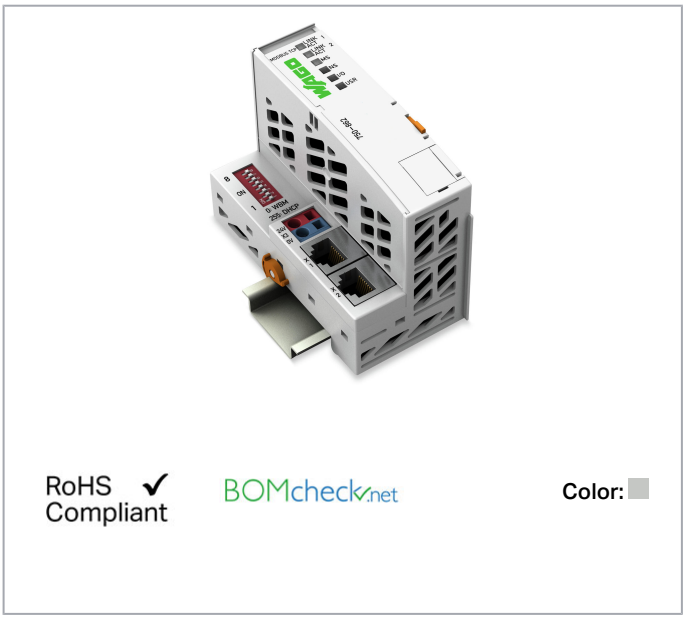
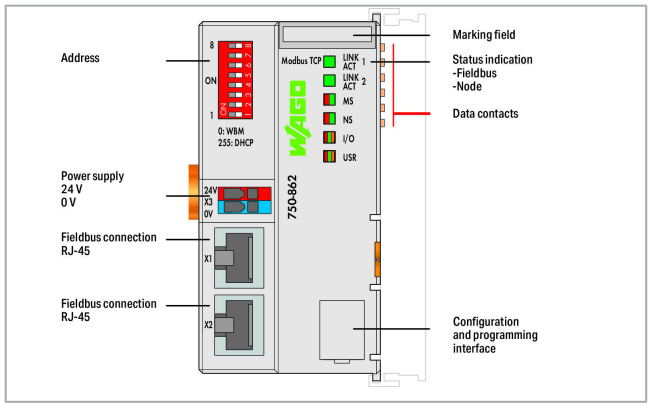
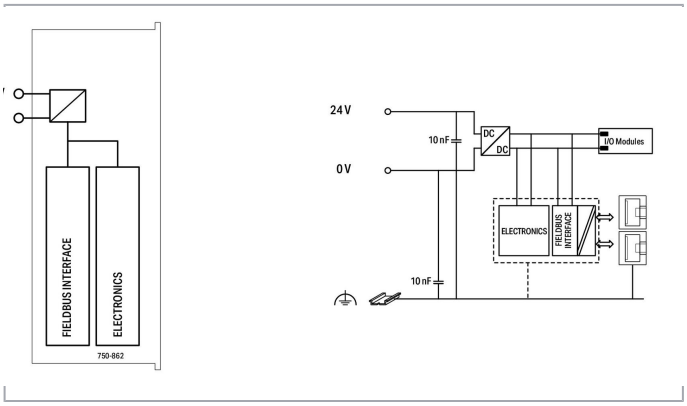
# Data sheet | Item number: 750-862

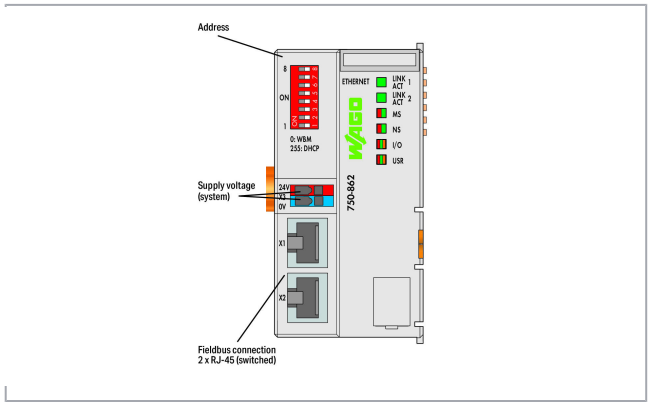
Controller Modbus TCP; 4th generation; 2 x ETHERNET; ECO; light gray

www.wago.com/750-862




## Item description

The Modbus TCP Controller can be used as a programmable controller within ETHERNET networks in conjunction with the WAGO I/O System.

