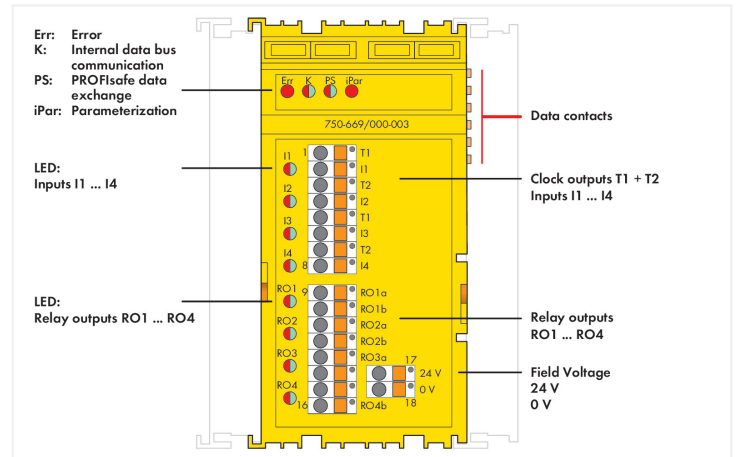
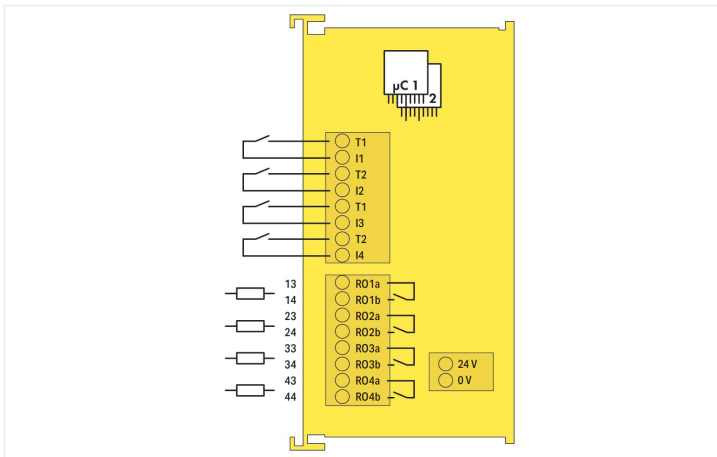
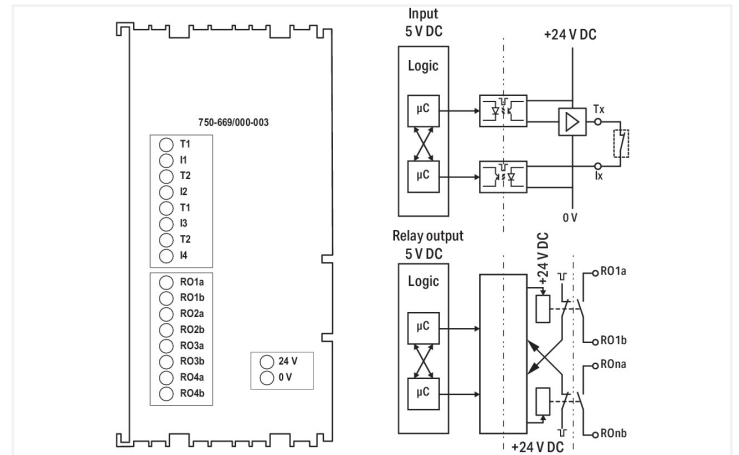
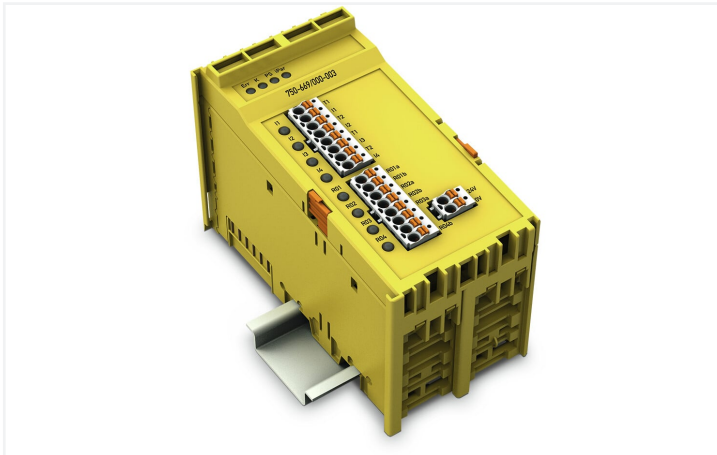


Data Sheet | Item Number: 750-669/000-003

Fail-safe 4/4 channel digital input/relay output; 48 VAC/ 60 VDC; 6 A; PROFIsafe V2.0 iPar

<https://www.wago.com/750-669/000-003>



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.

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.

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)
Actuator connection	4 x (fail-safe output with test pulse)
Input characteristic	clock sensitive 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

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 technology: inputs/outputs	16 x Push-in CAGE CLAMP®
Connection technology: field supply	2 x Push-in CAGE CLAMP®
Connection type 1	Inputs/outputs
Solid conductor	0.5 ... 1.5 mm ² / 20 ... 14 AWG
Fine-stranded conductor	0.5 ... 1.5 mm ² / 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
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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
EMC immunity to interference	per 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 ₂ S 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,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
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
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	-	E175199

Declarations of conformity and manufacturer's declarations

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

Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc)
CCCEX CQST/CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
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_WA GO22UKEX003X_ec
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Approvals for functional safety



Approval	Standard	Certificate Name
Prod. Safety, Funct. Safety TUEV Rheinland Industrie Service GmbH	-	No. 968_FSP 2387_00_22

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-669/000-003	↓
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Documentation

Manual			System Description		
Product Manual 4FDI / 4FRO 48 VAC / 60 VDC / 6 A PROFIsafe V2 iPar	V 1.1.2	pdf 5075.44 KB	750/753 Series I/O-System – General Product Information	pdf 953.35 KB	
System Manual WAGO I/O System 750/753	V 3.3.3 29.08.2023	pdf 8512.61 KB	Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 770.48 KB	
System Manual Series 750/753			Functional Safety – General Product Information	pdf 217.82 KB	

Bid Text			Instruction Leaflet		
750-669/000-003	19.02.2019	xml 6.94 KB	CCC Ex (Additional information)	26.04.2023	pdf 159.76 KB
750-669/000-003	09.10.2017	doc 31.50 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	CAE data
2D/3D Models 750-669/000-003	EPLAN Data Portal 750-669/000-003
	WSCAD Universe 750-669/000-003
	ZUKEN Portal 750-669/000-003

Engineering-Software

Configuration and Commissioning Software			
Safety Editor (SEDI) / 750-66x	3.5.0.0 13.12.2022	zip 19053.89 KB	

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.: 210-508
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-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.: 210-506
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; 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.: 210-504
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; 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



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

1.1.2 Marking

1.1.2.1 Group marker carrier



Item No.: 750-106
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

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 System enclosure

1.1.4.1 System enclosure



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



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



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



Item No.: 850-828
IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



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



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



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



Item No.: 850-834
IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



Item No.: 850-835
IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip



Item No.: 850-836
IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip



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



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



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



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

1.1.5 Tool

1.1.5.1 Operating tool



Item No.: 210-719

Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft