Data sheet | Item number: 750-833

Controller PROFIBUS Slave

www.wago.com/750-833

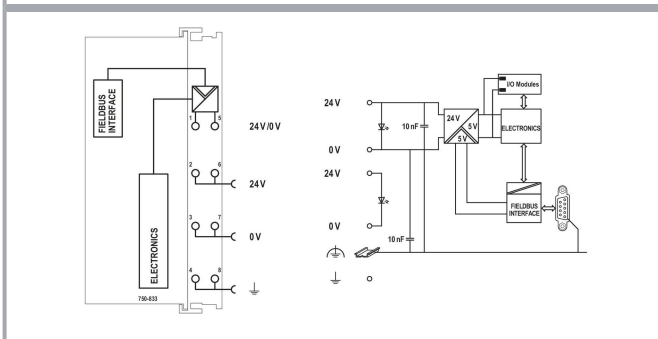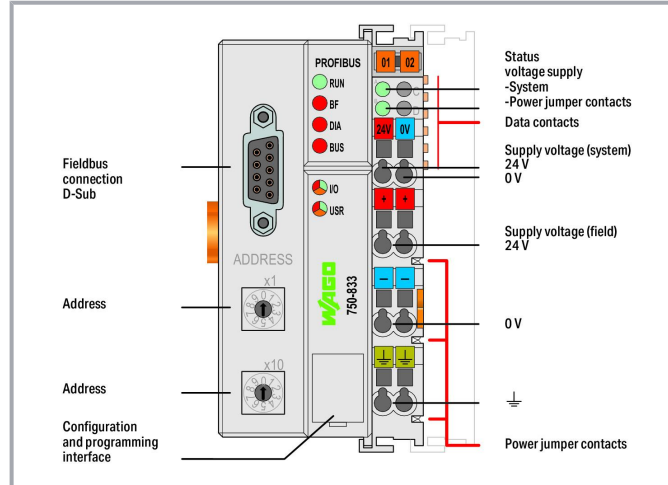Color:

Item description

The PROFIBUS DP/V1 Controller combines control functionality, I/O interface and fieldbus in one device.

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

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Application programming is IEC 61131-3 compliant.

The programmer can access all fieldbus and I/O data.

Features and applications:

- Decentralized control to optimize support for a PLC or PC
- Devide complex applications into individually testable units
- Programmable fault response in the event of fieldbus failure
- Signal pre-processing to reduce fieldbus transmissions
- Directly control peripheral equipment for faster system response times
- Stand-alone, compact controller

Data
Notes

Note

Note: Configuration files required (GSD)!

The GSD files can be downloaded for free at www.wago.com.

Technical data

Communication	PROFIBUS
Visualization	none
CPU	16 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	GSD device description file WAGO-I/O-*CHECK*
Cycle time	< 3 ms for 1000 bit instructions/ 256 digital I/O
Baud rate	9.6 kBd … 12 MBd
Bus segment length (max.)	1200 m
Transmission medium (communication/fieldbus)	Cu cable per EN 50170
Transmission time	typ. 1 ms (10 controllers; each 32 digital I/O and 12 Mbaud) max. 3.3 ms
Number of fieldbus nodes on master (max.)	96

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Number of I/O points	6,000
Program memory	128 KB
Data memory	64 KB
Non-volatile software memory	8 Kbytes
Memory for fieldbus input variables (max.)	244 Byte
Memory for fieldbus output variables (max.)	244 Byte
Number of modules per node (max.)	63
Input and output process image (fieldbus) max.	244 bytes/244 bytes
Indicators	LED (RUN) green: Fieldbus initialization, LED (BF, DIA, BUS) red: communication error, external diagnostics, configuration; 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)	87 %
Current consumption (5 V system supply)	200 mA
Total current (system supply)	1,800 mA
Supply voltage (actuator)	N/A N/A
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
Standard	EN 50170

Connection data

Connection technology: communication/fieldbus	PROFIBUS: 1 x D-Sub 9 socket
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 mm² / 28 … 14 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 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	50.5 mm / 1.988 inches

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

Height	100 mm / 3.937 inches
Depth	71.1 mm / 2.799 inches
Depth from upper-edge of DIN-rail	63.9 mm / 2.516 inches

Mechanical Data

Weight	186.9 g
Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	0 … +55 °C
Ambient temperature (storage)	-25 … +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.)
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 61000-6-4, marine applications
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Fire load	3.002 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

Product Group	15 (I/O System)
eCl@ss 10.0	27-24-26-07
eCl@ss 9.0	27-24-26-07
ETIM 8.0	EC000236
ETIM 7.0	EC000236

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

PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454527075
Customs tariff number	85371091990

