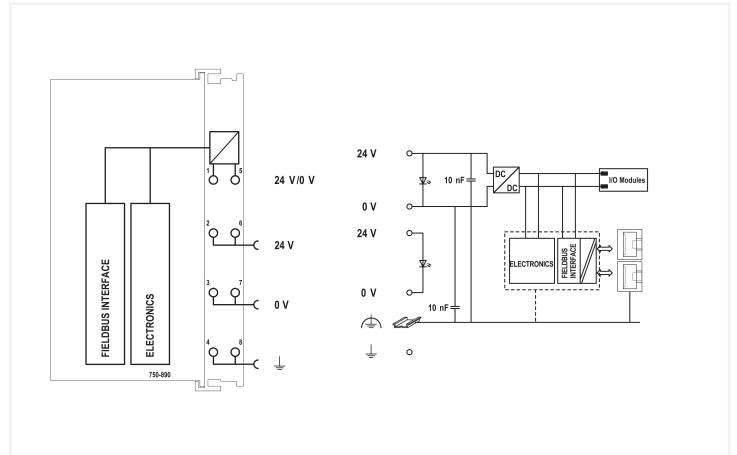


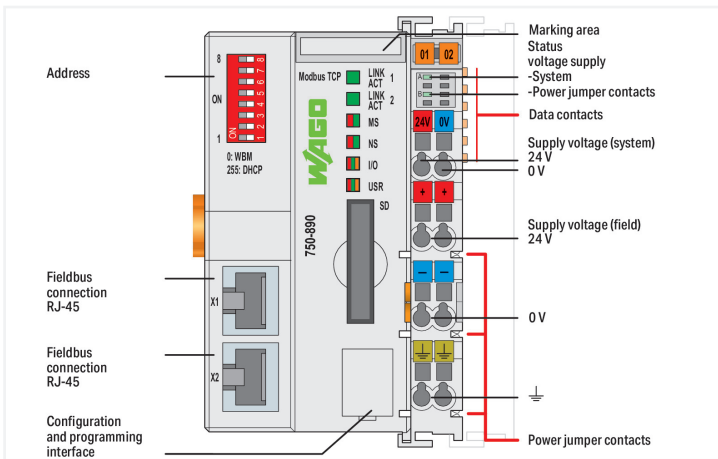
# Data Sheet | Item Number: 750-890/025-002

Controller Modbus TCP; 4th generation; 2 x ETHERNET, SD Card Slot; Telecontrol technology; Ext. Temperature; ECO

<https://www.wago.com/750-890/025-002>



Similar to illustration



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

The controller supports all digital and analog input/output modules, as well 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 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 Webservice 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 card can be accessed via FTP and used as an additional drive.

Technical data	
Communications	Modbus (TCP, UDP) Telecontrol protocols
ETHERNET protocols	HTTP(S) BootP DHCP DNS SNTP FTP(S) SNMP
Telecontrol protocols	IEC 60870-5-101/-103/-104 IEC 61400-25 IEC 61850-7 DNP3
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
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
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.)	4
Number of modules without a bus extension (max.)	4
Input and output process image (fieldbus) max.	1020 words/1020 words
Powerfail RTC buffer	6 days (min.)
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
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

Connection technology: communication/fieldbus	Modbus (TCP, UDP): 2 x RJ-45; Telecontrol protocol IEC 60870-5-101/-103: 1 x Serial interface via I/O module; Telecontrol protocol IEC 60870-5-104: 1 x RJ-45; Telecontrol protocol IEC 61850: 1 x RJ-45; Telecontrol protocol DNP3: 1 x RJ-45
Connection technology: system supply	2 x CAGE CLAMP®
Connection technology: field supply	6 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	System/field supply
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 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	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

Mounting type	DIN-35 rail
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### Material data

Housing material	Polycarbonate; polyamide 6.6
Fire load	1.681 MJ
Weight	152.4 g
Conformity marking	CE

