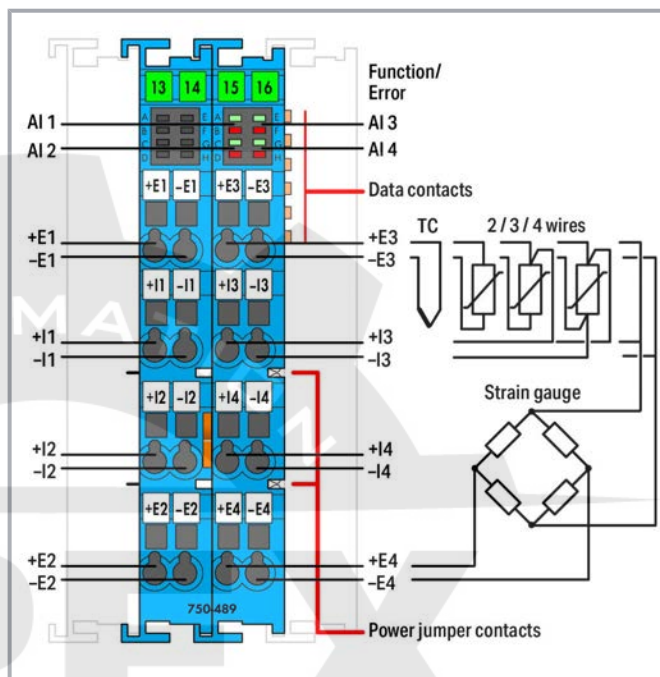
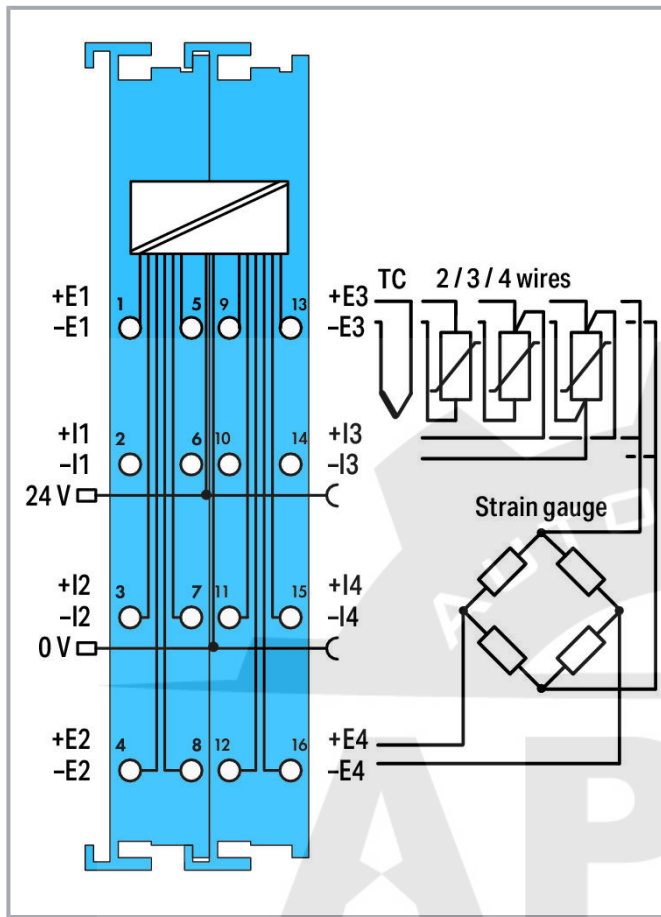




Color: ■

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Item description

This analog input module directly connects resistance thermometers, thermocouples, millivolt sensors, resistors, resistor bridges (strain gauges), potentiometers and PTC thermistors operating in the hazardous environments of Zones 0 and 1. Cold junction compensation for the respective channel is incorporated into the module.

The WAGO-I/O-SYSTEM 750 must be installed either in Zone 2 or in a non-hazardous area.

The 24 V supply is derived from the module's power jumper contacts.

The shield directly connects to the DIN-rail.

The parameters are set via the GSD file, *e!COCKPIT* and *WAGO-I/O-CHECK*.

Indicators:

- Green LED (availability ON/OFF)
- Red LED (overflow, underflow, measurement range overflow/underflow)

Field and system levels are electrically isolated.

A functional galvanic isolation is provided between the channels.

Note:

The analog output module must only be operated via 24 VDC Ex i!

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



General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!

Data

Technical data

Number of analog inputs	4
Number of Channels	4
Signal type	Resistance thermometer Resistors Potentiometer positions Thermocouple mV transmitter
Signal type (configurable)	yes
Sensor connection	4 x (2-wire); RTD/R: 3-wire; 4-wire
Data width	4 x 16-bit data; 4 x 8-bit control/status (optional)
Resolution (over entire range)	0.1 K of full scale value; 0.01 K of full scale value (restricted to -50 °C ... +150 °C)
Conversion time	≥10 ms/2 wires (per channel)*; ≥20 ms/3 wires, 4 wires (per channel) *; *for RTD/R; TC/U conversion time depends on module setting
Measurement error (25 °C)	In delivery state: ±0.2 % of the upper-range value (value achieved during calibration in operating environment $0 \leq T_A \leq 55 \text{ °C}$); After user calibration: ±0.05 % of the upper-range value (only valid in the thermally stable operating state)
Temperature coefficient	±0.001 %/K of the upper-range value
Intrinsic safety Ex i	yes
Measurement range	RTDs: Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni200, Ni500, Ni1000, Ni1000-TK5000; Resistors: 250 Ω, 500 Ω, 1 kΩ, 2 kΩ, 4 kΩ, PTC; Potentiometer setting: 0 ... 100 %; Thermocouples: Type B (+250 ... +1,820 °C); Type C (0 ... +2,315 °C); Type E (-200 ... +1,000 °C); Type J (-210 ... +1,200 °C); Type K (-200 ... +1,372 °C); Type N (-200 ... +1,300 °C); Type R, S (-50 ... +1,768 °C); Type T (-200 ... +400 °C); mV sensor: ±30 mV; ±60 mV; ±120 mV; ±250 mV; ±500 mV; ±1,000 mV; ±2,000 mV; Thermistor: PTC; Resistor bridges (strain gauges): U_{ref} : 2.4 V; U_d : ±15 mV, ±30 mV, ±60 mV
Cold junction compensation	integrated
Supply voltage (system)	5 VDC; via data contacts
Power consumption (5 V system supply)	60 mA
Supply voltage (field)	24 VDC; (Ex i power supply: U_O = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Power consumption, field supply (module with no external load)	120 mA 1,6 W

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

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Power loss P_I	
Isolation	Per EN/IEC 60079-11: 300 VAC system/supply; per EN/UL 61010-2-201: 1200 VDC system/supply/channel
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Ex guideline	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	$U_o = 4 \text{ V}$; $I_o = 13,46 \text{ mA}$; $P_o = 13,46 \text{ mW}$; Kennlinie: Linear
Reactances Ex ia IIC	$L_o = 0.19 \text{ H}$; $C_o = 100 \text{ }\mu\text{F}$
Reactances Ex ia IIB	$L_o = 0.78 \text{ H}$; $C_o = 1000 \text{ }\mu\text{F}$
Reactances Ex ia IIA	$L_o = 1.57 \text{ H}$; $C_o = 1000 \text{ }\mu\text{F}$
Reactances Ex ia I	$L_o = 2.57 \text{ H}$; $C_o = 1000 \text{ }\mu\text{F}$
Reactances (note)	Reactance, if the internal inductance L_i or capacitance C_i (without cable) of the connected device $\leq 1 \%$ of the specified values
Marking	ATEX/IECEx: II 3 (1) G Ex ec [ia Ga] IIC T4 Gc; II (1) D [Ex ia Da] IIIC; I (M1) [Ex ia Ma] I

Connection data

Connection technology: inputs / outputs	16 x CAGE CLAMP®
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	8 ... 9 mm / 0.31 ... 0.35 inch

Physical data

Width	24 mm / 0.945 inch
Height	100 mm / 3.937 inch
Depth	67.8 mm / 2.669 inch
Depth from upper edge of DIN-rail	60.6 mm / 2.386 inch

Mechanical data

Mounting type	DIN-35 rail
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Material data

Color	blue
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Housing material	Polycarbonate; polyamide 6.6
Weight	99.3 g
Conformity marking	CE

Environmental requirements

Surrounding air temperature (operation)	0 ... 55 °C
Surrounding air temperature (storage)	-25 ... 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 %
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

Commercial data

Packaging type	BOX
Country of origin	DE
GTIN	4055143948029
Customs tariff number	8538901000

Approvals / Certificates

Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV_12_ATEX_106032X
	CCCEX CQST/CNEX	CNCA-C23-01	2020312310000211
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079	IECEX TUN 12.0039X

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UL
Underwriters Laboratories Inc. (HAZARDOUS
LOCATIONS)

UL 121201

E198726 Sec.1

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP- REM-W43- AIM750

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

Optional accessories

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 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	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; www.wago.com/210-115 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	www.wago.com/210-118

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	Item no.: 210-196 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslopped; 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; slopped; 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; unslopped; 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; slopped; 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; unslopped; 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; unslopped; 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; slopped; galvanized; similar to EN 60715; silver-colored	www.wago.com/210-508

Supply module

	Item no.: 750-606 Power Supply; 24 VDC; Diagnostics; Intrinsically safe	www.wago.com/750-606
	Item no.: 750-625/000-001 Power Supply; 24 VDC; Intrinsically safe	www.wago.com/750-625/000-001

Marking accessories

	Item no.: 2009-145 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-145
	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	www.wago.com/2009-145/000-002
	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	www.wago.com/2009-145/000-005
	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	www.wago.com/2009-145/000-006
	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	www.wago.com/2009-145/000-007
	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;	

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orange

www.wago.com/2009-145/000-012

	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	www.wago.com/2009-145/000-023
	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	www.wago.com/2009-145/000-024
	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
	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.: 750-103 Group marker carrier	www.wago.com/750-103
	Item no.: 750-107 Group marker carrier	www.wago.com/750-107

Shield termination

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	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

Downloads

Documentation

Data sheet

750-489, 4AI RTD/TC/Strain Gauge Ex i	May 10, 2021	pdf 210.9 kB	Download
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Manual

4AI RTD/TC/Strain Gauge Ex i	V 1.1.0 Jun 9, 2020	pdf 6.6 MB	Download
4-Channel Analog Input; RTD/TC/Strain Gauge; Intrinsically safe			
System Manual WAGO I/O System 750 / 753	V 3.0.2 Apr 27, 2021	pdf 6.6 MB	Download
Decentralized Automation Technology			

Bid Text

750-489 doc - Datei	docx 17.6 kB	Download
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System Description

Overview on WAGO-I/O-SYSTEM 750 approvals	pdf	Download
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750/753 Series I/O-System – General Product Information

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Additional Information

Disposal; Electrical and electronic equipment, Packaging

V 1.0.0

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CAD data

2D/3D Models 750-489

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ZUKEN Portal 750-489

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Installation Notes

Product family

Couplers & I/O modules:
[Show all products from the family](#)

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