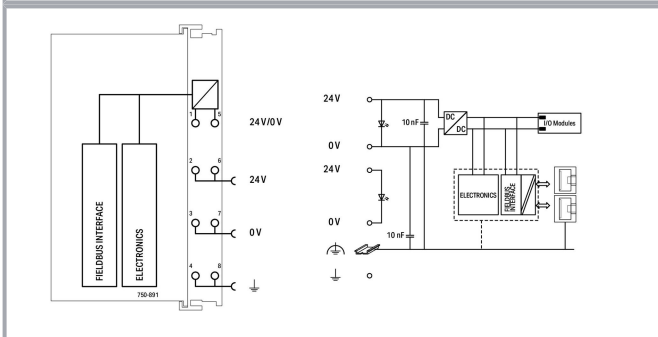
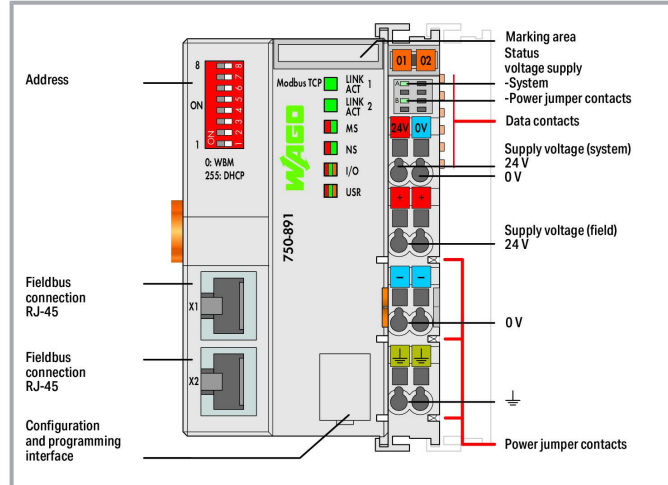


Data sheet | Item number: 750-891

Controller Modbus TCP; 4th generation; 2 x ETHERNET

[www.wago.com/750-891](http://www.wago.com/750-891)



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

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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 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.

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 and features a capacitor-backed RTC.

## Data

### Technical data

Communication	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 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

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Program memory	4 MB
Data memory	4 MB
Non-volatile software memory	32 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; 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 %
Power consumption (5 V system supply)	390 mA
Total current (system supply)	1,700 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
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 <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 inch
Connection technology: device configuration	1 x Male connector; 4-pole

### Physical data

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

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## Mechanical data

Weight	149.9 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)	-25 ... 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
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	2.23 MJ
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 Stück
Packaging type	box
Country of origin	DE
GTIN	4055143821513
Customs tariff number	85371091990

## Approvals / Certificates

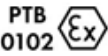




### Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
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Subject to changes. Please also observe the further product documentation!

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	<b>ATEX</b> TUEV Nord Cert GmbH	EN 60079	TUEV_14_ATEX_148929_X
 Ex nA IIC T4 Gc	<b>CCCEX</b> CQST/CNEx	CNCA-C23-01	2020312310000213
	<b>EAC</b> Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B. 00163/19
	<b>IECEX</b> TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0035_X
	<b>UL</b> Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Country specific Approvals

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

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG1821926
	<b>BV</b> Bureau Veritas S.A.	Rules for class. of Steel Ships	66711/A0
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAA0000194
	<b>LR</b>	-	02/20026 (E6)

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Lloyds Register



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Polski Rejestr Statków

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TE/2236  
/880590/19




**RINA**  
RINA Germany GmbH

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ELE066419XG

**UL-Approvals**



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

**Optional accessories****General accessories**

## Bluetooth




	<b>Item no.: 750-921</b> Bluetooth® Adapter	<a href="http://www.wago.com/750-921">www.wago.com/750-921</a>
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## Communication cable

	<b>Item no.: 750-923</b> Configuration cable; USB connector; Length: 2.5 m	<a href="http://www.wago.com/750-923">www.wago.com/750-923</a>
	<b>Item no.: 750-923/000-001</b> 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>

**Shield termination**





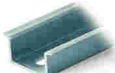



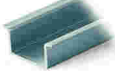

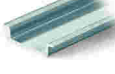




## Shield clamping saddle

	<b>Item no.: 790-116</b> 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> 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.: 790-108</b> Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	<a href="http://www.wago.com/790-108">www.wago.com/790-108</a>

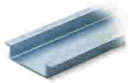
Subject to changes. Please also observe the further product documentation!