Environmental Product Compliance

CAS-No.	11120-22-2
	12060-00-3
	1303-86-2
	1317-36-8
	541-02-6
	7439-92-1
	79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
	Decamethylcyclopentasiloxane [D5]
	Diboron trioxide
	Lead
	Lead monoxide
	Lead silicate
	Lead titanium oxide (PbTiO3)
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c)
	7(a)
	7(c)-I
	7(c)-II
SCIP notification number (Bulgaria)	9a69ea66-5706-4a91-a6f4-1740c22f2b9c
SCIP notification number (Czech Republic)	402117a9-b5d3-43c8-80e1-893dad99944a

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
EAC	**EAC** Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02.B.00087/19
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-PFC750
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1

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

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
CE	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UKCA	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
ABS	ABS American Bureau of Shipping	-	22-2219060
BSH	BSH Bundesamt fuer Seeschifffahrt und Hydrographie	-	1104
BV	BV Bureau Veritas S.A.	-	13453/E0 BV
DNV	DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
KR	KR Korean Register of Shipping	-	KR HMB05880-AC001
LR	LR Lloyds Register EMEA	-	LR22180952TA
	PRS	-	TE/2236/880590

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

	Polski Rejestr Statków		/19
	RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
PTB 0102	**ATEX** TUEV Nord Cert GmbH	EN 60079-0	TUEV_14_ATEX_148929_X (II 3 G Ex ec IIC T4 Gc)
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B.00163 /19 (2Ex nA IIC T4 Gc X)
	IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEx TUN 14.0035 X (Ex ec IIC T4 Gc)
	INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	BR-Ex_TÜV 12.1297 X
	UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WAGO22UKEX003X_ec
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Optional accessories

Carrier rail

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Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

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Mounting accessories

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	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; silver-colored	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; silver-colored	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; silver-colored	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; silver-colored	www.wago.com/210-508	
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	www.wago.com/210-113	
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	www.wago.com/210-118	
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	www.wago.com/210-112	
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	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; silver-colored	www.wago.com/210-115	
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	

Shield termination

Shield clamping saddles

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.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	www.wago.com/790-108	

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	Item no.: 790-140	
	Shield clamping saddle; diameter of compatible conductor	www.wago.com/790-140
	Item no.: 790-216	
	Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	www.wago.com/790-216
	Item no.: 790-220	
	Shield clamping saddle; 30 mm wide; 6 ... 20 mm	www.wago.com/790-220
	Item no.: 790-208	
	Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	www.wago.com/790-208

Cables and pluggable connectors

Connector plug

	Item no.: 750-960	
	Fieldbus Connector PROFIBUS; with D-sub male connector; 9-pole	www.wago.com/750-960

Communication

Communication cable

	Item no.: 750-923	
	Configuration cable; USB connector; Length: 2.5 m	www.wago.com/750-923
	Item no.: 750-923/000-001	www.wago.com/750-923
	Configuration cable; USB connector; Length: 5 m	/000-001

Software

Basic version

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

Marking accessories
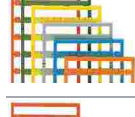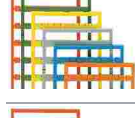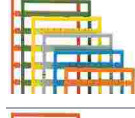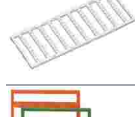
Marker carrier

	Item no.: 750-103	
	Group marker carrier	www.wago.com/750-103

Marker

	Item no.: 2009-145/000-006	www.wago.com/2009-145
	Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue	/000-006
	Item no.: 2009-145	
	Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-145

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	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	www.wago.com/2009-145/000-002
	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	www.wago.com/2009-145/000-007
	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	www.wago.com/2009-145/000-005
	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	www.wago.com/2009-145/000-012
	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	www.wago.com/2009-145/000-023
	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	www.wago.com/2009-145/000-024
	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.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/248-501/000-002
	Item no.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange	www.wago.com/248-501/000-012
	Item no.: 248-501 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	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

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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.: 248-501/000-024
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

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

Item no.: 750-100
Marker card; as a DIN A4 sheet; plain

www.wago.com/750-100

Group marker carrier

Item no.: 750-106
Group marker carrier

www.wago.com/750-106

System housing

System enclosure

Item no.: 850-814/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate

www.wago.com/850-814
/002-000

Item no.: 850-815/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate

www.wago.com/850-815
/002-000

Item no.: 850-816/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate

www.wago.com/850-816
/002-000

Item no.: 850-817/002-000
IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate

www.wago.com/850-817
/002-000

Item no.: 850-825
IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20

www.wago.com/850-825

Item no.: 850-826
IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

www.wago.com/850-826

Item no.: 850-827
IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-827

Item no.: 850-827/002-000

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Email: info.de@wago.com | Web: www.wago.com

