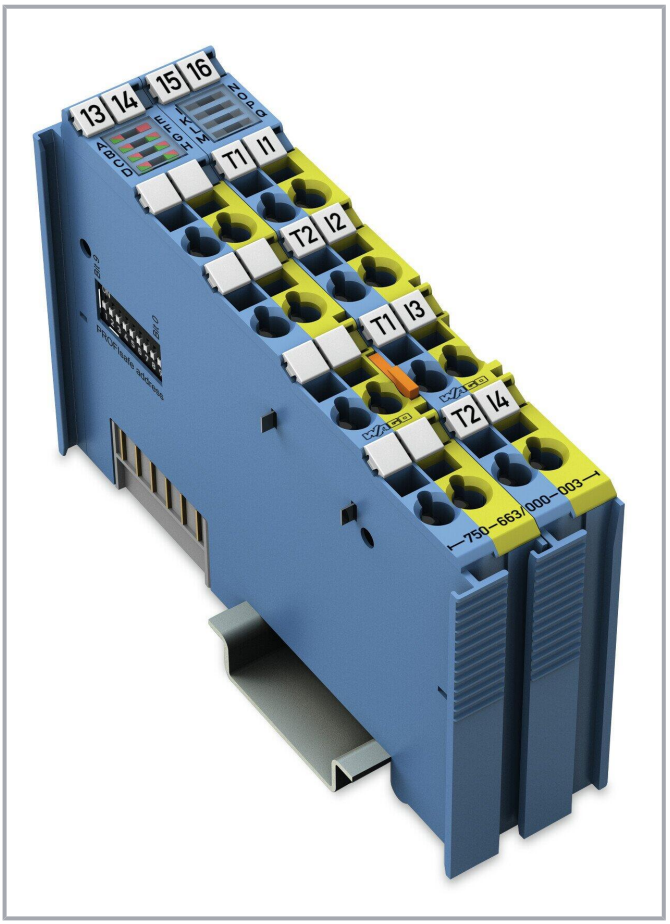

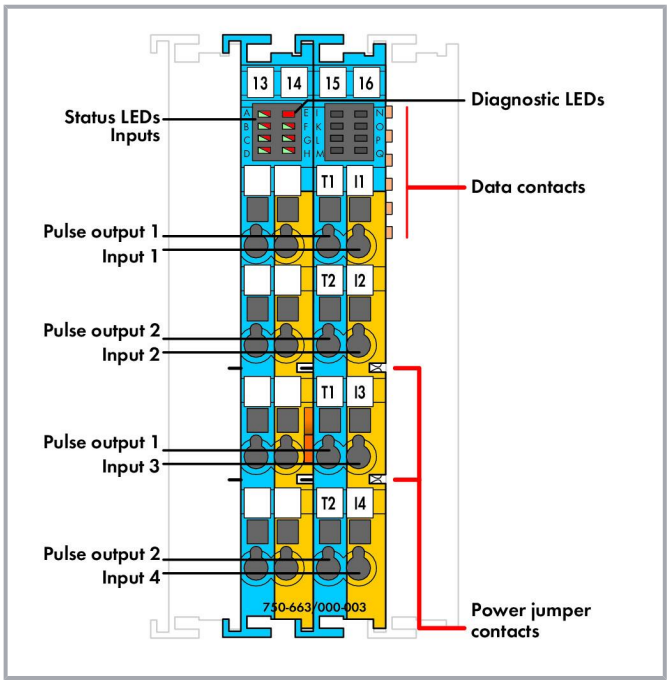

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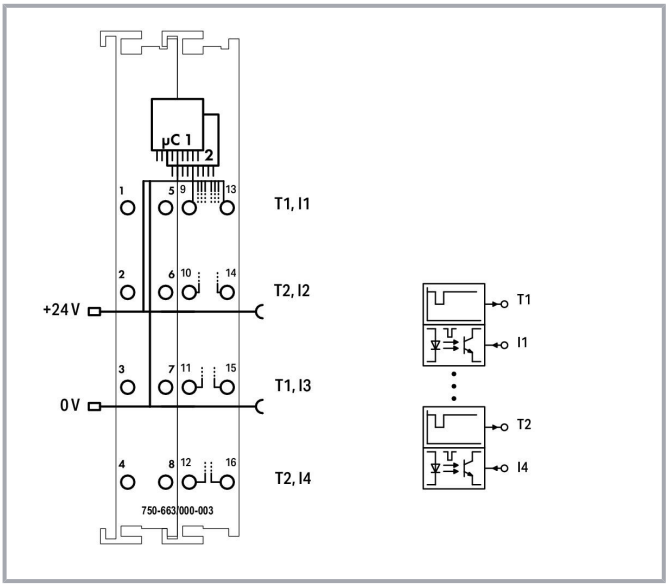

