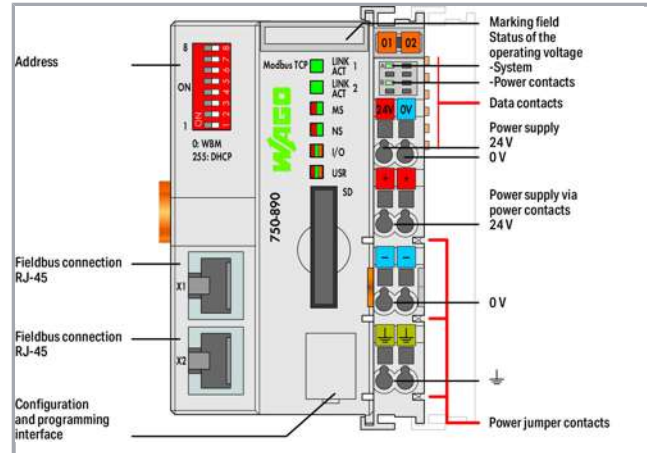


Data sheet | Item number: 750-890

Controller Modbus TCP; 4th generation; 2 x ETHERNET, SD Card Slot; light gray



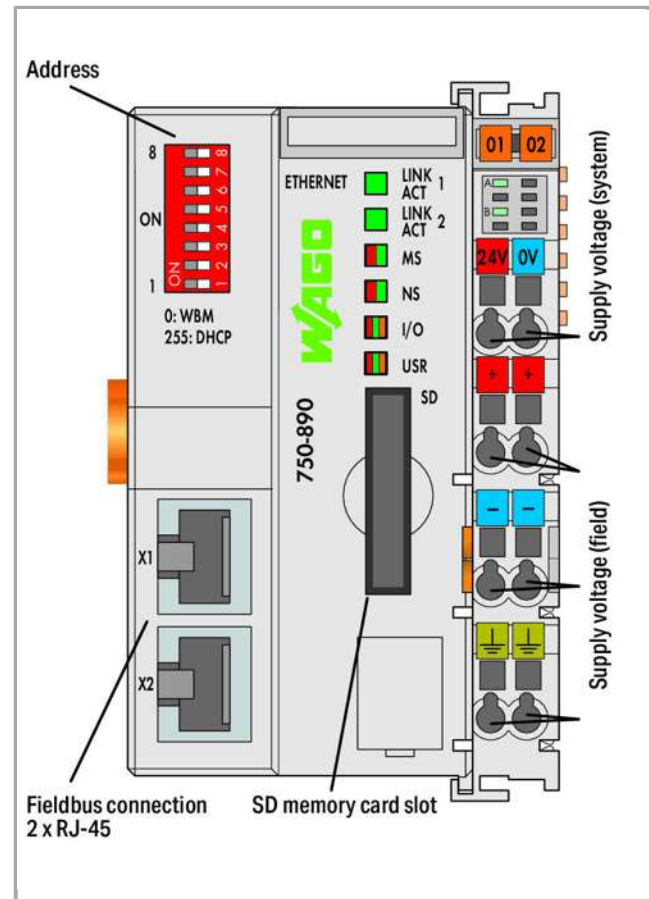
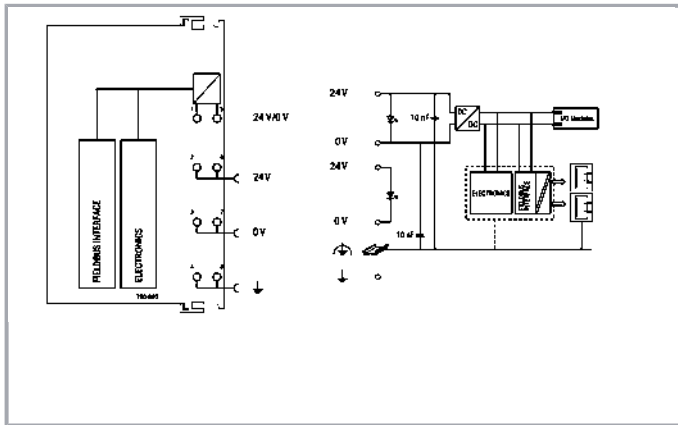
www.wago.com/750-890



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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 supports all digital, analog and specialty modules found within the 750/753 Series, and is suitable for data rates of 10/100 Mbit/s.

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.

This controller supports Modbus TCP for use in industrial environments. It also supports a wide variety of standard ETHERNET protocols for easy integration into IT environments (e.g., HTTP(S), BootP, DHCP, DNS, SNTP, SNMP, (S)FTP).

An integrated Webserver provides user configuration options, 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 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.

