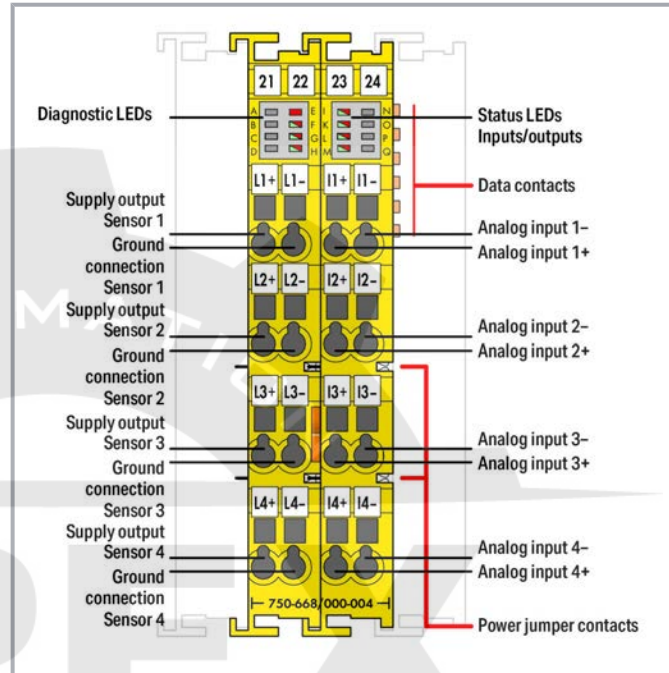


Data sheet | Item number: 753-668/000-004

Fail-safe 4 channel analog input; 0/4 ... 20 mA; Differential input; PROFIsafe

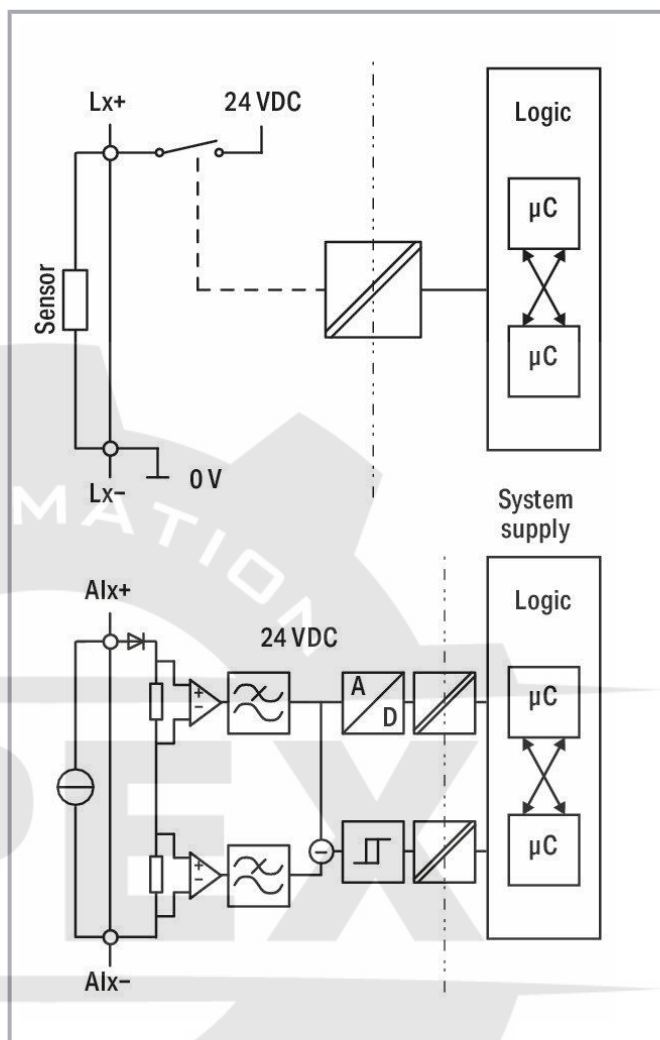
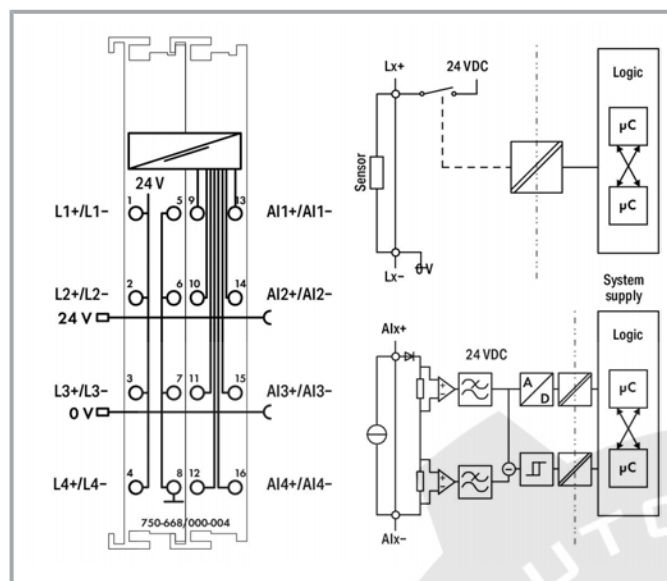
www.wago.com/753-668_000-004



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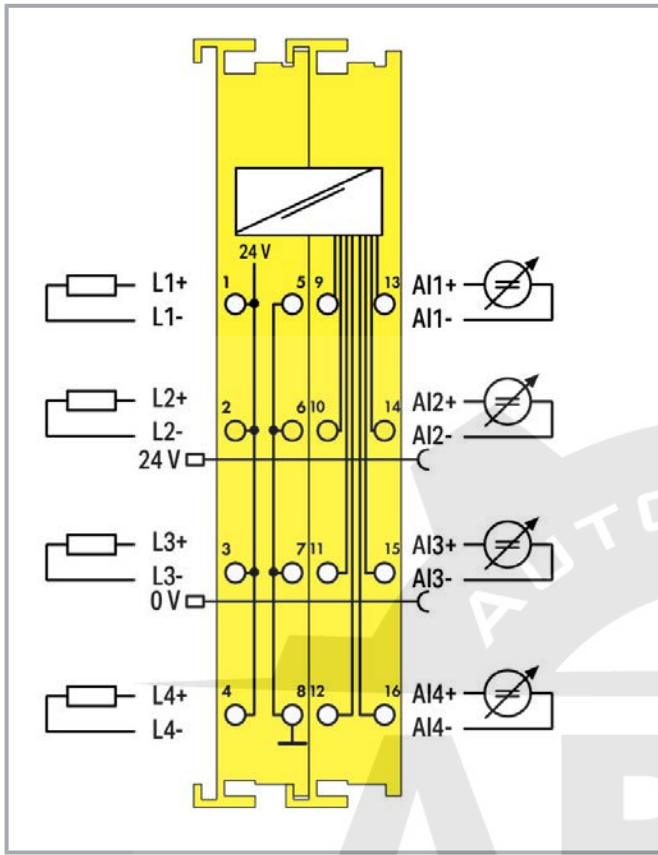
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Item description

The 75x-668/000-004 Module features four differential fail-safe analog inputs (AI1 ... AI4) and four current-limited sensor supply outputs (L1 ... L4). The sensors can be supplied directly by the module or via external 24 V. The fail-safe analog inputs can be used either in single-channel (up to SIL2 /PLd) or dual-channel mode (up to SIL3/PLe). Measurement cycle, filter times, encoder evaluation with discrepancy times and tolerance windows can be adjusted to meet the safety function requirements.

Overcurrent, overload and wire break are monitored at the fail-safe analog inputs. Both the monitoring and additional safety-relevant functions can be parameterized via WAGO-I/O-CHECK.