The controller detects all connected I/O modules and creates a local process image. This process image may include a mixed arrangement of analog (word-by-word data transfer) and digital (bit-by-bit data transfer) modules.

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.

Subject to changes. Please also observe the further product documentation!


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The controller is designed for fieldbus communication in Modbus® networks. It also supports a wide variety of standard ETHERNET protocols (e.g., HTTP(S), BootP, DHCP, DNS, SNTP, (S)FTP, SNMP).

An integrated Webserver provides user configuration options, while displaying the controller's status information.

The IEC 61131-3 programmable controller is multitasking-capable.

## Data

### Technical data

| | |
|---|---|
| Communication | Modbus (TCP, UDP) |
| ETHERNET protocols | HTTP(S)<br>BootP<br>DHCP<br>DNS<br>SNTP<br>(S)FTP<br>SNMP |
| Visualization | Webserver |
| CPU | 32 bits |
| Programming languages per IEC 61131-3 | Instruction List (IL)<br>Ladder Diagram (LD)<br>Function Block Diagram (FBD), Continuous Function Chart (CFC)<br>Structured Text (ST)<br>Sequential Function Chart (SFC) |
| Programming environment | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3) |
| Configuration options | WAGO-I/O-CHECK<br>Web-based management<br>CODESYS Library |
| 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 | 2 MB |
| Data memory | 2 MB |
| Non-volatile software memory | 16 Kbytes |
| Number of modules per node (max.) | 250 |
| Number of modules without a bus extension (max.) | 64 |
| Input and output (fieldbus) process image (max.) | 1020 Worte/1020 Worte |
| Indicators | LED (LINK/ACT) green: Network connection via ports 1 … 2; LED (MS, NS) red/green: Status of node, network; LED (I/O, USR) red /green/orange: Local data bus status, status programmable by user |
| Supply voltage (system) | 24 VDC (-25 … +30 %); via pluggable connector |

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| | |
|---|---|
| Input current (typ.) at nominal load (24 V) | 300 mA |
| Power supply efficiency (typ.) at nominal load (24 V) | 90 % |
| Power consumption (5 V system supply) | 390 mA |
| Total current (system supply) | 700 mA |
| Isolation | 500 V system/field |

## Connection data

| | |
|---|---|
| Connection technology: communication/fieldbus | Modbus TCP/UDP: 2 x RJ-45 |
| Connection technology: system supply | 2 x CAGE CLAMP® |
| Connection type (1) | System supply |
| Solid conductor | 0.08 … 2.5 mm² / 28 … 14 AWG |
| Fine-stranded conductor | 0.08 … 2.5 mm² / 28 … 14 AWG |
| Strip length | 8 … 9 mm / 0.31 … 0.35 inch |
| Connection technology: device configuration | 1 x Male connector; 4-pole |

## Physical data

| | |
|---|---|
| Width | 49.5 mm / 1.949 inch |
| Height | 96.8 mm / 3.811 inch |
| Depth | 71.9 mm / 2.831 inch |
| Depth from upper edge of DIN-rail | 64.7 mm / 2.547 inch |

## Mechanical data

| | |
|---|---|
| Weight | 105.3 g |
| Color | light gray |
| Housing material | Polycarbonate; Polyamide 6.6 |
| Conformity marking | CE |

## Environmental requirements

| | |
|---|---|
| Surrounding air temperature (operation) | 0 … 55 °C |
| Surrounding air temperature (storage) | -40 … 85 °C |
| Protection type | IP20 |
| Pollution degree (5) | 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 |

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| | |
|---|---|
| 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, marine applications |
| EMC emission of interference | per EN 61000-6-3, marine applications |
| Exposure to pollutants | Per IEC 60068-2-42 and IEC 60068-2-43 |
| Fire load | 1.111 MJ |
| Permissible $H_2S$ contaminant concentration at a relative humidity 75 % | 10 ppm |
| Permissible $SO_2$ contaminant concentration at a relative humidity 75 % | 25 ppm |

## Commercial data

| | |
|---|---|
| Packaging type | BOX |
| Country of origin | DE |
| GTIN | 4055143821308 |
| Customs tariff number | 85371091990 |

