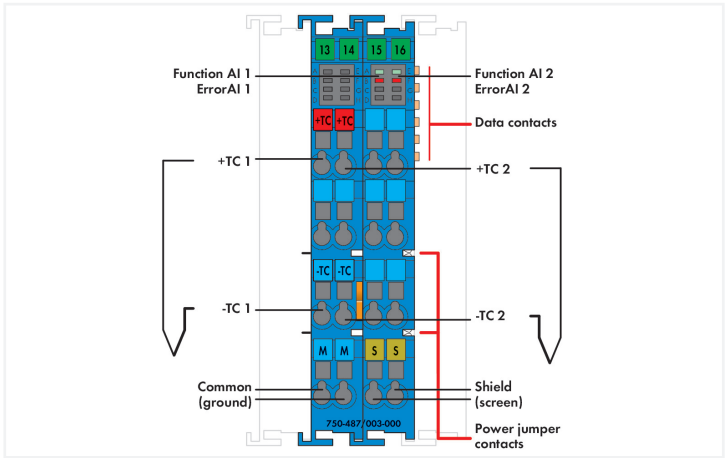
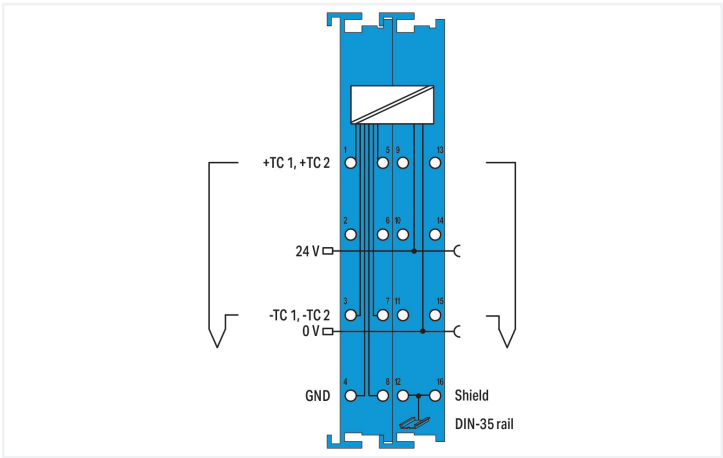
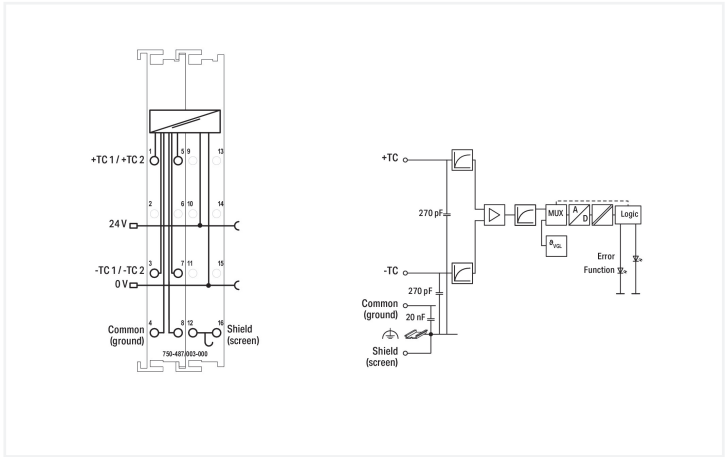
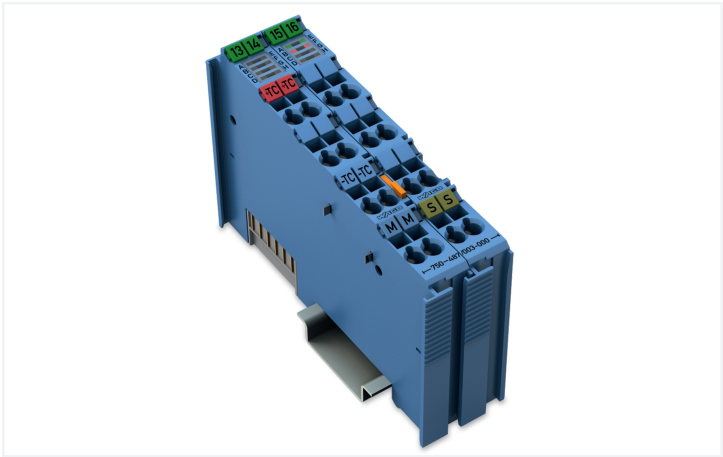




