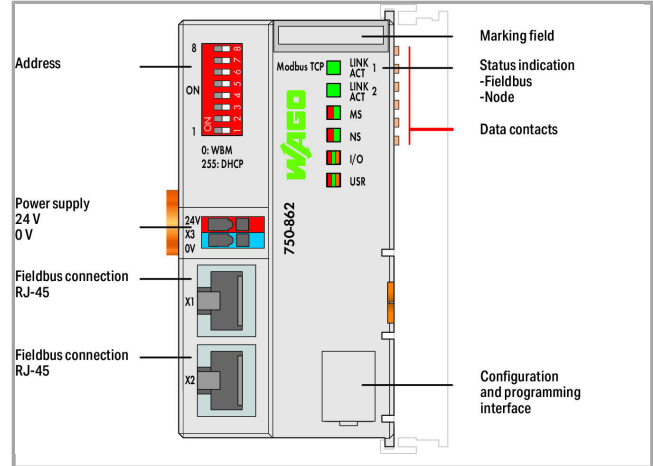


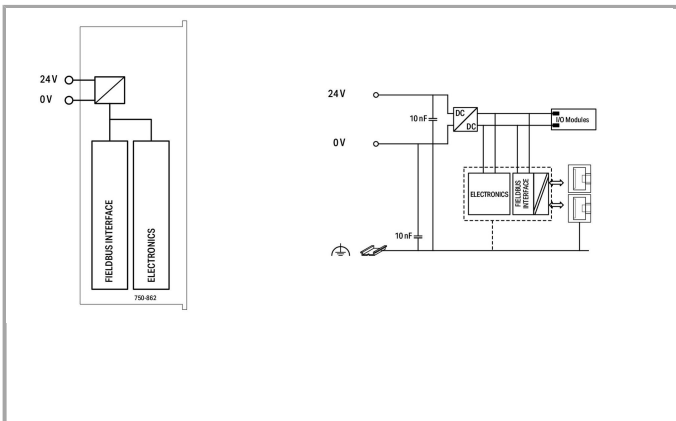
Data sheet | Item number: 750-862  
 Controller Modbus TCP; 4th generation; 2 x ETHERNET; ECO

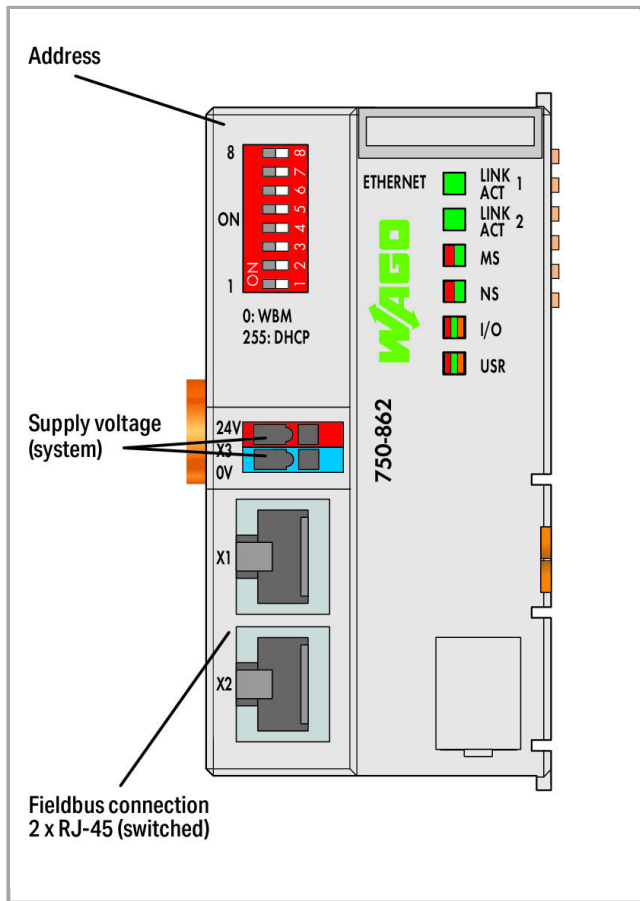


[www.wago.com/750-862](http://www.wago.com/750-862)



RoHS  Compliant [BOMcheck.net](http://BOMcheck.net)





## Item description

WAGO's 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. 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.