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	IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	www.wago.com/850-827 /002-000
	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	www.wago.com/850-826 /002-000
	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	www.wago.com/850-828 /002-000
	Item no.: 850-828 IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip	www.wago.com/850-828
	Item no.: 850-834 IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20	www.wago.com/850-834
	Item no.: 850-835 IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	www.wago.com/850-835
	Item no.: 850-836 IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	www.wago.com/850-836

Downloads
Documentation

Manual

System Manual WAGO I/O System 750/753 Decentralized Automation Technology	V 3.3.0 2023 May 4	pdf 8.8 MB	Download
Product Manual WAGOupload For commissioning, management and configuration of ETHERNET 750 Series fieldbus controllers	V 9.3.0 2022 Aug 4	pdf 4.2 MB	Download
Product Manual PROFIBUS DP/V1 Programmable Fieldbus Controller EN 50170, 12 MBaud, digital and analog signals	V 1.0.1	pdf 2.7 MB	Download
System Manual Series 750/753 Online HTML		URL	Download

Bid Text

750-833 X81 - Datei	2019 Feb 19	xml 6.4 kB	Download

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750-833 doc - Datei	2015 Jul 13	doc 33.3 kB	Download

Instruction Leaflet

CCC Ex (Additional information) WAGO-I/O-SYSTEM *750-****/*	2023 Apr 26	pdf 163.6 kB	Download

System Description

750 Controller, General Product Information		pdf 519.7 kB	Download
Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 789.0 kB	Download

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download

Application Notes

Application Note CoDeSys 2.3

HART Tool Routing via PROFIBUS with 750-833 and 750-333 (a116140) This application note describes how to set up asset management systems, which facilitate simple, efficient configuration of HART field devices. Using the Cerabar PMC51 (Endress+Hauser) as an example, connecting any HART sensor to a WAGO PROFIBUS controller and a WAGO PROFIBUS Coupler is explained. The cyclic PROFIBUS Master (750-8208) realizes the data exchange. As an acyclic master, a TH LINK PROFIBUS provides access for the plant asset management applications WAGOframe, PACTware and FieldCare.	1.0.0 2019 Mar 22	pdf 5.3 MB	Download
Profibus PFC 750-833 Configuring & Networking (a202201) This document is to be used with the example node from the document PFC 101 Get Started Quick. The following describes Configuring and networking the example node using the software and equipment listed below.	1.0.0 2002 Nov 28	zip 210.8 kB	Download

Libraries

Library

Connecting HART-Modules 750-482 and 750-484	3.1.0	zip	Download

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

The library "WagoLibHART_03.lib" offers a set of function blocks to execute HART-commands (Revision 5) in a PLC program. The principal item of this library is program HART_INFO, it identifies connected HART modules like 750-482 and coordinates the Kbus access. In addition you find with HART_FDT program that act as counterpart to WAGO-ModbusTCP-HART-DTM, who enable configuration of HART devices with every FDT-Frameapplication like "WAGOframe".

2018 Jan 19 — 331.0 kB

Control DC motor with 750-636 The "MC1_DC_Control.lib" library provides a function block which allows to configure the module 750-636 as well as to operate a DC motor.	1.0.0 2017 Nov 8	zip 150.5 kB	Download
Condition monitoring with 750-645 The WagoLib_VIO.lib library provides a function block which allows to configure the module 750-645.	1.0.1 2011 Jul 27	zip 112.8 kB	Download

Engineering-Software

Configuration and Commissioning Software

WAGO-IO-PRO Demo-Version (759-912) / Serie 750, 758 und 762 Für ein Firmwareupdate können Sie sich jederzeit an den Support wenden.	V 2.3.9.68 2022 Feb 17	zip 125.5 MB	Download

Runtime Software

Firmware

0750-0833, Controller PROFIBUS-Slave WAGO_FW0750-0833_V046901_IX20_S	V 20 2021 Oct 19	zip 726.3 kB	Download

CAD/CAE-Data

CAD data

2D/3D Models 750-833	URL	Download

CAE data

EPLAN Data Portal 750-833	URL	Download
WSCAD Universe 750-833	URL	Download
ZUKEN Portal 750-833	URL	Download

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Device Files

Device Description File

750-910; GSD files for PROFIBUS / 750, 752, 755, 758 and 767 Series	6.8 2023 Jan 15	zip 5.5 MB	Download

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0 2014 Sep 10	zip 4.8 MB	Download

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-833 Controller PROFIBUS Slave	URL	Download

Installation Notes

Product family

Controller 750
Show all products from the family

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