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	<b>Item no.: 790-140</b> Shield clamping saddle; diameter of compatible conductor	<a href="http://www.wago.com/790-140">www.wago.com/790-140</a>
	<b>Item no.: 790-216</b> 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> Shield clamping saddle; 30 mm wide; 6 ... 20 mm	<a href="http://www.wago.com/790-220">www.wago.com/790-220</a>
	<b>Item no.: 790-208</b> 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>Carrier rail</b>		
Mounting accessories		
	<b>Item no.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-197">www.wago.com/210-197</a>
	<b>Item no.: 210-198</b> 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> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-504">www.wago.com/210-504</a>
	<b>Item no.: 210-505</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-505">www.wago.com/210-505</a>
	<b>Item no.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-506">www.wago.com/210-506</a>
	<b>Item no.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-508">www.wago.com/210-508</a>
	<b>Item no.: 210-113</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-113">www.wago.com/210-113</a>
	<b>Item no.: 210-118</b> Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<a href="http://www.wago.com/210-118">www.wago.com/210-118</a>
	<b>Item no.: 210-112</b> 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	<a href="http://www.wago.com/210-112">www.wago.com/210-112</a>
	<b>Item no.: 210-114</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<a href="http://www.wago.com/210-114">www.wago.com/210-114</a>
	<b>Item no.: 210-115</b> 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	<a href="http://www.wago.com/210-115">www.wago.com/210-115</a>

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



**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](http://www.wago.com/210-196)

**Marking accessories**

Marker carrier

**Item no.: 750-103**

Group marker carrier

[www.wago.com/750-103](http://www.wago.com/750-103)

Marker



**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](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; gray

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



**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.: 248-501/000-012**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

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



**Item no.: 248-501**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

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



**Item no.: 248-501/000-017**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

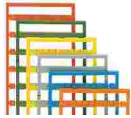
[www.wago.com/248-501/000-017](http://www.wago.com/248-501/000-017)



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



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



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



**Item no.: 750-100**

Marker card; as a DIN A4 sheet; plain

[www.wago.com/750-100](http://www.wago.com/750-100)

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Group marker carrier



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

[www.wago.com/750-106](http://www.wago.com/750-106)

Software

Basic version



**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)

Cables and pluggable connectors

Connector plug



**Item no.: 750-975**  
ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly

[www.wago.com/750-975](http://www.wago.com/750-975)



**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](http://www.wago.com/750-978/000-012)



**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.: 750-978/000-021**  
Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24; Strain relief

[www.wago.com/750-978/000-021](http://www.wago.com/750-978/000-021)



**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)



**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](http://www.wago.com/750-978/000-022)



**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.: 750-979/000-021**  
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)

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

	<p><b>Item no.: 750-977/000-011</b> Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22</p>	<p><a href="http://www.wago.com/750-977/000-011">www.wago.com/750-977/000-011</a></p>
	<p><b>Item no.: 750-978/000-011</b> Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief</p>	<p><a href="http://www.wago.com/750-978/000-011">www.wago.com/750-978/000-011</a></p>
	<p><b>Item no.: 750-977/000-022</b> Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24</p>	<p><a href="http://www.wago.com/750-977/000-022">www.wago.com/750-977/000-022</a></p>
	<p><b>Item no.: 750-977/000-012</b> Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22</p>	<p><a href="http://www.wago.com/750-977/000-012">www.wago.com/750-977/000-012</a></p>
	<p><b>Item no.: 750-977/000-021</b> Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24</p>	<p><a href="http://www.wago.com/750-977/000-021">www.wago.com/750-977/000-021</a></p>

## Downloads Documentation

Manual			
Controller Modbus TCP; G4; 2ETH Generation 4; 2 x ETHERNET	V 1.0.3 2021118	pdf 8.2 MB	Download
System Manual WAGO I/O System 750 / 753 Decentralized Automation Technology	V 3.0.2 2021427	pdf 6.6 MB	Download
System Manual Series 750/753 Online HTML		URL	Download

Bid Text			
750-891 doc - Datei	20181119	doc 33.3 kB	Download
750-891 X81 - Datei	2019219	xml 8.2 kB	Download

System Description			
750 Controller, General Product Information		pdf 621.9 kB	Download

Use in Hazardous Environments  
Subject to changes. Please also observe the further product documentation!



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Term definition, marking and installation regulations	V 1.0.0	pdf 1.0 MB	Download
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Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 780.2 kB	Download
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#### Additional Information

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

##### Firmware

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Controller 4. Generation	V 08 2021810	zip 4.5 kB	Download
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#### CAD/CAE-Data

##### CAE data

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EPLAN Data Portal 750-891		URL	Download
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ZUKEN Portal 750-891		URL	Download
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##### CAD data

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2D/3D Models 750-891		URL	Download
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#### Environmental Product Compliance

##### Compliance Search

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Environmental Product Compliance 750-891 Controller Modbus TCP; 4th generation; 2 x ETHERNET		URL	Download
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#### Installation Notes

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

Data sheet | Item number: 750-891

[www.wago.com/750-891](http://www.wago.com/750-891)



## Product family

Controller 750

[Show all products from the family](#)

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

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