This configuration tool can be conveniently integrated into engineering systems supporting TCI (Tool Calling Interface) with CC2 or CC3.

When exchanging a module, parameters are automatically downloaded from the controller via PROFIsafe-compatible iPar server.

The PROFIsafe address can be set using the DIP switch or via WAGO-I/O-CHECK.

The module supports both PROFIsafe V2.4 (PROFIBUS) and V2.6 (PROFINET) protocols.

Individual input modules can be arranged in any combination when configuring the fieldbus node.

If, for example, the cable length of the 24 V supply is greater than 3 m, WAGO's 750-626 Filter Module or an appropriate external filter must be used for the 24 V power supply to protect the module against surge and burst (per IEC 61000-6-7 and marine applications).

Additional information can be found in the product manual (available in German and English).

Note:

Pluggable connectors and coding fingers (753 Series) are not included.

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Data

Technical data

Number of analog inputs	4
Number of Channels	4
Achievable safety classes	SIL 3; Category 4, PLe (two-channel); SIL 2; Category 2; PLd (one-channel)
Signal type	Current
Signal type (current)	0 ... 20 mA; 4 ... 20 mA
Sensor supply	Outputs L1 ... L4
Sensor connection	4 x (2-wire, 3-wire, 4-wire)
Output current per channel	1.5 A
Output current (module)	1.5 A
Signal characteristic	Differential
Resolution [bit]	16 Bit
Common mode voltage (max)	60 V
Noise rejection at sampling frequency	38 dB
Load impedance	300 Ω
Measurement error, reference temperature	25 °C
Measurement error, deviation max (upper-range value) $\leq \pm$	0.05 %
Temperature error max. (upper-range value) $\leq \pm$	0.006 %/K
Configuration options	PROFIsafe address adjustable via DIP switch or engineering software
Supply voltage (system)	5 VDC; via data contacts
Power consumption (5 V system supply)	120 mA
Supply voltage (field)	24 VDC, SELV/PELV (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Power consumption, field supply (module with no external load)	40 mA
Isolation	500 V system/field
Indicators	LED (E) red, LED (F-H) red/green: Diagnostics; LED (I-M) red/green: Input/output status
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Current carrying capacity (power jumper contacts)	10 A
Current carrying capacity (module)	40 mA

Connection data

Connection technology: inputs / outputs	16 x CAGE CLAMP®
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Connection type (1)	Inputs/Outputs
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch

Physical data

Width	24 mm / 0.945 inch
Height	100 mm / 3.937 inch
Depth	69 mm / 2.717 inch
Depth from upper edge of DIN-rail	61.8 mm / 2.433 inch

Mechanical data

Mounting type	DIN-35 rail
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Material data

Color	yellow
Housing material	Polycarbonate; polyamide 6.6
Weight	84.2 g
Conformity marking	CE

Environmental requirements

Surrounding air temperature (operation)	0 ... 55 °C
Surrounding air temperature (storage)	-40 ... 85 °C
Protection type	IP20
Pollution degree (5)	2 per IEC 61131-2
Operating altitude	0 ... 2000 m
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2, marine applications, EN 61000-6-7 (FS)
EMC emission of interference	per EN 61000-6-4, marine applications, EN 61000-6-3
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43

Commercial data

Packaging type	BOX
Country of origin	DE

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GTIN	4055143899819
Customs tariff number	8538901000

Approvals / Certificates

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079	TUEV_14_ATEX_148929_X
	CCCEX CQST/CNEX	CNCA-C23-01	2020312310000213
	IECEX TUEV Nord Cert GmbH	IEC 60079	IECEX_TUN_14.0035_X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	TUEV Rheinland TUEV Rheinland Industrie Service GmbH	-	No. 968 /EZ 247.14 /16

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAA0000194

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL	UL 61010-2-201	E175199

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Underwriters Laboratories Inc. (ORDINARY
LOCATIONS)

