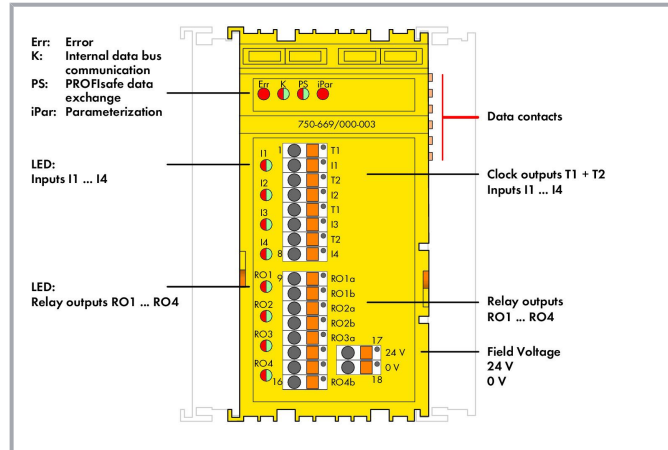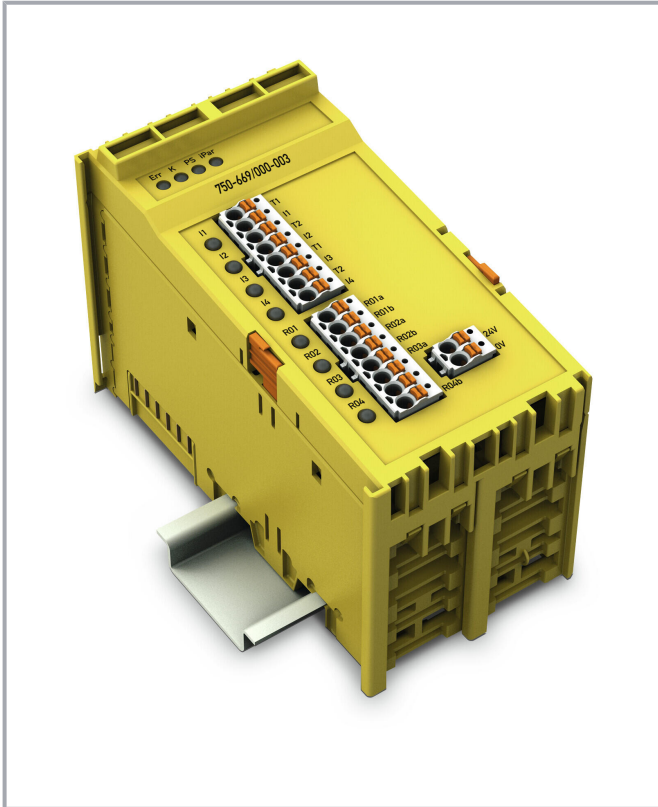# Data sheet | Item number: 750-669/000-003

