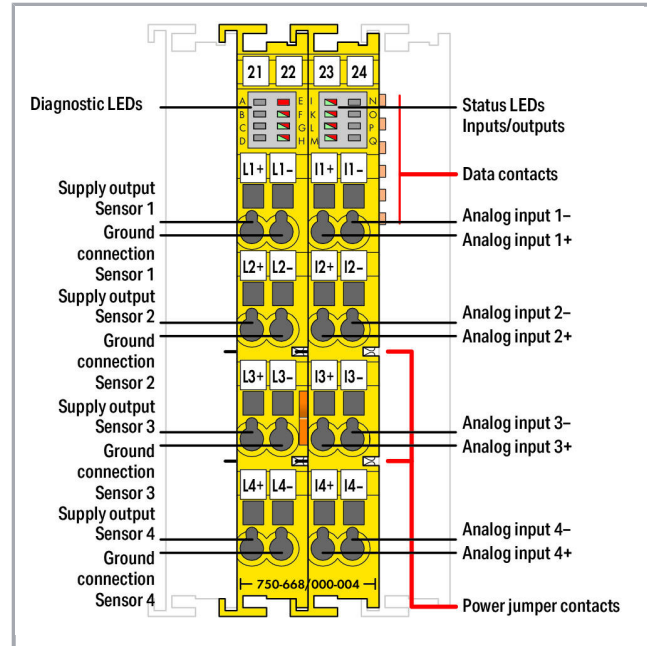


Data sheet | Item number: 750-668/000-004

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



[www.wago.com/750-668/000-004](http://www.wago.com/750-668/000-004)



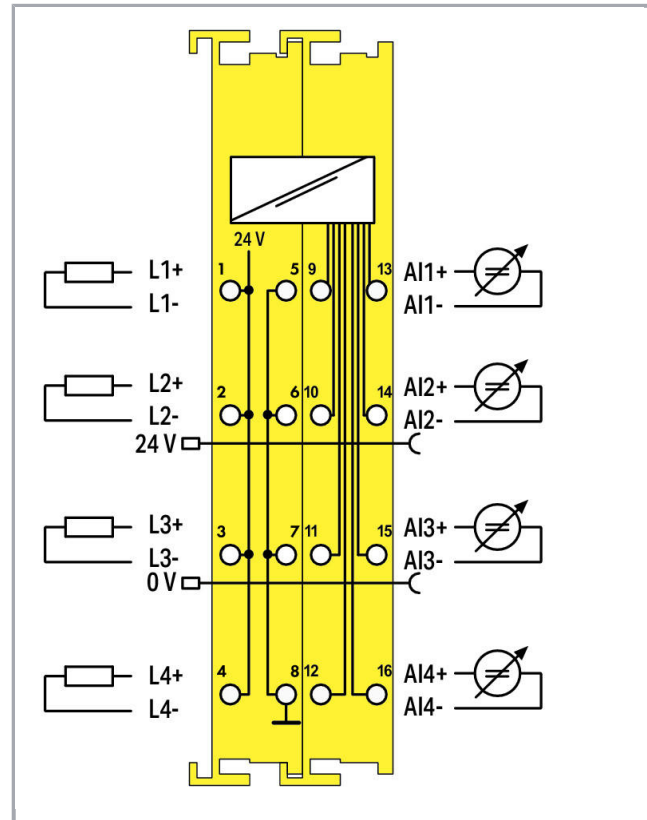
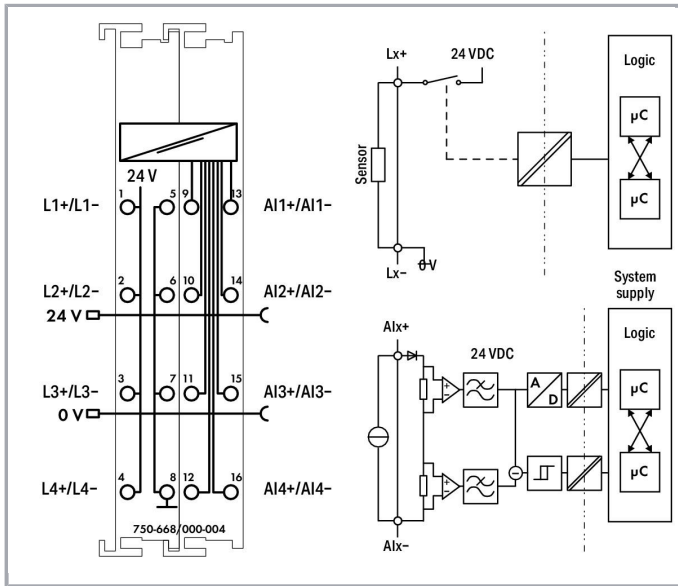
RoHS Compliant

Color:

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

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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).

### Data

#### Technical Data

Number of analog inputs	4
Total number of channels (module)	4

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



Achievable safety classes	SIL 3; Category 4; PLe (two-channel); SIL 2; Category 2; PLd (single-channel)
Type of signal	Electricity
Type of signal 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
Messfehler, Bezugstemperatur	25 °C
Messfehler, Abweichung max. vom Messbereichsendwert	0.05 %
Temperaturfehler max. vom Messbereichsendwert	0.006 %/K
System supply voltage	DC 5 V; via data contacts
Current consumption, system supply (5 V)	120 mA
Field supply voltage	SELV/PELV DC 24 V (-15 ... +30 %); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current 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 of the power jumper contacts	10 A
Current carrying capacity / module	40 mA

## Connection data

Connection technology: In-/Outputs	16 x CAGE CLAMP®
Connection type (1)	Inputs/Outputs
Solid conductor	0,08 ... 2,5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0,08 ... 2,5 mm <sup>2</sup> / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch

## Geometrical Data

Width	24 mm / 0.945 inch
-------	--------------------

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



Height	67,8 mm / 2.669 inch
Height from upper-edge of DIN-35 rail	60,6 mm / 2.386 inch
Depth	100 mm / 3.937 inch

### Mechanical data

Type of mounting	DIN-35 rail
------------------	-------------

### Material Data

Color	yellow
Housing material	Polycarbonate, polyamide 6.6
Weight	102.9 g
Conformity marking	CE

### Environmental Requirements

Surrounding air (operating) temperature	0 ... 55 °C
Surrounding air (storage) temperature	-40 ... 85 °C
Protection class	IP20
Degree of pollution (5)	2 per IEC 61131-2
Operating altitude	0 ... 2000 m
Mounting position	horizontal (standing/lying); vertical
Relative air humidity (no 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
GTIN	4055143899826
Customs Tariff No.	85389099990

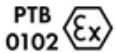
### Approvals / Certificates

#### Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX	EN 60079	TUEV_14_ATEX_148929_X

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

TUEV Nord Cert GmbH



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 Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199 Sec10

#### Counterpart








#### Compatible products

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system box

	<b>Item no.: 850-804</b> IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	<a href="http://www.wago.com/850-804">www.wago.com/850-804</a>
	<b>Item no.: 850-804/000-001</b> IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip	<a href="http://www.wago.com/850-804/000-001">www.wago.com/850-804/000-001</a>
	<b>Item no.: 850-805</b> IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip	<a href="http://www.wago.com/850-805">www.wago.com/850-805</a>
	<b>Item no.: 850-814/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate	<a href="http://www.wago.com/850-814/002-000">www.wago.com/850-814/002-000</a>
	<b>Item no.: 850-815/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate	<a href="http://www.wago.com/850-815/002-000">www.wago.com/850-815/002-000</a>
	<b>Item no.: 850-816/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate	<a href="http://www.wago.com/850-816/002-000">www.wago.com/850-816/002-000</a>
	<b>Item no.: 850-817/002-000</b> IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate	<a href="http://www.wago.com/850-817/002-000">www.wago.com/850-817/002-000</a>
	<b>Item no.: 850-825</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20	<a href="http://www.wago.com/850-825">www.wago.com/850-825</a>
	<b>Item no.: 850-826</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	<a href="http://www.wago.com/850-826">www.wago.com/850-826</a>
	<b>Item no.: 850-826/002-000</b> IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	<a href="http://www.wago.com/850-826/002-000">www.wago.com/850-826/002-000</a>
	<b>Item no.: 850-827</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	<a href="http://www.wago.com/850-827">www.wago.com/850-827</a>
	<b>Item no.: 850-827/002-000</b> IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	<a href="http://www.wago.com/850-827/002-000">www.wago.com/850-827/002-000</a>
	<b>Item no.: 850-828</b> IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip	<a href="http://www.wago.com/850-828">www.wago.com/850-828</a>

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



**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](http://www.wago.com/850-828/002-000)

**Item no.: 850-834**

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20

[www.wago.com/850-834](http://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](http://www.wago.com/850-835)

**shield connection**



**Item no.: 790-108**

Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

[www.wago.com/790-108](http://www.wago.com/790-108)



**Item no.: 790-116**

Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

[www.wago.com/790-116](http://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](http://www.wago.com/790-124)

**Item no.: 790-140**

Shield clamping saddle; diameter of compatible conductor

[www.wago.com/790-140](http://www.wago.com/790-140)



**Item no.: 790-208**

Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

[www.wago.com/790-208](http://www.wago.com/790-208)

**Item no.: 790-216**

Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm

[www.wago.com/790-216](http://www.wago.com/790-216)



**Item no.: 790-220**

Shield clamping saddle; 30 mm wide; 6 ... 20 mm

[www.wago.com/790-220](http://www.wago.com/790-220)

**Marking accessories**



**Item no.: 248-501**

Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card

[www.wago.com/248-501](http://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](http://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](http://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](http://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](http://www.wago.com/248-501/000-007)

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

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**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](http://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](http://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](http://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](http://www.wago.com/248-501/000-024)



**Item no.: 750-103**  
Group marker carrier; transparent

[www.wago.com/750-103](http://www.wago.com/750-103)

**Item no.: 750-107**  
Group marker carrier; transparent

[www.wago.com/750-107](http://www.wago.com/750-107)

#### Supply module



**Item no.: 750-601**  
Power Supply; 24 VDC; fuse holder; light gray

[www.wago.com/750-601](http://www.wago.com/750-601)

**Item no.: 750-602**  
Power Supply; 24 VDC; light gray

[www.wago.com/750-602](http://www.wago.com/750-602)



**Item no.: 750-610**  
Power Supply; 24 VDC; fuse holder; Diagnostics

[www.wago.com/750-610](http://www.wago.com/750-610)



**Item no.: 750-612**  
Power Supply; 0 ... 230 V AC/DC; light gray

[www.wago.com/750-612](http://www.wago.com/750-612)

#### 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

[www.wago.com/210-112](http://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

[www.wago.com/210-113](http://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

[www.wago.com/210-114](http://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

[www.wago.com/210-115](http://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






[www.wago.com/210-118](http://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](http://www.wago.com/210-196)

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



	<b>Item no.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	<a href="http://www.wago.com/210-197">www.wago.com/210-197</a>
	<b>Item no.: 210-198</b> Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored	<a href="http://www.wago.com/210-198">www.wago.com/210-198</a>
	<b>Item no.: 210-504</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	<a href="http://www.wago.com/210-504">www.wago.com/210-504</a>
	<b>Item no.: 210-505</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715	<a href="http://www.wago.com/210-505">www.wago.com/210-505</a>
	<b>Item no.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715	<a href="http://www.wago.com/210-506">www.wago.com/210-506</a>
	<b>Item no.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715	<a href="http://www.wago.com/210-508">www.wago.com/210-508</a>

## Downloads

### Documentation

#### Data sheet

750-668/000-004 4FAI 0/4-20 mA Diff PROFIsafe	pdf	Download
	170.9 kB	

#### Manual

4FAI 0/4-20 mA; Diff. PROFIsafe	V 1.0.0	pdf	Download
4 Channel Analog Input Module PROFIsafe	Oct 10, 2019	3.9 MB	

#### Instruction Leaflet

Gebrauchs- und Montageanleitung	V 1.0.0	pdf	Download
Sicherheitsklemmen PROFIsafe	Nov 11, 2019	1.1 MB	

## Libraries

### SISTEMA library

SISTEMA-Bibliothek	V 2.08	zip	Download
	Nov 11, 2019	179.8 kB	

VDMA-Bibliothek	V 0.0.9	zip	Download
	Nov 11, 2019	305.8 kB	

### Library

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



SISTEMA-Bibliothek	V 2.08 Nov 11, 2019	zip 179.8 kB	Download
VDMA-Bibliothek	V 0.0.9 Nov 11, 2019	zip 305.8 kB	Download

## Engineering-Software

### Configuration and Commissioning Software

Safety Editor (SEDI) / 750-66x	3.0.1 Sep 17, 2019	zip 20.1 MB	Download
Loadable safety editor module for parameterisable failsafe modules for integration in IO-Check from version 3.3.2 or higher.			

## Installation Notes

### Product family

**750/753 Series – I/O System**  
[Show all products from the family](#)

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

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