This analog input module directly connects two thermocouples operating in hazardous environments of Zones 0 and 1. The WAGO I/O System 750 must be installed either in Zone 2 or in a non-hazardous area. Internal electrical isolation allows operation of grounded sensors. The module automatically linearizes the entire temperature range. Cold junction compensation mitigates the clamping unit offset voltage over the 0–55°C operating range. The 24 V supply is derived from the module's power jumper contacts. Field and system levels are electrically isolated. The module's operating mode is parameterized via the WAGO-I/O-CHECK software.

- Indicators:**
- Green LED (availability ON/OFF)
 - Red LED (wire breakage, measurement range overflow/underflow)

Notes	
Note	The analog input module must only be operated via 24 VDC Ex i! General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 manuals!



Technical data	
Item description	2-Channel Analog Input; TC
Number of analog inputs	2
Total number of channels (module)	2
Signal type	Thermocouple Low voltages
Signal type (configurable)	Yes
Sensor connection	2 x (2-wire)
Sensor types	Thermocouple K; Configurable: J, B, E, L, N, R, S, T, U, C; Voltage sensor: ±30 mV, ±60 mV, ±120 mV
Temperature range	Type-dependent from -100 to +1,800 °C
Measurement range	Thermocouples: Type B: +600 ... +1.800 °C; Type E: -100 ... +1.000 °C; Type J: -100 ... +1.200 °C; Type K: -100 ... +1.370 °C* *(default setting); Type L: -100 ... +900 °C; Type N: -100 ... +1.300 °C; Type R: 0 ... +1.700 °C; Type S: -50 ... +1.700 °C; Type T: -100 ... +400 °C; Type U: -25 ... +600 °C; Voltage sensors: MB1: ±30 mV; MB2: ±60 mV; MB3: ±120 mV
Resolution (over entire range)	0.1 °C or 0.01 mV for voltage measurement
Conversion time (typ.)	320 ms
Conversion time	≤ 320 ms (both channels)
Measurement error (25 °C)	< ±6 K (voltage input < ±2 K; cold junction compensation < ±4 K)
Temperature coefficient	< ± 0.2 K / K of the largest output area (type K)
Cold junction compensation	internal; at each pair of terminal blocks
Internal resistance	1000 kΩ
Intrinsically safe Ex i	Yes
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Configuration options	WAGO-I/O-CHECK CODESYS Library e! COCKPIT
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	13.5 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)
Current consumption, field supply (module with no external load)	8.5 mA
Power consumption P _{max}	0.3 W (max.)
Power loss P _I	0.3 W (max.)
Isolation	300 VAC system/supply
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Indicators	LED (A, E) green: Function AI 1, AI 2; LED (B, F) red: Error AI 1, AI 2

Explosion protection	
Identification	ATEX II 3 (1) G Ex ec [ia Ga] IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I IECEX/ INMETRO Ex ec [ia Ga] IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I cULus (Zone classified) CI I Zn 2 AEx nA [ia Ga] IIC T4 Gc CI I Zn 2 AEx nA [ia IIIC] IIC T4 Gc Ex nA [ia Ga] IIC T4 Gc X Ex nA [ia IIIC] IIC T4 Gc X cULus (Devision classified) Class I, Div. 2, Group A B C D, T4
Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	U _o = 14.4 V; I _o = 29.1 mA; P _o = 52.4 mW; linear characteristic curve
Reactances Ex ia IIC	L _o = 52 mH; C _o = 650 nF
Reactances Ex ia IIB	L _o = 100 mH; C _o = 4.0 µF
Reactances Ex ia IIA	L _o = 300 mH; C _o = 15.8 µF
Reactances Ex ia I	L _o = 400 mH; C _o = 17.9 µF
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C _o) and inductance (L _o)

Connection data

Connection technology: inputs/outputs	8 x CAGE CLAMP®
Connection type 1	Inputs/outputs
Solid conductor	0.08 ... 2.5 mm² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm² / 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
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Material data

Housing material	Polycarbonate; polyamide 6.6
Fire load	2.063 MJ
Weight	90.5 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 left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom
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
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