## Approvals / Certificates

### Ex-Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|---|---|
| | **ATEX**<br>TUEV Nord Cert GmbH | EN 60079 | TUEV_14_ATEX_148929_X |
| Ex nA IIC T4 Gc | **CCCEx**<br>CQST/CNEx | CNCA-C23-01 | 2020312310000213 |
| | **EAC**<br>Brjansker Zertifizierungsstelle | TP TC 012/2011 | EAC RU C-DE.AM02.B. 00163/19 |
| | **IECEx**<br>TUEV Nord Cert GmbH | IEC 60079-0 | IECEx_TUN_14.0035_X |
| | **UL**<br>Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS) | UL 121201 | E198726 Sec.1 |

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### Country specific Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|---|---|
| | **EAC**<br>Brjansker Zertifizierungsstelle | TP TC 012/2011 | EAC RU C-DE.AM02.B.00163/19 |
| | **KC**<br>National Radio Research Agency | Article 58-2, Clause 3 | MSIP-REM-W43-PFC750 |

### Ship Approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|---|---|---|---|
| | **ABS**<br>American Bureau of Shipping | - | 19-HG1821926 |
| | **DNV GL**<br>Det Norske Veritas, Germanischer Lloyd | - | TAA0000194 |
| | **LR**<br>Lloyds Register | - | 02/20026 (E6) |
| | **PRS**<br>Polski Rejestr Statków | - | TE/2236/880590/19 |
| | **RINA**<br>RINA Germany GmbH | - | ELE066419XG |

### UL-Approvals

| | | | Certificate |
|---|---|---|---|



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| Logo | Approval | Additional Approval Text | name |
|---|---|---|---|
| | **UL**<br>Underwriters Laboratories Inc. (ORDINARY LOCATIONS) | UL 61010-2-201 | E175199<br>Sec11 |

## Compatible products

**software**

| | | |
|---|---|---|
| | **Item no.: 759-333**<br>WAGO-I/O-PRO | www.wago.com/759-333 |
| | **Item no.: 759-333/000-923**<br>WAGO-I/O-PRO; USB-Set | www.wago.com/759-333/000-923 |
| | **Item no.: 759-911**<br>WAGO-I/O-PRO; CD | www.wago.com/759-911 |

**General accessories**

| | | |
|---|---|---|
| | **Item no.: 750-921**<br>Bluetooth® Adapter; light gray | www.wago.com/750-921 |
| | **Item no.: 750-923**<br>Configuration cable; USB connector; Length: 2.5 m; black | www.wago.com/750-923 |
| | **Item no.: 750-923/000-001**<br>Configuration cable; USB connector; Length: 5 m | www.wago.com/750-923/000-001 |

**Marking accessories**

| | | |
|---|---|---|
| | **Item no.: 248-501**<br>Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card | www.wago.com/248-501 |
| | **Item no.: 248-501/000-002**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow | www.wago.com/248-501/000-002 |
| | **Item no.: 248-501/000-005**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red | www.wago.com/248-501/000-005 |
| | **Item no.: 248-501/000-006**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue | www.wago.com/248-501/000-006 |
| | **Item no.: 248-501/000-007**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray | www.wago.com/248-501/000-007 |

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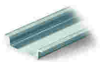
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| | | |
|---|---|---|
|  | **Item no.: 248-501/000-012**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange | www.wago.com/248-501/000-012 |
|  | **Item no.: 248-501/000-017**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green | www.wago.com/248-501/000-017 |
|  | **Item no.: 248-501/000-023**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green | www.wago.com/248-501/000-023 |
|  | **Item no.: 248-501/000-024**<br>Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet | www.wago.com/248-501/000-024 |

**shield connection**

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

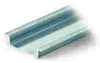
**Carrier rail**

| | | |
|---|---|---|
|  | **Item no.: 210-112**<br>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 | www.wago.com/210-112 |
|  | **Item no.: 210-113**<br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored | www.wago.com/210-113 |
|  | **Item no.: 210-114**<br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored | www.wago.com/210-114 |
|  | **Item no.: 210-115**<br>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 | www.wago.com/210-115 |
|  | **Item no.: 210-118**<br>Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored | www.wago.com/210-118 |