Sec10

Required accessories

Pluggable connector

	Item no.: 753-120 Plug; Safety	www.wago.com/753-120
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Optional accessories

System housing

	Item no.: 850-804 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	www.wago.com/850-804
	Item no.: 850-804/000-001 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip	www.wago.com/850-804/000-001
	Item no.: 850-805 IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip	www.wago.com/850-805
	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.: 850-826/002-000 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

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	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
Carrier rail		
	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.: 210-113 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.: 210-114 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.: 210-118 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.: 210-196 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
	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
Pluggable connector		
	Item no.: 753-150 753 Series coding elements	www.wago.com/753-150
Supply module		
	Item no.: 750-601 Power Supply; 24 VDC; fuse holder	www.wago.com/750-601
	Item no.: 750-602 Power Supply; 24 VDC	www.wago.com/750-602

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	Item no.: 750-610 Power Supply; 24 VDC; fuse holder; Diagnostics	www.wago.com/750-610
	Item no.: 750-612 Power Supply; 0 ... 230 V AC/DC	www.wago.com/750-612
	Item no.: 753-602 Power Supply; 24 VDC	www.wago.com/753-602
	Item no.: 753-612 Power Supply; 0 ... 230 V AC/DC	www.wago.com/753-612

Shield termination

	Item no.: 790-108 Shield clamping saddle; 11 mm wide; 0-8 mm diameter conductors	www.wago.com/790-108
	Item no.: 790-116 Shield clamping saddle; 19 mm wide; 7-16 mm diameter conductors	www.wago.com/790-116
	Item no.: 790-124 Shield clamping saddle; 27 mm wide; 6-24 mm diameter conductors	www.wago.com/790-124
	Item no.: 790-140 Shield clamping saddle; 43 mm wide; 22-40 mm diameter conductors	www.wago.com/790-140
	Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3-8 mm diameter conductors	www.wago.com/790-208
	Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6-16 mm diameter conductors	www.wago.com/790-216
	Item no.: 790-220 Shield clamping saddle; 30 mm wide; 6-20 mm diameter	www.wago.com/790-220

Marking accessories

	Item no.: 248-501 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/248-501
	Item no.: 248-501/000-002 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/248-501/000-002
	Item no.: 248-501/000-005 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red	www.wago.com/248-501/000-005
	Item no.: 248-501/000-006 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue	www.wago.com/248-501/000-006

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	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.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange	www.wago.com/248-501/000-012
	Item no.: 248-501/000-017 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green	www.wago.com/248-501/000-017
	Item no.: 248-501/000-023 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green	www.wago.com/248-501/000-023
	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.: 709-198 Marking strips; white	www.wago.com/709-198
	Item no.: 750-103 Group marker carrier	www.wago.com/750-103
	Item no.: 750-107 Group marker carrier	www.wago.com/750-107

Downloads

Documentation

Data sheet

753-668/000-004 4FAI 0/4-20 mA Diff PROFIsafe	pdf 170.9 kB	Download
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Manual

4 FAI 0/4-20 mA; Diff. PROFIsafe	V 1.0.0	pdf	Download
Fail Safe 4 Channel Analog Input Module PROFIsafe	Oct 10, 2019	4.1 MB	
System Manual WAGO I/O System 750 / 753	V 3.0.2	pdf	Download
Decentralized Automation Technology	Apr 27, 2021	6.6 MB	

Bid Text

753-668/000-004	xml 8.3 kB	Download
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Safety Editor (SEDI) / 750-66x

Loadable safety editor module for parameterisable failsafe modules for integration in
IO-Check from version 3.3.2 or higher.3.0.1
Sep 17, 2019zip
20.1 MB

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CAD files**CAE data**

EPLAN Data Portal 753-668/000-004

URL

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Installation Notes

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Product family

Couplers & I/O modules:

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