Product Group	15 (I/O System)
eCl@ss 10.0	27-24-26-01
eCl@ss 9.0	27-24-26-01
ETIM 9.0	EC001596
ETIM 8.0	EC001596
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
Customs tariff number	85389099990
End of Sale	2021-12-31
End of Production	2022-02-01
End of Delivery	2022-03-01
End of Service and Repair	2023-12-31



Environmental Product Compliance	
CAS-No.	1303-86-2 1317-36-8 7439-92-1
REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	b56dfa7d-18b4-474a-a83f-27930136fc21
SCIP notification number (Belgium)	93594fcd-27f9-4e10-9170-da2494291795
SCIP notification number (Bulgaria)	653f4453-099b-424a-bfa1-1c96483e7cec
SCIP notification number (Czech Republic)	e7505689-c728-4ae4-9d13-7f86edb9e571
SCIP notification number (Denmark)	423af5ab-9257-4495-9eea-7cadd8545cf9
SCIP notification number (Finland)	82a236c9-ebe6-453d-9790-d157a3db26af
SCIP notification number (France)	54ceb1ea-d176-4d7a-a669-f3f1fd9a4198
SCIP notification number (Germany)	5042dc3f-9a4c-4853-afed-28f43231691e
SCIP notification number (Hungary)	220162ce-bc1b-4bbc-b0b4-1820d09f3d76
SCIP notification number (Italy)	00cc9733-cdf5-42e1-91c2-ab11868cb841
SCIP notification number (Netherlands)	220cfcbb-131b-4ba4-b415-b089b4c46e4d
SCIP notification number (Poland)	812ac902-7ae5-41bc-ac4e-912e853f052b
SCIP notification number (Romania)	31380e67-cfa0-4185-add1-d14563061995
SCIP notification number (Sweden)	1b2fe975-a8ea-4639-8739-68e1ee12d760

Approvals / Certificates

General approvals

Declarations of conformity and manufacturer's declarations

 		
Approval	Standard	Certificate Name
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-AIM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199

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

Approvals for marine applications

    		
Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	22-2219060
BV Bureau Veritas S.A.	-	30389/C0 BV
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
LR Lloyds Register EMEA	-	LR22180952TA
PRS Polski Rejestr Statków	-	TE/1101/880590/23
RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

       		
		
Approval	Standard	Certificate Name
AEx UL International Germany GmbH	UL 60079	E480271
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV12ATEX106032X (Ex ec[iaGa] IIC T4 Gc, [Ex ia-Da] IIIC, [Ex iaMa] I)
CCC CNEX	CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex ia-Da] IIIC, [Ex iaMa] I)
IECEX TUEV Nord Cert GmbH	IEC 60079	IECEX TUN12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex ia-Da] IIIC, [Ex iaMa] I)



Approvals for hazardous areas		
INMETRO TÜV Rheinland do Brasil Ltda.	-	TÜV_14.1911_X
UKEx Element Materials Techno- logy UK	-	EMA21UKEX0069X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 750-487/003-000	↓

Documentation

Manual			
Product Manual 2- channel, Ex i thermo- couples	V 1.2.0	pdf 2687.04 KB	↓
System Description			
750/753 Series I/O- System – General Pro- duct Information		pdf 953.35 KB	↓
Overview on WAGO-I/ O-SYSTEM 750 appro- vals		pdf 770.48 KB	↓
Ex i Overview		pdf 442.07 KB	↓

Bid Text			
750-487/003-000	19.02.2019	xml 7.26 KB	↓
750-487/003-000	06.10.2017	doc 34.00 KB	↓

Instruction Leaflet			
CCC Ex (Additional in- formation)	26.04.2023	pdf 143.96 KB	↓

Application Notes

Application Note CoDeSys 2.3			
Application Note Libra- ry ModuleAccess_01	05.01.2016 29.01.2016	zip 1001.22 KB	↓



CAD/CAE-Data	
CAD data	CAE data
2D/3D Models 750-487/003-000	EPLAN Data Portal 750-487/003-000
	WSCAD Universe 750-487/003-000
	ZUKEN Portal 750-487/003-000

Device Files	
Device Driver	
WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0 10.09.2014 zip 4721.96 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.: 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
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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.: 750-606
Power Supply; 24 VDC; Diagnostics; Intrinsically safe



Item No.: 750-625/000-001
Power Supply; 24 VDC; Intrinsically safe