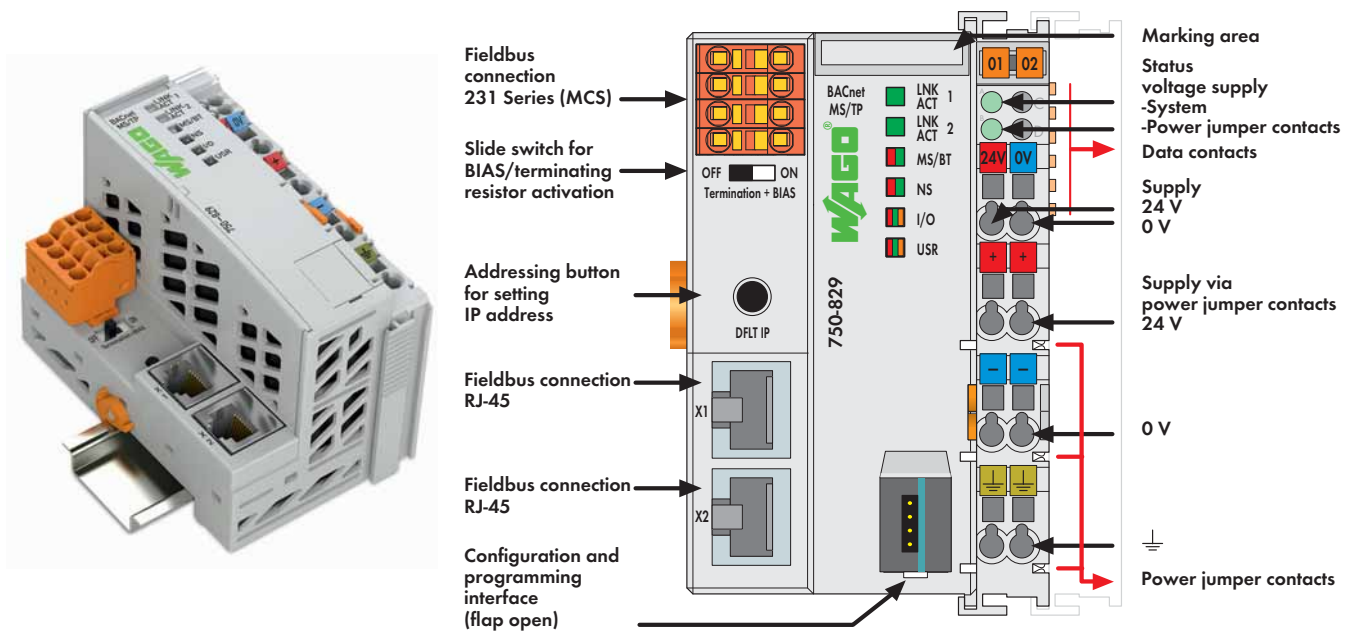


BACnet MS/TP Programmable Fieldbus Controller

32-bit CPU, multitasking



The BACnet MS/TP Controller (750-829) connects the WAGO-I/O-SYSTEM with the BACnet protocol. The 750-829 Controller supports the B-BC BACnet device profile according to DIN EN ISO 16484-5. It communicates with other BACnet devices via BACnet MS/TP.

The controller provides the three following functionalities:

- 1. Native server: For each channel, appropriate BACnet objects are generated automatically for the digital and analog I/O modules that are connected to the controller.
- 2. Application server: Other supported BACnet objects can be created via the IEC 61131-3 programming environment and made available to a BACnet network.
- 3. Application client: Using the client functionality, objects and their properties can be accessed by other BACnet devices.

The IEC 61131-3 programmable controller is multitasking-capable and features a battery-backed RTC.

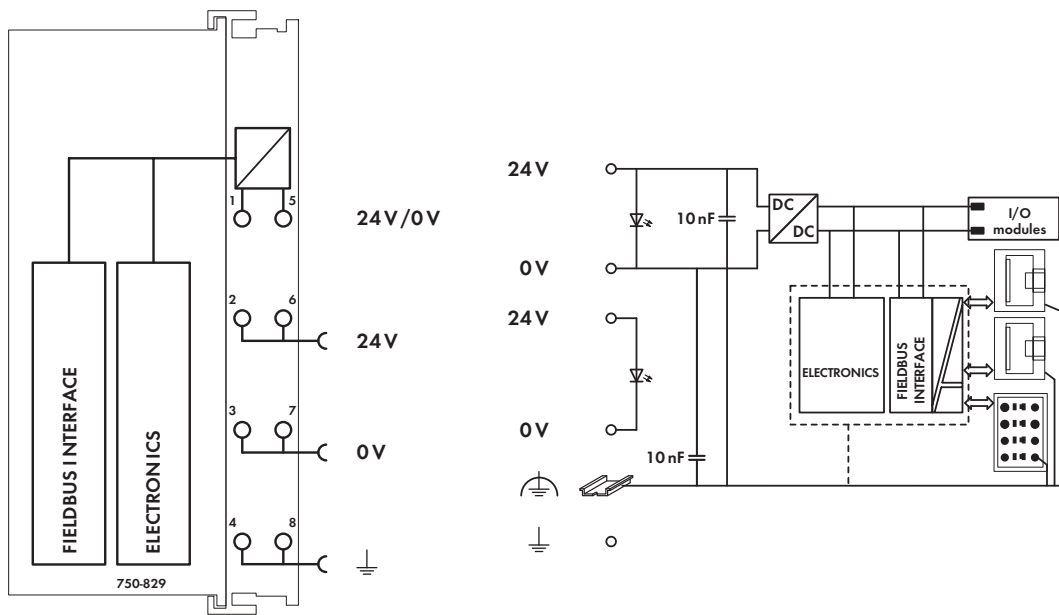
The ETHERNET service interfaces can be used for IEC downloads, for example.