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



Data

Technical Data

Communication	Modbus (TCP, UDP)
Ethernet protocol	HTTP(S) BootP DHCP DNS SNTP (S)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 Web-based management 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	8 MB
Data memory	8 MB
Software non-volatile memory	32 Kbytes
Type of memory card	SD and SDHC up to 32 GB (All guaranteed properties are only valid in connection with the WAGO memory card.)
Memory card slot	Push-push mechanism; Cover lid (sealable)
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 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; LED (A, B) green: System power supply status, field supply
System supply voltage	DC 24 V(-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)
Input current typ. at rated load (24 V)	500 mA

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Efficiency of the power supply (typ.) at nominal load (24 V)	90 %
Current consumption, system supply (5 V)	440 mA
Total current for system supply	1,700 mA
Field supply voltage	DC 24 V (-25 ... +30 %); via power jumper contacts
Current carrying capacity of the power jumper contacts	10 A
Number of outgoing power jumper contacts	3
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 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 inch
Connection technology: Device configuration	1 x Male connector; 4-pole

Geometrical Data

Width	61,5 mm / 2.421 inch
Height	71,9 mm / 2.831 inch
Height from upper-edge of DIN-35 rail	64,7 mm / 2.547 inch
Depth	100 mm / 3.937 inch

Mechanical data

Weight	151.6 g
Color	light gray
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

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	derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)
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	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
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

Packaging type	BOX
Country of origin	DE
GTIN	4055143821407
Customs Tariff No.	85371091990

Approvals / Certificates

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079	TUEV_14_ATEX_148929_X
	IECEX TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0035_X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
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KC
National Radio Research Agency


Article 58-2, Clause 3

MSIP-
REM-W43-
PFC750

Ship Approvals

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

UL-Approvals

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

Counterpart









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Compatible products

Carrier rail

	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	www.wago.com/210-112
	Item no.: 210-113 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715	www.wago.com/210-113
	Item no.: 210-114 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715	www.wago.com/210-114
	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	www.wago.com/210-115
	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	www.wago.com/210-118
	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	www.wago.com/210-196
	Item no.: 210-197 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	www.wago.com/210-197
	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	www.wago.com/210-198
	Item no.: 210-504 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	www.wago.com/210-504
	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
	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
	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

General accessories

	Item no.: 750-921 Bluetooth® Adapter; light gray	www.wago.com/750-921
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Item no.: 750-923

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Configuration cable; USB connector; Length: 2.5 m; black

www.wago.com/750-923



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

www.wago.com/750-923/000-001

software



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

www.wago.com/759-333



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

www.wago.com/759-333/000-923



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

www.wago.com/759-911

wiring and connectors



Item no.: 750-975
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
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22

www.wago.com/750-977/000-011



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

www.wago.com/750-977/000-012



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

www.wago.com/750-977/000-021



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

www.wago.com/750-977/000-022



Item no.: 750-978/000-011
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
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
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
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24; Strain relief

www.wago.com/750-978/000-022

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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



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



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



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

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



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



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

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; orange

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; light green

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; green












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; violet

www.wago.com/248-501/000-024

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	Item no.: 750-100 Marker card; as a DIN A4 sheet; plain; white	www.wago.com/750-100
	Item no.: 750-103 Group marker carrier; transparent	www.wago.com/750-103
	Item no.: 750-106 Group marker carrier; transparent	www.wago.com/750-106
shield connection		
	Item no.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	www.wago.com/790-108
	Item no.: 790-116 Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm	www.wago.com/790-116
	Item no.: 790-124 Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm	www.wago.com/790-124
	Item no.: 790-140 Shield clamping saddle; diameter of compatible conductor	www.wago.com/790-140
	Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	www.wago.com/790-208
	Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	www.wago.com/790-216
memory card		
	Item no.: 758-879/000-001 Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C	www.wago.com/758-879/000-001
	Item no.: 758-879/000-2108 Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C	www.wago.com/758-879/000-2108

Downloads

Documentation

Manual

Controller Modbus TCP; G4; 2ETH; SD Generation 4; 2 x ETHERNET; SD Card Slot	V 1.2.1 Dec 9, 2019	pdf 7.6 MB	Download
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Bid Text

750-890 GAEB docx - Datei	Jun 26, 2019	docx 20.1 kB	Download
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750-890

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System Description

Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 780.2 kB	Download
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750 Controller, General Product Information		pdf 621.9 kB	Download
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Use in Hazardous Environments Term definition, marking and installation regulations	V 1.0.0	pdf 1.0 MB	Download
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Design Notes Basic conditions and recommendations for higher operational safety	V 2.0.0	pdf 1.5 MB	Download
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Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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Runtime Software

Firmware

Firmware: 750-890 Controller Modbus TCP; 4th generation; 2 x ETHERNET, SD Card Slot; light gray	05 Feb 11, 2020	zip 5.7 MB	Download
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Installation Notes

Product family

Controller 750
[Show all products from the family](#)

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