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

An integrated Webserver provides user configuration options, while displaying PLC status information.

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

## Data

### Technical Data

|                   |                   |
|-------------------|-------------------|
| Communication     | Modbus (TCP, UDP) |
| Ethernet protocol | HTTP(S)           |



|  |   |
|--|---|
|  | BootP<br>DHCP<br>DNS<br>SNTP<br>(S)FTP<br>SNMP  |
| Visualization  | Web server  |
| 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; Line length (max.): 100 m  |
| Transmission performance                                     | Class D acc. to EN 50173  |
| Program memory   | 2.048 MB  |
| Data memory  | 2.048 MB  |
| Software non-volatile memory                                 | 16 Kbytes   |
| Number of modules per node max.                              | 250   |
| Number of I/O modules without bus extension max.             | 64  |
| Input and output process image (Fieldbus) max.               | 1020 Worte/1020 Worte   |
| Indicators   | LED (LINK/ACT) green: Network connection Port 1 ... 2; LED (MS, NS)<br>red/green: Status of node, network; LED (I/O, USR) red/green<br>/orange: Internal data bus status, status programmable by user |
| System supply voltage  | DC 24 V(-25 ... +30 %); via wiring level  |
| Input current typ. at rated load (24 V)                      | 300 mA  |
| Efficiency of the power supply (typ.) at nominal load (24 V) | 90 %  |
| Current consumption, system supply (5 V)                     | 390 mA  |
| Total current for system supply                              | 700 mA  |
| Isolation  | 500 V system/supply   |

## 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 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Fine-stranded conductor                       | 0.08 ... 1.5 mm <sup>2</sup> / 28 ... 14 AWG |
| Strip length                                  | 5 ... 6 mm / 0.2 ... 0.24 inch               |



Connection technology: Device configuration

1 x 4-pole male connector

## Geometrical Data

|                                       |                      |
|---------------------------------------|----------------------|
| Width                                 | 49.5 mm / 1.949 inch |
| Height                                | 71.9 mm / 2.831 inch |
| Height from upper-edge of DIN-35 rail | 64.7 mm / 2.547 inch |
| Depth                                 | 96.8 mm / 3.811 inch |

## Mechanical data

|                    |                              |
|--------------------|------------------------------|
| Weight             | 105.3 g                      |
| Housing material   | Polycarbonate, polyamide 6.6 |
| Conformity marking | CE                           |

## Environmental Requirements

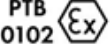


|  |  |
|--|--|
| Surrounding air (operating) temperature  | 0 ... 55 °C  |
| Surrounding air (storage) temperature  | -40 ... 85 °C  |
| Protection class   | IP20   |
| Degree of pollution (5)  | 2 per IEC 61131-2  |
| Operating altitude   | without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); max.: 5000 m |
| Relative air humidity (no condensation)  | 95 %   |
| Mounting position  | any  |
| Type of mounting   | DIN-35 rail  |
| Vibration resistance   | 4g per IEC 60068-2-6   |
| Shock resistance   | 15g per IEC 60068-2-27   |
| EMC immunity to interference   | acc. to EN 61000-6-2, marine applications  |
| EMC emission of interference   | acc. to EN 61000-6-3, marine applications  |
| Exposure to pollutants   | Per IEC 60068-2-42 and IEC 60068-2-43  |
| Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 % | 10 ppm   |
| Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %  | 25 ppm   |

## Commercial data


|                    |               |
|--------------------|---------------|
| Country of origin  | DE            |
| GTIN               | 4055143821308 |
| Customs Tariff No. | 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 |
|  | ATEX<br>TUEV Nord Cert GmbH                                | IEC 60079-0              | IECEX_TUN_14.0035_X   |
|  | UL<br>Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS) | ANSI/ISA 12.12.01        | E198726 Sec.1         |


