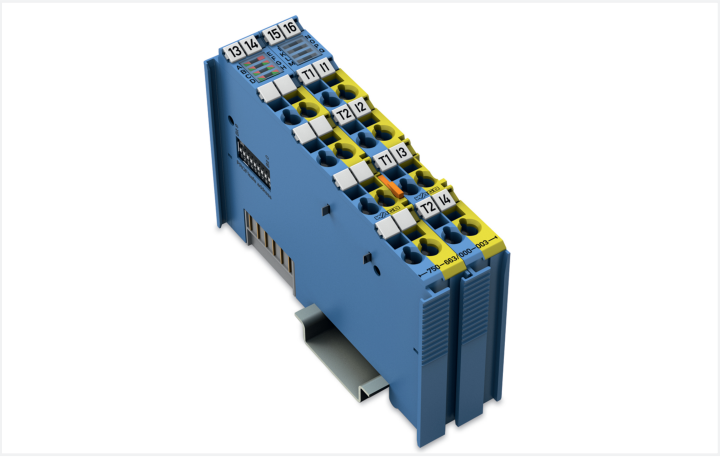
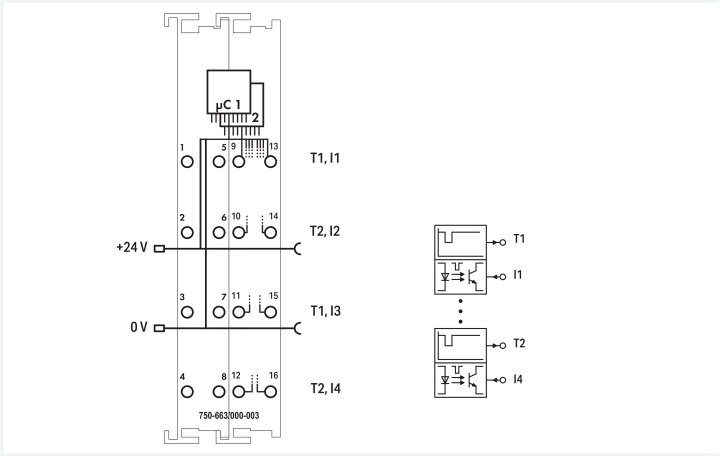
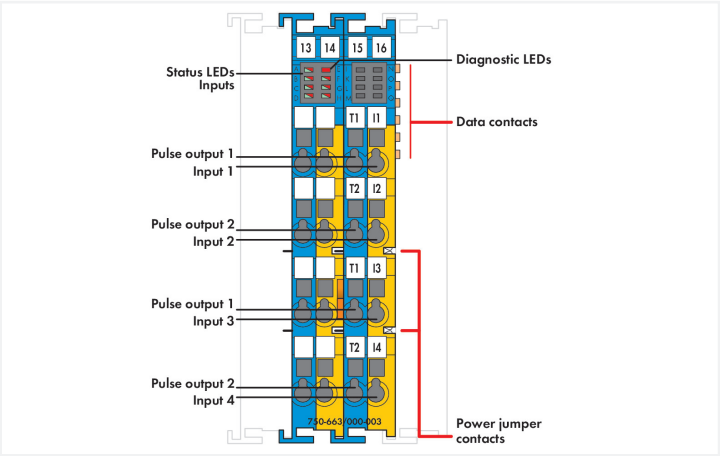
Data Sheet | Item Number: 750-663/000-003

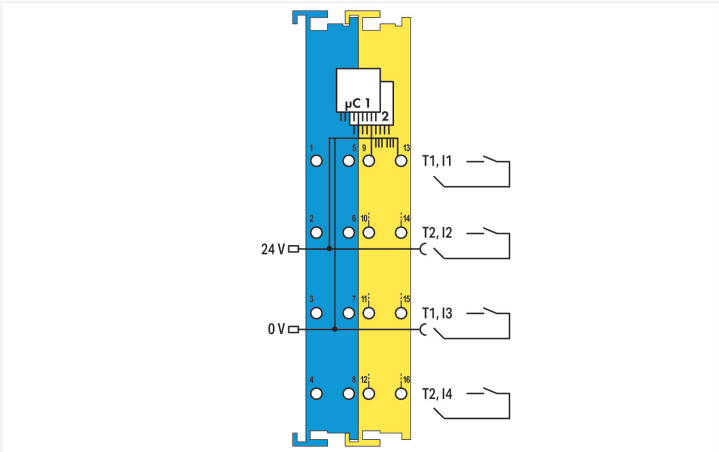
Intrinsically safe 4-channel digital input; 24 VDC; PROFIsafe V2.0 iPar

https://www.wago.com/750-663/000-003









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.

Notes

Note	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! 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!

Technical data

Item description	Intrinsically Safe 4-Channel Digital Input; 24 VDC; PROFIsafe V 2.0 iPar
Protocols	PROFIsafe V2
Number of digital inputs	4
Total number of channels (module)	4
Signal type	Digital
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	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	0.005 A
Short-circuit current	≤ 25 mA
Signal frequency (max.)	50 Hz
Intrinsically safe Ex i	Yes
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Supply voltage (system)	5 VDC; via data contacts
Current consumption (system supply)	145 mA
Supply voltage (field)	24 VDC; (Ex i power supply: U_o = max. 27.3 V); via power jumper contacts (supply via blade contact; distribution via spring contact)
Current consumption, field supply (module with no external load)	20 mA
Power consumption $P_{max.}$	3 W
Power loss P_l	1.27 W
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