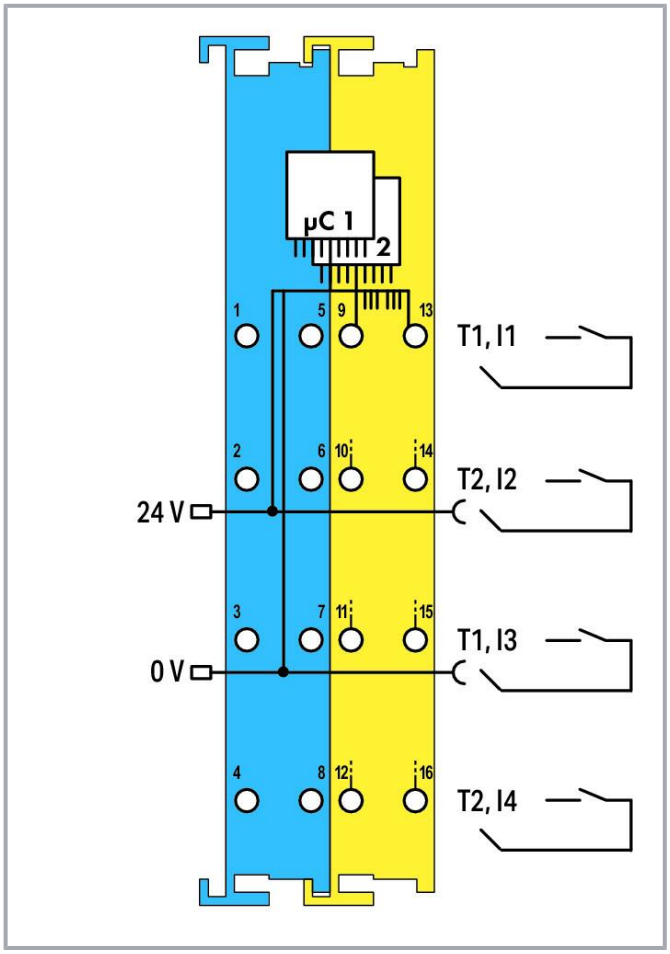

Item description

The intrinsically safe PROFIsafe Input Module (750-663/000-003) for functional safety provides risk reductions up to SIL 3, Cat. 4, PL e, and connects to potential-free, contact-based emergency stop switches, safety door switches, mode selectors, as well as safety sensors, that are located hazardous environments 0, 1 and 2. The fail-safe input module must be located in Zone 2.

The input module features four clock-sensitive inputs (I1 … I4) that are fed by two differently clocked outputs (T1 … T2). Inputs are continually monitored for cross circuits and power supply from separate sources.

Additional safety-relevant functions (e.g., operating modes, switching off test pulses, discrepancy or filter times) can be configured via WAGO-I/O-CHECK. This configuration tool supports both CC2 and CC3 tool calling interfaces (TCI). When exchanging the module, parameters are automatically downloaded by the controller via PROFIsafe-compatible iPar server – depending on settings. The module supports both PROFIsafe V1 and V2 (PROFIBUS, PROFINET) protocols.

Individual modules can be arranged in any combination within the fieldbus node's Ex segment.

Note 1:

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The PROFIsafe Input Module must only be operated using an Ex i 24 VDC power supply (e.g., 750-606, 750-625/000-001)! General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!

Note 2:

To protect the module against surge voltages (surge protection per IEC 61000-4-5), a filter module (750-626 or 750-624) or an external surge filter must be used upstream of the Ex i 24 VDC power supply.

Reference the product manual for further information!

Data

Technical data

Number of digital inputs	4
Total number of channels (module)	4
Signal type	Digital Voltage
Signal type (voltage)	24 VDC
Sensor connection	4 x (Fail-safe input with test pulse)
Input characteristic	clock sensitive
Input characteristic	Type 1 per IEC 61131
Input filter (digital)	0.5 ms 1 ms 2 ms 3 ms 5 ms 10 ms 20 ms 50 ms 100 ms 200 ms 0 ms
Input filter	0 … 200 ms (parameterizable in steps)
Input filter: parametrizable (channel by channel)	yes
Input current per channel for signal (1) typ.	3 mA
Output current per channel	0.05 A
Short-circuit current	≤ 25 mA
Signal frequency (max.)	50 Hz
Intrinsic safety Ex i	yes
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	145 mA
Supply voltage (field)	

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	24 VDC; (Ex i power supply: U_O = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	20 mA
Isolation	300 VAC system/field
Indicators	LED (A-D) green/red: Status/Error I1 ... I4; LED (E) red: Group error; LED (F-H) green/red: Diagnostics
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Current carrying capacity (power jumper contacts)	1 A
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I

Functional safety

Achievable risk reduction	SIL 3 per IEC 61508; SIL 3 per IEC 61511; SIL 3 per IEC 62061; Cat. 4, PL e per EN ISO 13849
Safety standards	IEC 61508; IEC 62061; EN ISO 13849; IEC 61511

Explosion protection

Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	U_o = 27.3 V; I_o = 23 mA; P_o = 157 mW; linear characteristic curve
Reactances Ex ia IIC	L_o = 61 mH; C_o = 64 nF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 552 nF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 2.28 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 2.95 µF
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Connection data

Connection technology: inputs/outputs	8 x CAGE CLAMP®
Connection type 1	Inputs/Outputs
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 requirement (permissible cable length)	100 m