## Country specific Approvals

| Logo   | Approval                             | Additional Approval Text | Certificate name            |
|--|--------------------------------------|--------------------------|-----------------------------|
|  | KC<br>National Radio Research Agency | Article 58-2, Clause 3   | MSIP-<br>REM-W43-<br>PFC750 |

## Ship Approvals




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

## UL-Approvals










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

## Compatible products

### General accessories

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

### Carrier rail

|  |  |  |
|--|--|--|
|  | <b>Item no.: 210-112</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm   | <a href="http://www.wago.com/210-112">www.wago.com/210-112</a> |
|  | <b>Item no.: 210-113</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715                    | <a href="http://www.wago.com/210-113">www.wago.com/210-113</a> |
|  | <b>Item no.: 210-114</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715                     | <a href="http://www.wago.com/210-114">www.wago.com/210-114</a> |
|  | <b>Item no.: 210-115</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm   | <a href="http://www.wago.com/210-115">www.wago.com/210-115</a> |
|  | <b>Item no.: 210-118</b><br>Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715                   | <a href="http://www.wago.com/210-118">www.wago.com/210-118</a> |
|  | <b>Item no.: 210-196</b><br>Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored | <a href="http://www.wago.com/210-196">www.wago.com/210-196</a> |
|  | <b>Item no.: 210-197</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715                       | <a href="http://www.wago.com/210-197">www.wago.com/210-197</a> |
|  | <b>Item no.: 210-198</b><br>Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored  | <a href="http://www.wago.com/210-198">www.wago.com/210-198</a> |
|  | <b>Item no.: 210-504</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715          | <a href="http://www.wago.com/210-504">www.wago.com/210-504</a> |



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

[www.wago.com/210-505](http://www.wago.com/210-505)



**Item no.: 210-506**  
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715

[www.wago.com/210-506](http://www.wago.com/210-506)



**Item no.: 210-508**  
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715

[www.wago.com/210-508](http://www.wago.com/210-508)

**system box**



**Item no.: 850-804**  
IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip

[www.wago.com/850-804](http://www.wago.com/850-804)



**Item no.: 850-804/000-001**  
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](http://www.wago.com/850-804/000-001)



**Item no.: 850-805**  
IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip

[www.wago.com/850-805](http://www.wago.com/850-805)

**Marking accessories**



**Item no.: 248-501**  
Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card

[www.wago.com/248-501](http://www.wago.com/248-501)



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

[www.wago.com/248-501/000-002](http://www.wago.com/248-501/000-002)



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

[www.wago.com/248-501/000-005](http://www.wago.com/248-501/000-005)



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

[www.wago.com/248-501/000-006](http://www.wago.com/248-501/000-006)



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

[www.wago.com/248-501/000-007](http://www.wago.com/248-501/000-007)



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

[www.wago.com/248-501/000-012](http://www.wago.com/248-501/000-012)



**Item no.: 248-501/000-017**  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

[www.wago.com/248-501/000-017](http://www.wago.com/248-501/000-017)



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

[www.wago.com/248-501/000-023](http://www.wago.com/248-501/000-023)



















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

[www.wago.com/248-501/000-024](http://www.wago.com/248-501/000-024)

