Input
1_Energy	601.AI101	1930830000	kJ		Analog Input
1_Volume	601.AI102	15278100	l		Analog Input
1_VolFlow	601.AI103	0	l/h		Analog Input
1_Power	601.AI104	0	W		Analog Input
1_FlowTemp	601.AI105	39.4	°C		Analog Input
1_Ret.Temp	601.AI106	25.5	°C		Analog Input
1_Dif.Temp	601.AI107	13.9	K		Analog Input
1_FabricNo	601.AI108	53160100			Analog Input
1_Volume	601.AI109	5316010000	ml		Analog Input

Display of items and values measured by heat meter

MBus device – heat meter „(601)“
described in the BACnet protocol as object: „BACnetMBUS(601)“
is connected via MBG-MSTP Gateway



Building Automation
and Control Networks
ISO 16484-5



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