Fail-safe 4/4 channel digital input/relay output; 48 VAC/ 60 VDC; 6 A; PROFIsafe V2.0 iPar
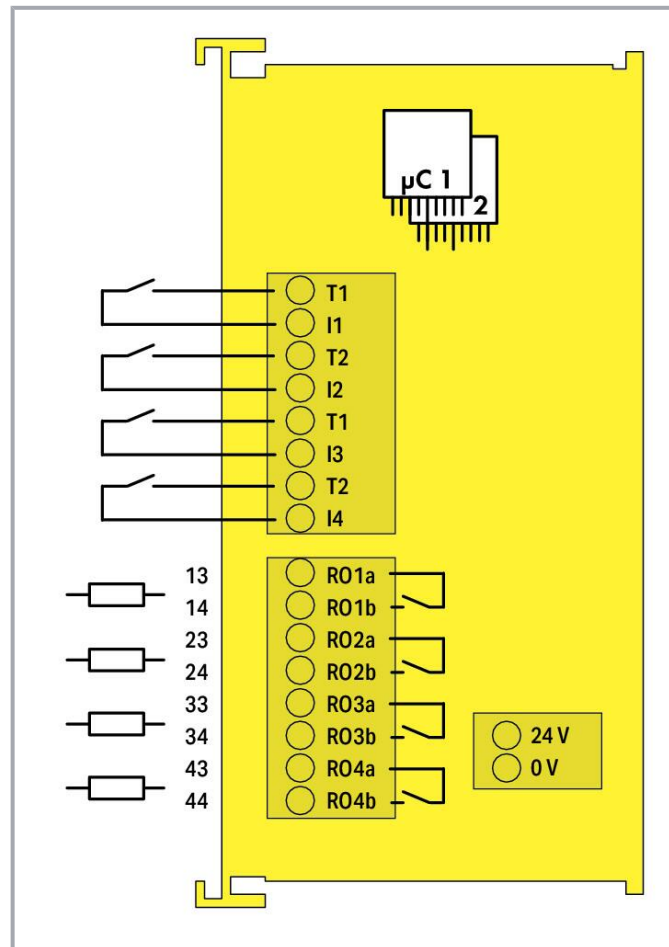
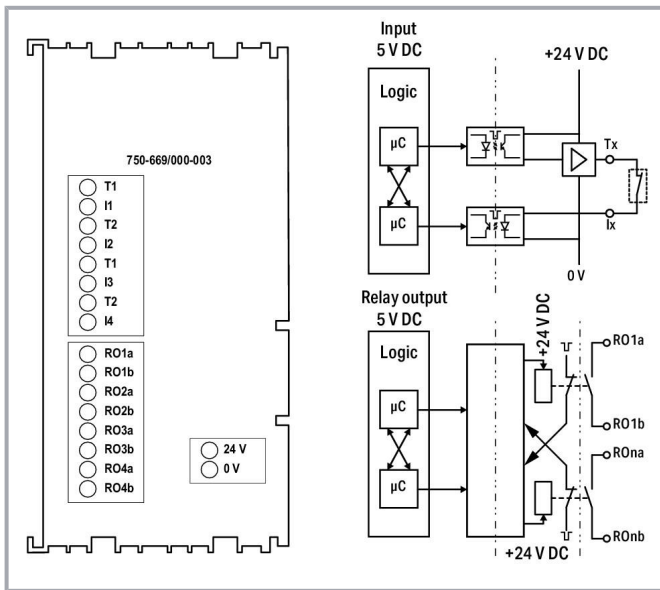www.wago.com/750-669/000-003

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Item description

This relay module has four safe inputs and four safe relay outputs and is particularly suitable for applications that require, e.g., individually electrically isolated outputs, that must switch high loads or that are controlled via different types of voltage (e.g., DC or AC).

The electrically isolated outputs can be freely combined with each other, so that Cat. 2 or Cat. 4 architectures up to SIL3 or PLe are possible.

For this, the outputs can be configured as P (positive), N (negative), or PP and NN or PN switching. Depending on the requirements, four safe inputs can be used, e.g., as monitoring inputs for the contactor feedback contacts or freely for emergency stop switches or door contacts.

On the input side, the module monitors: short circuits, cross circuits and 24 V power supply from separate sources.

Both the monitoring and additional safety-relevant parameters (e.g., operating modes, switching off test pulses, discrepancy or filter times) can be configured via WAGO-I/O-CHECK.

The configuration tool can be conveniently integrated into engineering systems supporting both CC2 and CC3 tool calling interfaces (TCI). When exchanging modules, parameters are automatically downloaded into the control unit via PROFIsafe-compatible iPar server – depending on settings.

The PROFIsafe address can be set using the DIP switch on the side of the module, or via WAGO-I/O-CHECK.

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

The module supports both PROFIsafe V1 (PROFIBUS) and V2 (PROFIBUS, PROFINET) protocols. Individual input modules can be arranged in any combination when configuring the fieldbus node.

To protect the module against impulse voltages (over-voltage protection per IEC 61000-4-5), the 750-626 Filter Module or an external surge filter must be used for the 24 V supply voltage.

Reference the product manual for further information.

Data
Technical data

Number of digital inputs	4
Number of digital outputs	4
Total number of channels (module)	8
Signal type	Digital
Signal type (voltage)	48 VAC; 60 VDC
Sensor connection	4 x (Fail-safe input with test pulse)
Input characteristic	clock sensitive
Input characteristic	Type 1
Input current per channel for signal (1) typ.	2.2 mA
Output circuit design	Relay outputs
Output current per channel	6 A
Output current (module)	24 A
Signal frequency (max.)	50 Hz
Switching delay	50 ms
Switching current (note)	Switching current range compatible with the WAGO 75x-66x/000-003 PROFIsafe I/O Module
Switching voltage range	5 … 60 VDC (SELV/PELV); 5 … 48 VAC
Switching current (min.)	3 mA
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 (system and sensor)	24 VDC(-25 … +30 %)
Supply voltage (field)	24 VDC; via pluggable connector (Push-in CAGE CLAMP® connection)
Current consumption, field supply (module with no external load)	50 mA
Isolation	500 V system/field
Isolation voltage	Relay outputs: 48 VAC, 60 VDC
Indicators	LED green/red: Status/Error I1 … I4, RO1 … RO4; LED red (Err): Group error; LED green/red (K, PS): Diagnostics; LED red (iPar): Parameterization

