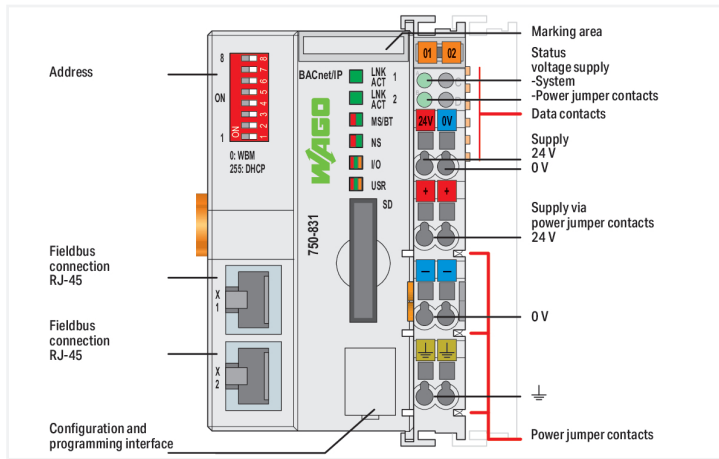


Color: ■ light gray



The 750-831 BACnet/IP Controller connects the WAGO I/O System to the BACnet protocol and 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 and analog I/O modules that are connected to the controller.
- 2. Application server: Other supported BACnet objects can be created via 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, eliminating the need for additional network devices, such as switches or hubs. Both interfaces support autonegotiation 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 Webserver provides configuration options to the user, while displaying the controller's status information.

The device is programmable in accordance with IEC 61131-3, is multitasking-capable and features a battery-backed RTC.

1 MB of data memory is available.

The 750-831 Controller is equipped with a removable memory card slot. A memory card can be used to transfer device parameters or files (e.g., boot files) 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. Start-up and configuration of the BACnet networks is performed using the WAGO BACnet Configurator's Windows software.

Notes

Note	The WAGO BACnet Configurator can be downloaded for free at www.wago.com .
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Technical data

Communications	BACnet/IP Modbus (TCP, UDP) ETHERNET
ETHERNET protocols	HTTP BootP DHCP DNS SNTP FTP SNMP
Visualization	Web-Visu
CPU	32 bits
Programming languages per IEC 61131-3	Instruction List (IL) Ladder Diagram (LD) Function Block Diagram (FBD) Continuous Function Chart (CFC) Structured Text (ST) Sequential Function Chart (SFC)
Programming environment	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Configuration options	WAGO-I/O-CHECK BACnet Configurator Web-Based Management
Transmission rate	10/100 Mbit/s
Transmission medium (communication/fieldbus)	Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length
Transmission performance	Class D per EN 50173
Internal memory (flash)	4.5 MB
Program memory	1024 KB
Data memory	1024 KB
Non-volatile software memory	28 KB
Type of memory card	SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO's memory card)
Memory Card Slot	Push-push mechanism; cover lid (sealable)
Number of modules per node (max.)	99
Number of modules without a bus extension (max.)	64
Input and output process image (fieldbus) max.	1020 words/1020 words
Device-specific	BACnet device profile: B-BC (BACnet building controller); BACnet revision: 1.7
Indicators	LED (LINK/ACT) green: Network connection via ports 1 ... 2; LED (MS/BT, NS) red/green: Status of node/BACnet, network; LED (I/O, USR) red/green/orange: Local data bus status, status programmable by user; LED (A, B) green: Status of system power supply, field supply
Supply voltage (system)	24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)
Input current (typ.) at nominal load (24 V)	500 mA
Power supply efficiency (typ.) at nominal load (24 V)	90 %
Current consumption (5 V system supply)	450 mA
Total current (system supply)	1700 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts
Current carrying capacity (power jumper contacts)	10 A
Number of outgoing power jumper contacts	3
Isolation	500 V system/field
WSPCert certification	ISO 16484-5:2012

Connection Data

Connection technology: communication/fieldbus	BACnet/IP: 2 x RJ-45; Modbus (TCP, UDP): 2 x RJ-45
Connection technology: system supply	2 x CAGE CLAMP®
Connection technology: field supply	6 x CAGE CLAMP®
Connection type	System/field supply
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Connection technology: device configuration	1 x Male connector; 4-pole

Physical data

Width	61.5 mm / 2.421 inches
Height	71.9 mm / 2.831 inches
Depth	100 mm / 3.937 inches

Mechanical data

Mounting type	DIN-35 rail
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Material data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	2.88 MJ
Weight	161.9 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-40 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)
Mounting position	Horizontal left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2
EMC emission of interference	per EN 61000-6-3
Exposure to pollutants	per IEC 60068-2-42 and IEC 60068-2-43
Permissible H ₂ S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO ₂ contaminant concentration at a relative humidity 75 %	25 ppm