**shield connection**

**Item no.: 790-108**

|  |   |  |
|--|---|--|
|    | Shield clamping saddle; 11 mm wide; diameter of compatible conductor  | <a href="http://www.wago.com/790-108">www.wago.com/790-108</a>                 |
|    | <b>Item no.: 790-116</b><br>Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm       | <a href="http://www.wago.com/790-116">www.wago.com/790-116</a>                 |
|    | <b>Item no.: 790-124</b><br>Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm       | <a href="http://www.wago.com/790-124">www.wago.com/790-124</a>                 |
|    | <b>Item no.: 790-140</b><br>Shield clamping saddle; diameter of compatible conductor                                | <a href="http://www.wago.com/790-140">www.wago.com/790-140</a>                 |
|    | <b>Item no.: 790-208</b><br>Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm  | <a href="http://www.wago.com/790-208">www.wago.com/790-208</a>                 |
|    | <b>Item no.: 790-216</b><br>Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm                                       | <a href="http://www.wago.com/790-216">www.wago.com/790-216</a>                 |
|    | <b>Item no.: 790-220</b><br>Shield clamping saddle; 30 mm wide; 6 ... 20 mm   | <a href="http://www.wago.com/790-220">www.wago.com/790-220</a>                 |
| <b>wiring and connectors</b>   |   |  |
|    | <b>Item no.: 750-975</b><br>ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly; light gray  | <a href="http://www.wago.com/750-975">www.wago.com/750-975</a>                 |
|   | <b>Item no.: 750-977/000-011</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22                | <a href="http://www.wago.com/750-977/000-011">www.wago.com/750-977/000-011</a> |
|  | <b>Item no.: 750-977/000-012</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22                | <a href="http://www.wago.com/750-977/000-012">www.wago.com/750-977/000-012</a> |
|  | <b>Item no.: 750-977/000-021</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24                | <a href="http://www.wago.com/750-977/000-021">www.wago.com/750-977/000-021</a> |
|  | <b>Item no.: 750-977/000-022</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24                | <a href="http://www.wago.com/750-977/000-022">www.wago.com/750-977/000-022</a> |
|  | <b>Item no.: 750-978/000-011</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief | <a href="http://www.wago.com/750-978/000-011">www.wago.com/750-978/000-011</a> |
|  | <b>Item no.: 750-978/000-012</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22; Strain relief | <a href="http://www.wago.com/750-978/000-012">www.wago.com/750-978/000-012</a> |
|  | <b>Item no.: 750-978/000-021</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24; Strain relief | <a href="http://www.wago.com/750-978/000-021">www.wago.com/750-978/000-021</a> |
|  | <b>Item no.: 750-978/000-022</b><br>Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24; Strain relief | <a href="http://www.wago.com/750-978/000-022">www.wago.com/750-978/000-022</a> |





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

[www.wago.com/750-979/000-011](http://www.wago.com/750-979/000-011)



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

[www.wago.com/750-979/000-012](http://www.wago.com/750-979/000-012)



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

[www.wago.com/750-979/000-021](http://www.wago.com/750-979/000-021)



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

[www.wago.com/750-979/000-022](http://www.wago.com/750-979/000-022)

**software**



**Item no.: 759-333**  
WAGO-I/O-PRO

[www.wago.com/759-333](http://www.wago.com/759-333)



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

[www.wago.com/759-333/000-923](http://www.wago.com/759-333/000-923)



**Item no.: 759-911**  
WAGO-I/O-PRO; CD

[www.wago.com/759-911](http://www.wago.com/759-911)

**Downloads**

**Documentation**

**Manual**

|  |         |               |          |
|--|---------|---------------|----------|
| Controller Modbus TCP; G4; 2ETH; ECO<br>4. Generation; 2 x ETHERNET; ECO | V 1.0.1 | pdf<br>7.2 MB | Download |
|--|---------|---------------|----------|

**Additional Information**

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

**System Description**

|   |  |                 |          |
|---|--|-----------------|----------|
| Overview on WAGO-I/O-SYSTEM 750 approvals |  | pdf<br>780.2 kB | Download |
|---|--|-----------------|----------|

|  |         |               |          |
|--|---------|---------------|----------|
| Design Notes<br>Basic conditions and recommendations for higher operational safety | V 2.0.0 | pdf<br>1.5 MB | Download |
|--|---------|---------------|----------|

|   |  |                 |          |
|---|--|-----------------|----------|
| 750 Controller, General Product Information |  | pdf<br>621.9 kB | Download |
|---|--|-----------------|----------|

|  |         |               |          |
|--|---------|---------------|----------|
| Use in Hazardous Environments<br>Term definition, marking and installation regulations | V 1.0.0 | pdf<br>1.0 MB | Download |
|--|---------|---------------|----------|



## Product family

### Controller 750

[Learn more about the product family.](#)

[Show all products from the family](#)

Subject to changes.