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| | | |
|---|---|---|
|  | **Item no.: 210-196**<br>Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored | www.wago.com/210-196 |
|  | **Item no.: 210-197**<br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored | www.wago.com/210-197 |
|  | **Item no.: 210-198**<br>Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored | www.wago.com/210-198 |
|  | **Item no.: 210-504**<br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored | www.wago.com/210-504 |
|  | **Item no.: 210-505**<br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored | www.wago.com/210-505 |
|  | **Item no.: 210-506**<br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored | www.wago.com/210-506 |
|  | **Item no.: 210-508**<br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored | www.wago.com/210-508 |
| **system box** | | |
|  | **Item no.: 850-804**<br>IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip | www.wago.com/850-804 |
|  | **Item no.: 850-804/000-001**<br>IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip | www.wago.com/850-804/000-001 |
|  | **Item no.: 850-805**<br>IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip | www.wago.com/850-805 |
| **wiring and connectors** | | |
|  | **Item no.: 750-975**<br>ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly; light gray | www.wago.com/750-975 |
|  | **Item no.: 750-977/000-011**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22 | www.wago.com/750-977/000-011 |
|  | **Item no.: 750-977/000-012**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22 | www.wago.com/750-977/000-012 |
|  | **Item no.: 750-977/000-021**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24 | www.wago.com/750-977/000-021 |
|  | **Item no.: 750-977/000-022**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24 | www.wago.com/750-977/000-022 |

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| | | |
|---|---|---|
|  | **Item no.: 750-978/000-011**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief | www.wago.com/750-978/000-011 |
|  | **Item no.: 750-978/000-012**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22; Strain relief | www.wago.com/750-978/000-012 |
|  | **Item no.: 750-978/000-021**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24; Strain relief | www.wago.com/750-978/000-021 |
|  | **Item no.: 750-978/000-022**<br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24; Strain relief | www.wago.com/750-978/000-022 |
|  | **Item no.: 750-979/000-011**<br>Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 22; Strain relief | www.wago.com/750-979/000-011 |
|  | **Item no.: 750-979/000-012**<br>Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 22; Strain relief | www.wago.com/750-979/000-012 |
|  | **Item no.: 750-979/000-021**<br>Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 24; Strain relief | www.wago.com/750-979/000-021 |
|  | **Item no.: 750-979/000-022**<br>Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 24; Strain relief | www.wago.com/750-979/000-022 |

## Downloads

### Documentation

#### Manual

| | | | |
|---|---|---|---|
| Controller Modbus TCP; G4; 2ETH; ECO<br>4. Generation; 2 x ETHERNET; ECO | V 1.0.3<br>18. 1. 2021 | pdf<br>7.2 MB | Download |
| Systemhandbuch WAGO I/O System 750 / 753<br>Dezentrale Automatisierungstechnik | V 3.0.0<br>4. 3. 2021 | pdf<br>6.6 MB | Download |

#### Bid Text

| | | | |
|---|---|---|---|
| 750-862<br>doc - Datei | 19. 11. 2018 | doc<br>33.8 kB | Download |
| 750-862 | 19. 2. 2019 | xml | Download |

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| | | | |
|---|---|---|---|
| X81 - Datei | | 8.0 kB | |

**System Description**

| | | | |
|---|---|---|---|
| Overview on WAGO-I/O-SYSTEM 750 approvals | | pdf<br>780.2 kB | Download |
| Use in Hazardous Environments<br>Term definition, marking and installation regulations | V 1.0.0 | pdf<br>1.0 MB | Download |
| 750 Controller, General Product Information | | pdf<br>621.9 kB | Download |

**Additional Information**

| | | | |
|---|---|---|---|
| Disposal; Electrical and electronic equipment, Packaging | V 1.0.0 | pdf<br>265.8 kB | Download |

## Runtime Software

**Firmware**

| | | | |
|---|---|---|---|
| Firmware: 750-862 Controller Modbus TCP; 4th generation; 2 x ETHERNET; ECO; light gray | 07<br>16. 9. 2020 | zip<br>4.2 MB | Download |

## CAD/CAE-Data

**CAD data**

| | | | |
|---|---|---|---|
| 2D/3D Models 750-862 | | URL | Download |

**CAE data**

| | | | |
|---|---|---|---|
| ZUKEN Portal 750-862 | | URL | Download |

## Environmental Product Compliance

**Compliance Search**

| | | | |
|---|---|---|---|
| Environmental Product Compliance 750-862<br>Controller Modbus TCP; 4th generation; 2 x ETHERNET; ECO; light gray | | URL | Download |

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## Installation Notes

## Product family

Controller 750
Show all products from the family

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