Commercial data

Product Group	15 (I/O System)
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4050821752028
Customs tariff number	85371091990
End of Sale	2019-12-15
End of Production	2019-12-20
End of Delivery	2019-12-30
End of Service and Repair	2021-12-14

Product Classification

UNSPSC	32151705
eCl@ss 10.0	27-24-26-07
eCl@ss 9.0	27-24-26-07
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	12060-00-3 1303-86-2 1317-36-8 25550-51-0 693-98-1 7439-92-1 79-94-7 80-43-3
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 2-methylimidazole 4-Methyl-1,2-cyclohexanedicarboxylic anhydride Diboron trioxide Lead Lead monoxide Lead titanium oxide (PbTiO ₃) Peroxide, bis(1-methyl-1-phenylethyl)
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	a1df6b84-e5d1-4eb5-8ead-89e1cfbbdfcc
SCIP notification number (Belgium)	eab99779-6570-4f2b-ba63-d712d0636cd5
SCIP notification number (Bulgaria)	5d2bafd6-fadb-4c60-8671-6e68c08ad6be
SCIP notification number (Czech Republic)	97fcab6a-ee4e-4d0a-b9f5-4e3c0048e97f
SCIP notification number (Denmark)	6f77880a-2578-472b-9d7c-35be6dd7eff1
SCIP notification number (Finland)	4f5756eb-306d-4893-bb7d-59394d39b86a
SCIP notification number (France)	46942073-6714-418b-a5b2-77ea80d9ff3b
SCIP notification number (Germany)	f4c85638-acd6-430d-b131-7afa19e3fc70
SCIP notification number (Hungary)	b2dedeb3-2fca-4601-b3bd-df5496ce0be4
SCIP notification number (Italy)	f03571ef-0d70-493a-b1ed-d53e29ad5b24
SCIP notification number (Netherlands)	9df7beb8-6fc2-40d0-8960-1c85389ff1fa
SCIP notification number (Poland)	a3528b6d-4417-40e7-89c7-6352f856295f
SCIP notification number (Romania)	c7d86302-ad56-40b2-95c7-a620ceb2cf80
SCIP notification number (Sweden)	50447706-d781-4e8a-9dd8-79bcac139146

Approvals / Certificates

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
DNV DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 750-831 ↓

Documentation

Manual			
Product Manual WAGO BACnet Configurator	1064596107 12 en- US 2025-05-19 10:30 27.05.2025	pdf 7416.11 KB	↓
Product Manual BAC- net/IP Programmable Fieldbus Controller	V 1.3.0	pdf 14699.30 KB	↓

Compatibility Information			
750-831 BACnet Con- formance Certificate		pdf 1881.44 KB	↓
750-831 BACnet Tes- ting Laboratories Pro- duct Listing		pdf 81.73 KB	↓
BACnet Protocol Imple- mentation Conforma- nce Statement (PICS)	V 2.1.0	pdf 1252.98 KB	↓

Additional Information			
BACnet objects, featu- res, services	V 1.0.2	pdf 1757.60 KB	↓

Bid Text			
750-831	19.02.2019	xml 8.26 KB	↓
750-831	12.08.2019	doc 33.50 KB	↓

Application Notes

Application Note CoDeSys 2.3			
Using the web visualiza- tion with Java™ runtime environment (JRE, JVM) 7 update 51 (7u51) (a500690)	1.2.4 26.02.2019	zip 4896.43 KB	↓
Application Note Po- werMeasurement_03 Library	19.01.2011 19.03.2012	zip 932.08 KB	↓
Application Note: DMX_02	26.04.2017 26.04.2017	zip 733.43 KB	↓
HVAC System Macros	10.03.2017 15.03.2019	zip 13252.92 KB	↓
Application Note: Mp- Bus_03 Library	2020-08-14 14.08.2020	zip 513.66 KB	↓

Application Note CoDeSys 2.3			
Connection of a Thermo- kon Thanos SR L MODBUS room control unit to the WAGO-I/O- SYSTEM	02.05.2013 13.05.2013	zip 305.89 KB	↓
Anbindung der HKW- Elektronik Wetterpro- gnose-Station WS-K xx T ModBus	1.1 07.07.2017	zip 762.78 KB	↓
Application Note Sche- duler_03.lib	20.05.2011 20.05.2011	zip 1717.92 KB	↓
GRUNDFOS GENibus interface, application note	20.03.2017 20.03.2017	zip 279.86 KB	↓
Connection of Thermo- kon Multi-function room control units WRF 08	10.04.2019 10.04.2019	zip 855.84 KB	↓



