

The 750-832 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 IEC 61131-3 programmable controller is multitasking-capable and features a capacitor-backed RTC. A data memory of 8 MB is available.

The 750-832 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

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

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|---|---|
| Communication | BACnet/IP Modbus (TCP, UDP) |
| ETHERNET protocols | HTTP(S) BootP DHCP DNS SNTP FTP(S) 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 |
| Baud rate (communication/fieldbus 1) | 10/100 Mbit/s |
| Baud 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 |
| Program memory | 8 MB |
| Data memory | 8 MB |
| Non-volatile software memory | 32 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.) | 250 |
| 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: 12 |
| 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) | 440 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 |

Connection data

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| 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 1 | 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

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|-----------------------------------|------------------------|
| Width | 61.5 mm / 2.421 inches |
| Height | 100 mm / 3.937 inches |
| Depth | 71.9 mm / 2.831 inches |
| Depth from upper-edge of DIN-rail | 64.7 mm / 2.547 inches |

Mechanical data

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| Weight | 151.8 g |
| Housing material | Polycarbonate; polyamide 6.6 |
| Conformity marking | CE |

Environmental requirements

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| Ambient temperature (operation) | 0 ... +55 °C |
| Ambient temperature (storage) | -25 ... +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.) |
| Relative humidity (without condensation) | 95 % |
| Mounting position | any |
| Mounting type | DIN-35 rail |
| 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 |
| Fire load | 2.484 MJ |
| 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

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|-----------------------|---------------|
| ETIM 8.0 | EC000236 |
| ETIM 7.0 | EC000236 |
| PU (SPU) | 1 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4055143888561 |
| Customs tariff number | 85371091990 |

Environmental Product Compliance

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|---|---|
| CAS-No. | 1303-86-2 1317-36-8 7439-92-1 79-94-7 |
| REACH Candidate List Substance | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide |
| RoHS Compliance Status | Compliant,With Exemption |
| RoHS Exemption | 6(c) 7(a) 7(c)-I 7(c)-II |
| SCIP notification number (Austria) | ec5f0e96-7501-4211-be8a-192fa75d829c |
| SCIP notification number (Belgium) | d48fb674-ecab-4a17-9416-d40af95661e5 |
| SCIP notification number (Bulgaria) | 481b6b3e-6d69-43e5-bf26-7f94f1aedec9 |
| SCIP notification number (Czech Republic) | 5778effb-5e7a-4998-acde-062cb1e7e4b7 |
| SCIP notification number (Denmark) | 28f67fe3-001e-4741-8b5d-bed2ab8f3a2b |
| SCIP notification number (Finland) | 1803eeb4-49e8-4300-bde9-f2ec52863363 |
| SCIP notification number (France) | 5b0a7fcb-9a93-48fa-9db9-b04d0df35e87 |
| SCIP notification number (Germany) | e96108de-fdcf-42cf-ae3c-b027d1f6505c |
| SCIP notification number (Hungary) | 02788357-ba60-4349-8a43-639be6ae1149 |
| SCIP notification number (Italy) | c9012bd0-07f3-444e-b984-e508a0139eef |
| SCIP notification number (Netherlands) | 0e0f2b7e-0b00-401d-b3a4-d6c4ef3078b7 |
| SCIP notification number (Poland) | bd0347d6-221d-47ee-bd2f-f41b1d525deb |
| SCIP notification number (Romania) | ae6710d5-1bde-4ba6-98a8-d0b6d0cbcd98 |
| SCIP notification number (Sweden) | cf148ad1-16ba-4fa0-b5d5-97968bfa247b |

Approvals / Certificates

General approvals



| Approval | Standard | Certificate Name |
|---|------------------------|--|
| EAC Brjansker Zertifizierungsstelle | TP TC 020/2011 | EAC RU C-DE.AM02. B.00087/19 |
| EAC Brjansker Zertifizierungsstelle | TP TC 012/2011 | EAC RU C-DE.AZ58. B.2173-21 e (2Ex e IIC T4 Gc X) |
| KC National Radio Research Agency | Article 58-2, Clause 3 | MSIP-REM-W43-PFC750 |
| UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS) | - | E175199 |

Declarations of conformity and manufacturer's declarations

| Approval | Standard | Certificate Name |
|--|----------|------------------|
| EU-Declaration of Conformity WAGO GmbH & Co. KG | - | - |

Approvals for marine applications



| Approval | Standard | Certificate Name |
|---|-----------------------|------------------|
| BSH Bundesamt fuer Seeschifffahrt und Hydrographie | - | 1104 |
| DNV DNV GL SE | DNV-CG-0339, Aug.2021 | TAA0000194 |

Approvals for hazardous areas



| Approval | Standard | Certificate Name |
|------------------------------|-------------|--|
| ATEX TUEV Nord Cert GmbH | EN 60079-0 | TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc) |
| CCCEX CQST/CNEX | CNCA-C23-01 | 2020312310000213 (Ex ec IIC T4 Gc) |
| IECEX TUEV Nord Cert GmbH | IEC 60079-0 | IECEX TUN 14.0035 X (Ex ec IIC T4 Gc) |

| Approvals for hazardous areas | | |
|--|-------------|----------------------------|
| INMETRO TÜV Rheinland do Brasil Ltda. | IEC 60079-0 | BR-Ex_TÜV 12.1297 X |
| UKEx WAGO GmbH & Co. KG | EN 60079-0 | UKCA_WA GO22UKEX003X_ec |
| UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS) | UL 121201 | E198726 Sec.1 |

Protocol and fieldbus specific certificates



| Approval | Standard | Certificate Name |
|--------------------|----------|----------------------------------|
| BACnet WSP Cert | - | Listing information BTL-30464 |