Furthermore, two ETHERNET interfaces and an integrated switch allow the ETHERNET fieldbus to be wired in a line topology. This eliminates the need for additional network devices, such as switches or hubs. Both interfaces support Auto-Negotiation and Auto-MDI(X). An integrated Web server provides configuration options to the user, while displaying controller's status information. The Web server cannot be used via BACnet MS/TP. For initial start-up, access to the Web-based Management (WBM) via standard Web browser is required to set the baud rate and activate the MS/TP fieldbus. Further configuration and commissioning is performed via a Windows-compliant WAGO BACnet Configurator (V1.8 or higher) and requires an additional BACnet router within the network.

The Protocol Implementation Statement (PICS) contains all supported objects, services and properties. The controller supports a maximum of 250 BACnet objects. A slide switch enables the switching on of a terminating resistor together with the BIAS network on the RS-485 interface.

Description	Item No.	Pack. Unit
BACnet MS/TP Controller	750-829	1
Accessories		
WAGO BACnet configurator	see Section 1	
WAGO-I/O-PRO V2.3, RS-232 kit	759-333	1
Miniature WSB Quick marking system		
plain	248-501	5
with marking	see Section 11	
female connector; 4-pole	231-2304	
Approvals		
BACnet approvals		
WSPCert certification	pending	
BTL listing	pending	
Conformity marking	CE	

System Data	
Programming	WAGO-I/O-PRO
IEC 61131-3	IL, LD, FBD (CFC), ST, FC
System data BACnet MS/TP	
Baud rate	9600, 19200, 38400*, 57600, 76800, 115200 Baud (per BACnet standard); *Factory default setting
Max. length of fieldbus segment	Depends on baud rate/cable (per BACnet standard) 1200 m at ≤ 76800 baud; 1000 m at > 76800 baud
Buscoupler connection	1 x 4-pole male connector; 231 Series MCS (MULTI CONNECTION SYSTEM), female connector 231-2304 (included)
Protocols	BACnet MS/TP
BACnet device profile	B-BC (BACnet Building Controller)
BACnet version	1.7
System data ETHERNET:	
No. of controllers	limited by ETHERNET specification
Transmission medium	Twisted Pair S-UTP, STP 100 Ω Cat 5e
Max. length of fieldbus segment	100 m limited by IEEE 802.3
Max. length of network	acc. to IEEE 802.3 standard
Baud rate	10/100 Mbit/s
Buscoupler connection	2 x RJ-45 (2-port switch)
Protocols	MODBUS/TCP (UDP), HTTP, BootP, DHCP, DNS, SNMP, FTP, SNMP, SMTP



Technical Data	
Number of I/O modules	64
with bus extension	99
Configuration	via PC
Program memory	1024 Kbytes
Data memory	1024 Kbytes
Non-volatile memory (retain)	32 Kbytes (16 Kbytes retain, 8 Kbytes flag)
Powerfail RTC buffer	Min. six days
Power supply	24 V DC (-25 % ... +30 %)
Input current typ. at rated load (24 V)	500 mA
Efficiency of the power supply (typ.) at nominal load (24 V)	90 %
Internal current consumption (5 V)	450 mA
Total current for I/O modules (5 V)	1700 mA
Isolation	500 V system/supply;
	BACnet MS/TP:
	1500 V (per BACnet standard)
Voltage via power jumper contacts	24 V DC (-25 % ... +30 %)
Current via power jumper contacts (max.)	10 A DC
Fieldbus (Modbus/TCP):	
Max. input process image	2 Kbytes
Max. output process image	2 Kbytes
Max. input variables	512 bytes
Max. output variables	512 bytes

General Specifications	
Operating temperature	0 °C ... +55 °C
Wire connection	CAGE CLAMP [®]
Cross sections	0.08 mm ² ... 2.5 mm ² / AWG 28 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Connection type	MCS (MULTI CONNECTION SYSTEM)
Cross sections	0.2 ... 2.5 mm ² / 24 ... 12 AWG
Strip lengths	9 ... 10 mm / 0.35 ... 0.39 in
Dimensions (mm) W x H x L	62 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	138.3 g
Storage temperature	-25 °C ... +85 °C
Relative air humidity (no condensation)	95 %
Vibration resistance	acc. to IEC 60068-2-6
Shock resistance	acc. to IEC 60068-2-27
Degree of protection	IP20
EMC immunity of interference	acc. to EN 61000-6-2
EMC emission of interference	acc. to EN 61000-6-3