Application Note CoDeSys 2.3			
Connection of DMX devices to the WAGO-I/O-SYSTEM via the ArtNet-DMX STAGE-PROFI 1.1	11.01.2013	zip	↓
	11.01.2013	1450.63 KB	
Connection of Thermo-kon Multi-function room control units WRF 06	10.04.2019	zip	↓
	08.04.2016	826.10 KB	
Application Note for the 750-494 3-Phase Power Measurement Module	24.01.2014	zip	↓
	11.11.2014	1629.99 KB	
Application Note: EnOcean_06 Library	30.11.2016	zip	↓
	30.11.2016	822.25 KB	
Application Note BAC-net_02.lib	22.09.2017	zip	↓
	28.06.2017	1753.16 KB	
Application Note for the 750-495 3-Phase Power Measurement Module	24.01.2014	zip	↓
	24.01.2014	1806.18 KB	
Application Note Weather Station Elsner P03 Modbus	01.12.2011	zip	↓
	28.10.2011	269.09 KB	
Application note: DALI 753-647 Configuration Interface	1.0.2	zip	↓
	29.04.2019	3032.71 KB	
HLK-Anlagenmakros für TRIC	2015-07-10	zip	↓
	10.07.2015	74963.43 KB	

CAD/CAE-Data

CAD data	
2D/3D Models 750-831	↓

CAE data	
EPLAN Data Portal 750-831	↓
WSCAD Universe 750-831	↓
ZUKEN Portal 750-831	↓

Runtime Software

Firmware			
0750-0831, Controller BACnet/IP	V 17	zip	↓
	04.09.2024	2358.57 KB	

Libraries

Library			
Libraries for Building Automation CODESYS 2.3	2025-01-30	zip	↓
	30.01.2025	71441.83 KB	
WAGO_Datalogger_02.lib	2.7	zip	↓
	20.05.2020	662.90 KB	

1 Compatible Products

1.1 Optional Accessories

1.1.1 Cables and connectors

1.1.1.1 Connector plug



Item No.: 750-979/000-011
Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 22; Strain relief

Item No.: 750-979/000-021
Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 24; Strain relief

Item No.: 750-979/000-012
Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 22; Strain relief

Item No.: 750-979/000-022
Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 24; Strain relief



Item No.: 750-977/000-011
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22

Item No.: 750-978/000-011
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief

Item No.: 750-977/000-021
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24

Item No.: 750-978/000-021
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24; Strain relief



Item No.: 750-977/000-012
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22

Item No.: 750-978/000-012
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22; Strain relief

Item No.: 750-977/000-022
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24

Item No.: 750-978/000-022
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24; Strain relief



Item No.: 750-975
ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly

1.1.2 Communication

1.1.2.1 Communication cable



Item No.: 750-923/000-001
Configuration cable; USB connector; Length: 5 m

1.1.3 DIN-rail

1.1.3.1 Mounting accessories



Item No.: 210-196
Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



Item No.: 210-198
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored



Item No.: 210-197
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored



Item No.: 210-114
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



Item No.: 210-118
Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



Item No.: 210-115
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored



Item No.: 210-112
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored



Item No.: 210-113
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

1.1.4 Marking

1.1.4.1 Group marker carrier



Item No.: 750-106
Group marker carrier

1.1.4.2 Marker

Item No.: 750-100
Marker card; as a DIN A4 sheet; plain

Item No.: 2009-145/000-006
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

Item No.: 2009-145/000-007
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

Item No.: 2009-145/000-023
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

Item No.: 2009-145/000-012
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

Item No.: 2009-145/000-005
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red

Item No.: 2009-145/000-024
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

Item No.: 2009-145
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

Item No.: 2009-145/000-002
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

Item No.: 248-501/000-006
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

Item No.: 248-501/000-007
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

Item No.: 248-501/000-023
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

Item No.: 248-501/000-017
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

Item No.: 248-501/000-012
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

Item No.: 248-501/000-005
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

Item No.: 248-501/000-024
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

Item No.: 248-501
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

Item No.: 248-501/000-002
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

1.1.4.3 Marker carrier



Item No.: 750-103
Group marker carrier

1.1.5 Shield termination

1.1.5.1 Shield clamping saddles



Item No.: 790-108
Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm



Item No.: 790-208
Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm



Item No.: 790-116
Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm



Item No.: 790-216
Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm



Item No.: 790-124
Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm



Item No.: 790-220
Shield clamping saddle; 30 mm wide; 6 ... 20 mm



Item No.: 790-140
Shield clamping saddle; diameter of compatible conductor

1.1.7 System enclosure

1.1.7.1 System enclosure



Item No.: 850-825

IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20



Item No.: 850-826

IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



Item No.: 850-827

IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



Item No.: 850-828

IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



Item No.: 850-826/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



Item No.: 850-827/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



Item No.: 850-828/002-000

IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



Item No.: 850-834

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



Item No.: 850-835

IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



Item No.: 850-836

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



Item No.: 850-814/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate



Item No.: 850-815/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate



Item No.: 850-816/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate



Item No.: 850-817/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate