

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 PROFI-safe-compatible iPar server.

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

The module supports both PROFI-safe V2.4 (PROFIBUS, PROFINET) 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, a WAGO 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)!**

## Technical data

Device-specific	Common mode rejection: typ. 87 dB; Sampling frequency: 100 Hz, 60 Hz, 50 Hz, 10 Hz; Configurable; Interference frequency suppression: 38 dB at 50 Hz/60 Hz; Safety accuracy: 1.25 % of upper-range value (single-channel); 1.58 % of upper-range value (two-channel)
Number of analog inputs	4
Total number of channels (module)	4
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 characteristics	Differential
Resolution [bit]	16 bits
Common-mode voltage (max.)	60 V
Load impedance	300 Ω
Measurement error (reference temperature)	25 °C
Measurement error, deviation (max.) from the upper-range value	0.05 %
Temperature error (max.) of the upper-range value	0.007 %/K
Configuration options	PROFI-safe address adjustable via DIP switch or engineering software
Supply voltage (system)	5 VDC; via data contacts
Current 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)
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 (power jumper contacts)	10 A
Current carrying capacity	Module: 40 mA

## Functional Safety

Achievable safety classes	SIL 3; Category 4, PLe (two-channel); SIL 2; Category 2; PLd (one-channel)
Safety standards	IEC 61508-1 ... -7; EN ISO 13849-1; EN 62061

### Connection data

Connection technology: inputs/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 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	2.019 MJ
Weight	102 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 (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

ETIM 8.0	EC001596
ETIM 7.0	EC001596
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143899826
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** **Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungs- stelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
EAC Brjansker Zertifizierungs- stelle	TP TC 012/2011	EAC RU C-DE.AZ58. B.2173-21 e (2Ex e IIC T4 Gc X)
UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS)	-	E175199


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

**Approvals for marine applications**




Approval	Standard	Certificate Name
BSH Bundesamt fuer See- schifffahrt und Hydrogra- phie	-	1104
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194

**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 LOCA- TIONS)	UL 121201	E198726 Sec.1

**Approvals for functional safety**



Approval	Standard	Certificate Name
Prod. Safety, Funct. Safety TUEV Rheinland Industrie Service GmbH	-	No. 968/EZ 247.18/21
Profi-Safe Siemens AG/ComDeC	-	Z20240

## Downloads

### Environmental Product Compliance

#### Compliance Search


Environmental Product  
Compliance  
750-668/000-004




## Documentation

### Manual


Product Manual 4FAI  
0/4-20 mA; Diff. PROFI-  
safe V 1.1.0  
13.02.2023 pdf  
4628.62 KB 

System Manual WAGO  
I/O System 750/753 V 3.3.3  
29.08.2023 pdf  
8512.61 KB 


System Manual Series  
750/753 


### Bid Text

750-668/000-004 doc  
31.00 KB 

750-668/000-004 xml  
7.71 KB 


### Instruction Leaflet

CCC Ex (Additional in-  
formation) 26.04.2023 pdf  
159.76 KB 

Gebrauchs- und Monta-  
geanleitung V 1.0.0  
11.11.2019 pdf  
1087.13 KB 


## Application Notes

### Application note SIEMENS


Using iPar-Server opti-  
on with WAGO PROFI-  
safe modules (a114802) V 14.1  
07.02.2023 zip  
130043.55 KB 

## CAD/CAE-Data

### CAD data

2D/3D Models  
750-668/000-004 


### CAE data

EPLAN Data Portal  
750-668/000-004 

## Engineering-Software

### Configuration and Commissioning Software

F-Address Confirmati-  
on Tool 1.2.2  
06.06.2023 zip  
3757.47 KB 

Safety Editor (SEDI) /  
750-66x 3.5.0.0  
13.12.2022 zip  
19053.89 KB 

## Runtime Software

### Firmware

750-668/000-004, Si-cherer Analogeingang	V 02 31.10.2023	zip 1041.10 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.: 750-107**

Group marker carrier

##### 1.1.2.2 Marker



**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 Supply module

1.1.4.1 Supply module



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



**Item No.: 750-602**  
Power Supply; 24 VDC



**Item No.: 750-601**  
Power Supply; 24 VDC; fuse holder



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

1.1.5 System enclosure

1.1.5.1 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.: 850-814/002-000**  
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

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

---

Current addresses can be found at: [www.wago.com](http://www.wago.com)