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

Identification	**ATEX:** II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I **IECEx/INMETRO:** Ex ec IIC T4 Gc **cULus (Zone classified):** Cl I Zn 2 AEx nA [ia Ga] IIC T4 Gc; Cl I Zn 2 AEx nA [ia IIIC] IIC T4 Gc; Ex nA [ia Ga] IIC T4 Gc X; Ex nA [ia IIIC] IIC T4 Gc X **cULus (Devision classified):** Class I, Div. 2, Group A B C D, T4
Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	U_o = 26.8 V; I_o = 22.6 mA; P_o = 151 mW; linear characteristic curve
Reactances Ex ia IIC	L_o = 69.61 mH; C_o = 92 nF
Reactances Ex ia IIB	L_o = 278.45 mH; C_o = 720 nF
Reactances Ex ia IIA	L_o = 556.9 mH; C_o = 2.37 µF
Reactances Ex ia I	L_o = 913.67 mH; C_o = 4.2 µF
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Continued on next page

Connection Data

Connection technology: I/O	8 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	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

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	1.657 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 left, horizontal right, horizontal top, vertical top and vertical bottom
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)
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
Customs tariff number	85389099990

Continued on next page

Product Classification

UNSPSC	32151705
eCl@ss 10.0	27-24-26-04
eCl@ss 9.0	27-24-26-04
ETIM 9.0	EC001599
ETIM 10.0	EC001599
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 7439-92-1 75980-60-8 80-05-7
REACH Candidate List Substance	4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	455422aa-0af7-4236-bce5-56a64061e77a
SCIP notification number (Belgium)	d08aa233-6cb6-41d9-a0bc-f32f7a9c1388
SCIP notification number (Bulgaria)	5e00a515-53cf-4b0f-b72e-d849e2b82d4d
SCIP notification number (Czech Republic)	297355ca-ec16-4ed8-96d9-46703f222b73
SCIP notification number (Denmark)	a5c890cd-d642-467f-ad02-01fc6bd03c89
SCIP notification number (Finland)	bc722cdd-62f7-4cb5-a606-7bd2aebdff8a
SCIP notification number (France)	c3eec32c-a4c6-4661-a4ed-1bd4e9cec74a
SCIP notification number (Germany)	1d5a8811-eed2-488d-bed9-fa61f31ce19b
SCIP notification number (Hungary)	caf38cc2-d5a8-4317-b257-09a4814898f5
SCIP notification number (Italy)	a6ec395a-a99f-4b96-b6f3-ac92b6b9eac3
SCIP notification number (Netherlands)	60969300-4247-46b1-af2c-2d7bdf58a56a
SCIP notification number (Poland)	5018c2ce-0c5c-4115-bc62-41290fdb653e
SCIP notification number (Romania)	df068cd7-6fb3-4b09-9e10-1f9e1189b9d8
SCIP notification number (Sweden)	47f6856c-9e40-4127-8008-6375a41117e0

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-DIM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Continued on next page

Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	25-0415412
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
LR Lloyds Register EMEA	-	LR22180952TA
PRS Polski Rejestr Statków	-	TE/1101/880590/23
RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

Approval	Standard	Certificate Name
AEx UL International Germany GmbH	UL 60079	E480271
ATEX TUEV Nord Cert GmbH	EN 60079	TUEV12ATEX106032X (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] II-IC, [Ex iaMa] I)
IECEx TUEV Nord Cert GmbH	IEC 60079	IECEx TUN12.0039X (Ex ec [iaGa] IIC T4 Gc, [Ex iaDa] II-IC, [Ex iaMa] I)
INMETRO TÜV Rheinland do Brasil Ltda.	-	TÜV_14.1911_X
UKEx Element Materials Technology UK	-	EMA21UKEX0069X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Approvals for functional safety

Approval	Standard	Certificate Name
Prod. Safety, Funct. Safety TUEV Rheinland Industrie Service GmbH	-	No. 968_FSP 2387_01_25

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
750-663/000-003

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Documentation

Manual

Product Manual 4-channel, Ex i, 24 V, PROFIsafe V2 iPar	V 1.9.0 13.03.2025	pdf 2210.34 KB	
System Manual Series 750/753			

System Description

750/753 Series I/O-System – General Product Information	pdf 953.35 KB	
Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 770.48 KB	
Ex i Overview	pdf 442.07 KB	
Functional Safety – General Product Information	pdf 217.82 KB	

Bid Text

750-663/000-003	19.02.2019	xml 7.82 KB	
750-663/000-003	09.10.2017	doc 32.50 KB	

Instruction Leaflet

CCC Ex (Additional information)	26.04.2023	pdf 143.96 KB	
Gebrauchs- und Montageanleitung		pdf 1588.68 KB	

Application Notes

Application note SIEMENS

Using iPar-Server option with WAGO PROFIsafe modules (a114802)	V 14.1 07.02.2023	zip 130043.55 KB	

CAD/CAE-Data

CAD data

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

CAE data

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

Engineering-Software

Configuration and Commissioning Software

Safety Editor (SEDI) / 750-66x	3.5.1.0 25.01.2024	zip 19060.65 KB	

Continued on next page

1 Compatible Products

1.1 Optional Accessories

1.1.1 DIN-rail

1.1.1.1 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

1.1.2 Marking

1.1.2.1 Group marker carrier



Item No.: 750-107
Group marker carrier

1.1.2.2 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



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



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

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1.1.2.3 Marker carrier



Item No.: 750-103
Group marker carrier

1.1.3 Shield termination

1.1.3.1 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

1.1.4 Supply module

1.1.4.1 Supply module



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



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