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Physical data

Width	24 mm / 0.945 inches
Height	100 mm / 3.937 inches
Depth	67.8 mm / 2.669 inches
Depth from upper-edge of DIN-rail	60.6 mm / 2.386 inches

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Housing material	Polycarbonate; polyamide 6.6
Fire load	2.021 MJ
Weight	92 g
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	0 … 2000 m / 0 … 6562 ft
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
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_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	27-24-26-04

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eCl@ss 9.0	27-24-26-04
ETIM 8.0	EC001599
ETIM 7.0	EC001599
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4050821531432
Customs tariff number	85389099990

Environmental Product Compliance

CAS-No.	7439-92-1
REACH Candidate List Substance	Lead
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Bulgaria)	82e07570-a169-4fe7-a240-63fd83aae491
SCIP notification number (Czech Republic)	8fadb04a-9632-45dc-af1f-89fba248000b

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC CNEX	CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	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-DIM750
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1

Declarations of conformity and manufacturer's declarations

Certificate

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

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	22-2219060
	DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
	LR Lloyds Register EMEA	-	LR22180952TA
	PRS Polski Rejestr Statków	-	TE/2236/880590 /19
	RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	AEx UL International Germany GmbH	UL 60079	E480271
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV_12_ATEX_106032X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	CCC CNEX	CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)

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	EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B.00163/19 ([ExiaMa]I X,2Ex e[iaGa]IIC T4Gc X,[ExiaDa] IIIC X)
	INMETRO TÜV Rheinland do Brasil Ltda.	-	TÜV_14.1911_X
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079	IECEx TUN 12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Approvals for functional safety

Logo	Approval	Additional Approval Text	Certificate name
	Prod. Safety, Funct. Safety TUEV Rheinland Industrie Service GmbH	-	No. 968_FSP 2387_00_22

Optional accessories

Carrier rail

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

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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

Marking accessories

Marker carrier

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

Marker

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
www.wago.com/2009-145/000-006

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

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

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	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
	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

Group marker carrier

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Item no.: 750-107
Group marker carrier

www.wago.com/750-107

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

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

Supply module

Supply module

Item no.: 750-625/000-001
Power Supply; 24 VDC; Intrinsically safe

www.wago.com/750-625/000-001

Item no.: 750-606
Power Supply; 24 VDC; Diagnostics; Intrinsically safe

www.wago.com/750-606

Downloads

Documentation

Data sheet

750-663/000-003, 4F Ex i DI 24V PROFIsafe V2 iPar, data sheet		pdf 470.3 kB	Download

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 4-channel, Ex i, 24 V, PROFIsafe V2 iPar

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with inputs for functional safety	V 1.7.0	pdf 5.3 MB	Download
System Manual Series 750/753 Online HTML		URL	Download

Bid Text

750-663/000-003 X81 - Datei	2019 Feb 19	xml 8.0 kB	Download
750-663/000-003 doc - Datei	2017 Oct 9	doc 33.3 kB	Download

Instruction Leaflet

CCC Ex (Additional information) WAGO-I/O-SYSTEM 750-*** Ex i	2023 Apr 26	pdf 147.4 kB	Download
Gebrauchs- und Montageanleitung Sicherheitsklemmen PROFIsafe, Ex i		pdf 1.6 MB	Download

System Description

Ex i Overview		pdf 452.7 kB	Download
Functional Safety – General Product Information		pdf 223.0 kB	Download
Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 789.0 kB	Download
750/753 Series I/O-System – General Product Information		pdf 1.7 MB	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 SIEMENS

Using iPar-Server option with WAGO PROFIsafe modules (a114802)	V 14.1	zip	Download

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Use of WAGO PROFIsafe modules generation 3 and generation 4 in combination under Siemens safety controllers with technologies iPar-Server and TCI. New version recommended for use with PROFIsafe modules generation 4. Supported surfaces TIA V15.1, V16. V17 and V18 in combination with CPU1xxF. Step 7 Classic version available at WAGO IO-Support.	2023 Feb 7	99.8 MB

Libraries

SISTEMA library

SISTEMA-Bibliothek	2.08 2022 Jun 2	zip 204.1 kB	Download
VDMA-Bibliothek	0.0.11 2022 May 11	zip 411.7 kB	Download

Engineering-Software

Configuration and Commissioning Software

Safety Editor (SEDI) / 750-66x Loadable safety editor module for parameterisable failsafe modules for integration in IO-Check from version 3.25.3 or higher.	3.5.0.0 2022 Dec 13	zip 19.5 MB	Download

CAD/CAE-Data

CAD data

2D/3D Models 750-663/000-003	URL	Download

CAE data

EPLAN Data Portal 750-663/000-003	URL	Download
WSCAD Universe 750-663/000-003	URL	Download
ZUKEN Portal 750-663/000-003	URL	Download
EPLAN Data Portal 750-663/000-003	URL	Download

WSCAD Universe 750-663/000-003

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Installation Notes

Product family

WAGO I/O System 750/753
Show all products from the family

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