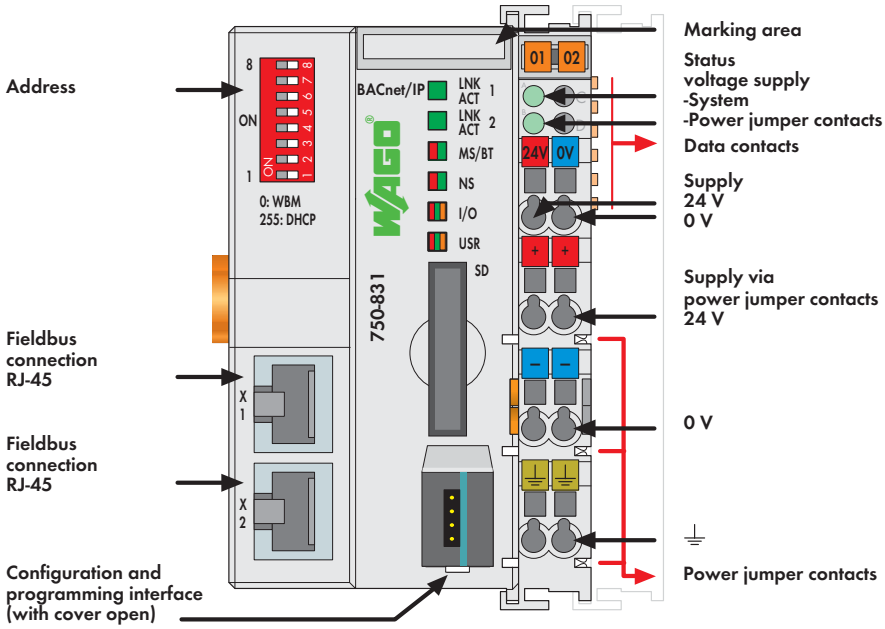
BACnet/IP Programmable Fieldbus Controller

32-bit CPU, multitasking



The 750-831 BACnet/IP Controller connects the WAGO-I/O-SYSTEM to the BACnet protocol. The 750-831 Controller supports the B-BC BACnet device profile per DIN EN ISO 16484-5. It communicates with other BACnet devices via BACnet/IP.
The controller provides the three following functionalities:

- 1. Native server: For each channel, appropriate BACnet objects are generated automatically for the digital/analog input and output 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.

Two ETHERNET interfaces and an integrated switch allow the fieldbus to be wired in a line topology. This eliminates additional network devices, such as switches or hubs. Both interfaces support Auto-Negotiation and Auto-MDI(X).

The DIP switch configures the last byte of the IP address and may be used for IP address assignment.
An integrated Web server provides configuration options to the user, while displaying controller's status information.
The IEC 61131-3 programmable controller is multitasking-capable and features a battery-backed RTC. A data memory of 1 MB is available.
The 750-831 Controller has a slot for a removable memory card, allowing device parameters or files (e.g., boot files) to be transferred from one controller to another. The memory card can be accessed via FTP and be used as an additional drive.
The controller can process a maximum of 1000 simple BACnet objects.
The actual number that can be implemented in the project can be reduced with complex object types.
750-831/000-002 Controllers support a maximum of 256 BACnet objects.
Start-up and configuration of the BACnet networks is performed using the Windows-compliant WAGO BACnet Configurator.

Description	Item No.	Pack. Unit
BACnet/IP Controller	**750-831**	1
Product discontinuation	**Last Call: 13.12.2019**	
Product substitutes:	**750-832**	
BACnet/IP Controller ECO	**750-831/000-002**	1
Product discontinuation	**Last Call: 13.12.2019**	
Product substitutes:	**750-832/000-002**	

Accessories	Item No.	Pack. Unit
WAGO BACnet configurator	www.wago.com	
SD memory card, 2 GB	**758-879/000-001**	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	

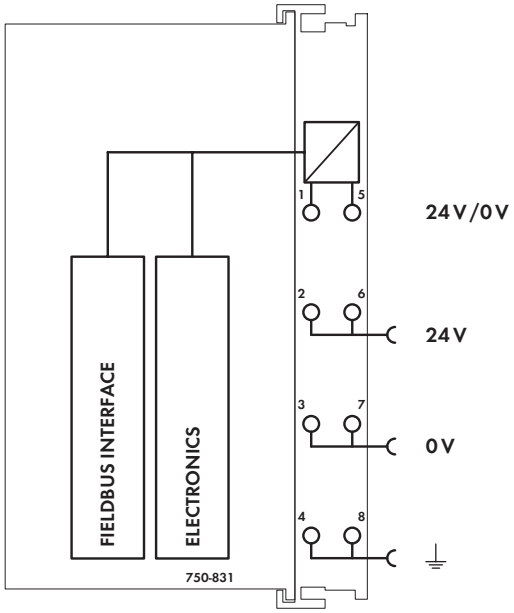
Approvals

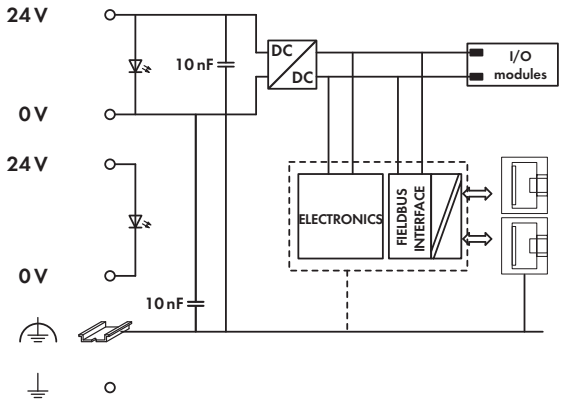
BACnet approvals [1]	
WSPCert certification	ISO 16484-5:2012
BTL listing	BTL (BACnet® Testing Labs Product Listing)
AMEV-Testat	AMEV profile AS-B
Conformity marking	CE
Marine applications (versions upon request)	DNV GL
UL 508 [1]	

[1] Does not apply to 750-831/000-002

System Data

No. of controllers connected to Master	limited by ETHERNET specification
Transmission medium	Twisted Pair S-UTP
	100 Ω, Cat 5;
	Max. line length: 100 m
Baud rate	10/100 Mbit/s
Transmission performance	Class D acc. to EN 50173
Buscoupler connection	2 x RJ-45
Protocols	BACnet/IP, MODBUS/TCP (UDP), HTTP,
	BootP, DHCP, DNS, SNTP, FTP, SNMP
Programming	WAGO-I/O-PRO V2.3
IEC 61131-3	IL, LD, FBD (CFC), ST, FC
SD card slot	Push-push mechanism, sealable cover lid
Type of memory card	SD and SDHC up to 32 GB (All
	guaranteed properties are only valid in
	connection with the WAGO 758-879/
	000-001 memory card.)
BACnet device profile	B-BC (BACnet Building Controller)
BACnet version	1.12





Technical Data

Number of I/O modules	64
with bus extension	99
Max. input process image	1020 words
Max. output process image	1020 words
Configuration	via PC
Program memory	1024 Kbytes
Data memory	1024 Kbytes
Non-volatile memory (retain)	28 Kbytes
Flash	4.5 Mbytes
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	500V system/supply

General Specifications

Operating temperature	0 °C ... +55 °C
Wire connection	CAGE CLAMP®
Cross sections	0.08 mm² ... 2.5 mm² / AWG 28 ... 14
Strip lengths	8 ... 9 mm / 0.33 in
Dimensions (mm) W x H x L	62 x 65 x 100
	Height from upper-edge of DIN 35 rail
Weight	161.8 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