### Environmental requirements

Ambient temperature (operation)	-20 ... +60 °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 %
Relative humidity (with condensation)	Short-term condensation per Class 3K6/IEC EN 60721-3-3 and E-DIN 40046-721-3, accounting for a temperature range of -20 to +60 °C (except for wind-driven precipitation, water and ice formation)
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 <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

PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143918893
Customs tariff number	85371091990

### Product Classification

UNSPSC	32151705
ETIM 9.0	EC000236
ETIM 10.0	EC000236
ECCN	NO US CLASSIFICATION

### Environmental Product Compliance

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)	4a8973b7-7157-447a-ac98-4aa31171c9d6
SCIP notification number (Belgium)	b1571635-42af-48d8-a18a-ae3652c1e749
SCIP notification number (Bulgaria)	0cd07d66-7a42-40a3-942c-1a1c96234868
SCIP notification number (Czech Republic)	18b4bef1-f114-47bc-a7f5-8b7d3dac5786
SCIP notification number (Denmark)	01de0f0e-7c5f-4b37-a54a-bf36a62084e9
SCIP notification number (Finland)	f48dfaa7-2b89-4599-bb93-573ccf080fe7
SCIP notification number (France)	842d1053-3516-49e9-a62b-265c4a9e408e
SCIP notification number (Germany)	16e4b86c-40bb-4425-bb46-0fd4d2c506cc
SCIP notification number (Hungary)	03ab98d9-722d-4936-98d2-321ec8e1dc52
SCIP notification number (Italy)	16b23629-934f-4361-9395-a7dd87d039c9
SCIP notification number (Netherlands)	782ed926-83e8-4515-88bf-4a8bc530f6c8
SCIP notification number (Poland)	046c2d9f-de54-4992-a6fd-13e119a926c7
SCIP notification number (Romania)	b3556377-f799-4fd8-bc80-002e053db2f9
SCIP notification number (Sweden)	42d1d619-1151-4a9f-b11f-0e5079bb4e21

### Approvals / Certificates

#### General approvals



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
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 See- schifffahrt und Hydrogra- phie	-	1104
DNV DNV Germany GmbH	DNV-CG-0339, Aug.2021	TAA00001J4
PRS Polski Rejestr Statków	-	TE/1102/880590/23

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)
INMETRO TUV Rheinland do Brasil Ltda.	IEC 60079-0	TUV 12.1297 X
UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA GO22UKEX003X_ec
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 750-890/025-002 <a href="#">↓</a>

Documentation

Manual			
Product Manual Controller Modbus TCP; G4; 2ETH; SD	V 1.3.1 25.05.2022	pdf 7409.85 KB	<a href="#">↓</a>
System Manual Series 750/753			<a href="#">↓</a>

System Description			
Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 770.48 KB	<a href="#">↓</a>
750 Controller, General Product Information		pdf 507.50 KB	<a href="#">↓</a>

Bid Text			
750-890/025-002		xml 9.75 KB	<a href="#">↓</a>
750-890/025-002		docx 16.89 KB	<a href="#">↓</a>

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 159.76 KB	<a href="#">↓</a>

**CAD/CAE-Data**

**CAD data**

2D/3D Models  
750-890/025-002

**CAE data**

EPLAN Data Portal  
750-890/025-002

ZUKEN Portal  
750-890/025-002

**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**

0750-089x, Controller	V 11 24.08.2023	zip 4696.31 KB	
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**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

**Item No.: 758-879/000-001**  
Memory Card SD; SLC-NAND; 2 GByte;  
Temperature from -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.: 750-923/000-001**  
 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.: 210-197**  
 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

1.2.4 Marking

1.2.4.1 Group marker carrier



**Item No.: 750-106**  
 Group marker carrier

1.2.4.2 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

1.2.4.2 Marker



**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

1.2.4.3 Marker carrier



**Item No.: 750-103**

Group marker carrier

1.2.5 Shield termination

1.2.5.1 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

1.2.7 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); 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

### 1.2.7.1 System enclosure



**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