Downloads

Environmental Product Compliance

| Compliance Search | |
|---|-------------------|
| Environmental Product Compliance 750-832 | ↓ |

Documentation

| Manual | | | |
|---|-----------------------|-------------------|-------------------|
| Product Manual Con- troller BACnet/IP; G4; 2ETH; SD | V 1.1.1 25.05.2022 | pdf 6351.62 KB | ↓ |
| System Manual WAGO I/O System 750/753 | V 3.3.3 29.08.2023 | pdf 8512.61 KB | ↓ |
| System Manual Series 750/753 | | | ↓ |

| Compatibility Information | | | |
|--|-----------------------|------------------|-------------------|
| BACnet Protocol Impe- mentation Conforma- nce (PICS) | V 1.0.0 13.10.2021 | pdf 526.16 KB | ↓ |

| System Description | | | |
|--|--|------------------|-------------------|
| Overview on WAGO-I/ O-SYSTEM 750 appro- vals | | pdf 770.48 KB | ↓ |
| 750 Controller, General Product Information | | pdf 507.50 KB | ↓ |

| Bid Text | | | |
|----------------------------|------------|------------------|-------------------|
| 750-832 | 21.05.2019 | xml 10.69 KB | ↓ |
| 750-832 | 21.05.2019 | docx 21.94 KB | ↓ |
| ausschreiben.de 750-832 | | | ↓ |

| Instruction Leaflet | | | |
|--------------------------------------|------------|------------------|-------------------|
| CCC Ex (Additional in- formation) | 26.04.2023 | pdf 159.76 KB | ↓ |

CAD/CAE-Data

| CAD data | CAE data |
|----------------------|---------------------------|
| 2D/3D Models 750-832 | EPLAN Data Portal 750-832 |
| | ZUKEN Portal 750-832 |

Engineering-Software

| Configuration and Commissioning Software | | | |
|---|---------------------------|---------------------|--|
| WAGO-IO-PRO Demo-Version (759-912) / Serie 750, 758 und 762 | V 2.3.9.68 17.02.2022 | zip 122524.17 KB | |
| (759-316) WAGO Ethernet Settings / Serie 750 | 06.18.01.01 02.09.2021 | zip 26678.54 KB | |
| WAGOupload | 1.16.1.0 02.02.2022 | zip 12111.45 KB | |

Runtime Software

| Firmware | | | |
|---|--------------------|-------------------|--|
| 0750-0832/0000-000x, Controller BACnet/IP | V 08 19.10.2021 | zip 5435.67 KB | |

1 Compatible Products

1.1 Required Accessories

1.1.1 Memory card

1.1.1.1 Memory card



Item No.: 758-879/000-2108
Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C

1.2 Optional Accessories

1.2.1 Cables and connectors

1.2.1.1 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

1.2.1.1 Connector plug



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

1.2.2 Communication

1.2.2.1 Communication cable



Item No.: 750-923
 Configuration cable; USB connector; Length: 2.5 m



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

1.2.3 DIN-rail

1.2.3.1 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.: 210-508
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-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.: 210-506
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; 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.: 210-504
 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; 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



Item No.: 210-505
 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored











1.2.4 Marking

1.2.4.1 Group marker carrier




Item No.: 750-106
 Group marker carrier

1.2.4.2 Marker

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|  <p>Item No.: 750-100 Marker card; as a DIN A4 sheet; plain</p> | <p>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</p> | <p>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</p> | <p>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</p> |
| <p>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</p> | <p>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</p> | <p>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</p> | <p>Item No.: 2009-145 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p> |
| <p>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</p> |  <p>Item No.: 248-501/000-006 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue</p> |  <p>Item No.: 248-501/000-007 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray</p> |  <p>Item No.: 248-501/000-023 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green</p> |
|  <p>Item No.: 248-501/000-017 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green</p> |  <p>Item No.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange</p> |  <p>Item No.: 248-501/000-005 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red</p> |  <p>Item No.: 248-501/000-024 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet</p> |
|  <p>Item No.: 248-501 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white</p> |  <p>Item No.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow</p> | | |

1.2.4.3 Marker carrier

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|  <p>Item No.: 750-103 Group marker carrier</p> |
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1.2.5 Shield termination

1.2.5.1 Shield clamping saddles

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|  <p>Item No.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm</p> |  <p>Item No.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm</p> |  <p>Item No.: 790-116 Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm</p> |  <p>Item No.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm</p> |
|  <p>Item No.: 790-124 Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm</p> |  <p>Item No.: 790-220 Shield clamping saddle; 30 mm wide; 6 ... 20 mm</p> |  <p>Item No.: 790-140 Shield clamping saddle; diameter of compatible conductor</p> | |

1.2.6 Software

1.2.6.1 Basic version



Item No.: 759-333
WAGO-I/O-PRO

Item No.: 759-333/000-923
WAGO-I/O-PRO; USB-Set

1.2.7 System enclosure

1.2.7.1 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); Wx-
HxD (164x100x164 mm); 9 x M12, 4 x M20



Item No.: 850-835
IP65 enclosure; Polyester (RAL 7032); Wx-
HxD (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 flan-
ge plate



Item No.: 850-815/002-000
IP65 enclosure; Sheet steel (RAL 7035);
WxHxD (300x120x200 mm); without flan-
ge plate



Item No.: 850-816/002-000
IP65 enclosure; Sheet steel (RAL 7035);
WxHxD (400x120x200 mm); without flan-
ge plate



Item No.: 850-817/002-000
IP65 enclosure; Sheet steel (RAL 7035);
WxHxD (600x120x200 mm); without flan-
ge plate