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

Functional safety

Achievable safety classes	SIL 3; Category 4, PL e
Safety standards	IEC 61508-1 … -7; EN ISO 13849-1; EN 62061

Connection data

Connection type 1	Inputs/Outputs
Solid conductor	0.5 … 1.5 mm² / 20 … 14 AWG
Fine-stranded conductor	0.5 … 1.5 mm² / 20 … 14 AWG
Strip length	8 … 9 mm / 0.31 … 0.35 inches
Connection type 2	Field supply

Physical data

Width	48 mm / 1.89 inches
Height	100 mm / 3.937 inches
Depth	69.8 mm / 2.748 inches
Depth from upper-edge of DIN-rail	62.6 mm / 2.465 inches

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Housing material	Polycarbonate; polyamide 6.6
Fire load	2.37 MJ
Weight	220.3 g

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	per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27

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

EMC immunity to interference	gemäß EN 61000-6-2; EN 61131-2; EN 61326-3-1; EN 61000-6-7
EMC emission of interference	per EN 61000-6-4, EN 61131-2
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

eCl@ss 10.0	27-24-26-04
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	4055143535588
Customs tariff number	85389099990

Environmental Product Compliance
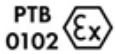
RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCC CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
	EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AZ58. B.2173-21_e nC (2Ex e nC IIC T4 Gc X)
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-DI0750

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

	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	-	E175199

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)
IECEx	IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEx TUN 14.0035 X (Ex ec IIC T4 Gc)
INMETRO	INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	BR-Ex_TÜV 12.1297 X
DEKRA 850S UKEX	UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WAGO22UKEX003X_ec
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Approvals for functional safety

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

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

Optional accessories
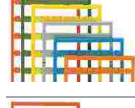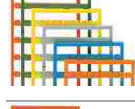
Shield termination

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

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

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

	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
	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

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

Item no.: 750-106
Group marker carrier

www.wago.com/750-106

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
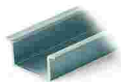
www.wago.com/210-198

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
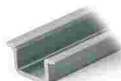
www.wago.com/210-506

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
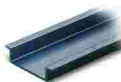
Item no.: 210-196
Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

www.wago.com/210-196

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

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	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 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

Tool

Operating tool

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

Item no.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

www.wago.com/210-719

Downloads

Documentation

Data sheet

750-669/000-003, 4FDI/4FRO 48VAC/60VDC/6A PROFIsafe V2 iPar		pdf 78.3 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 4FDI / 4FRO 48 VAC / 60 VDC / 6 A PROFIsafe V2 iPar Fail-Safe 4/4-Channel Digital Input and Relay Output Module PROFIsafe V2 iPar	V 1.1.2	pdf 5.2 MB	Download
System Manual Series 750/753 Online HTML		URL	Download

Bid Text

750-669/000-003 X81 - Datei	2019 Feb 19	xml 7.1 kB	Download
750-669/000-003 doc - Datei	2017 Oct 9	doc 32.3 kB	Download

Instruction Leaflet

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

System Description

Position Paper CB24I of the German Electrical and Electronic Manufacturer's Association (ZVEI)		pdf 189.9 kB	Download

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WAGO GmbH & Co. KG
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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Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 789.0 kB	Download
Functional Safety – General Product Information	pdf 223.0 kB	Download
750/753 Series I/O-System – General Product Information	pdf 1.7 MB	Download

Application Notes

Application note SIEMENS

Using iPar-Server option with WAGO PROFIsafe modules (a114802) 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.	V 14.1 2023 Feb 7	zip 99.8 MB	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 750-669/000-003	URL	Download

CAE data

EPLAN Data Portal 750-669/000-003	URL	Download
WSCAD Universe 750-669/000-003	URL	Download

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

WAGO GmbH & Co. KG
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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ZUKEN Portal 750-669/000-003	URL	Download
WSCAD Universe 750-669/000-003	URL	Download
EPLAN Data Portal 750-669/000-003	URL	Download

Installation Notes

Product family

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

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

WAGO GmbH & Co. KG
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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