

Data sheet | Item number: 750-485

2-channel analog input; 4 ... 20 mA; Single-ended; Intrinsically safe

www.wago.com/750-485



Color:



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

WAGO GmbH & Co. KG
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We are always happy to take your call at +49 (571) 887-44222.



Item description

This analog input module powers the intrinsically safe signal conditioners located in the hazardous areas of Zone 0+1 and processes their analog signals.

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 transmitter supply is non-inherently electronically short-circuit-protected.

The shield directly connects to the DIN-rail.

Indicators:

- Green LED (signal current on/off)

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- Red LED (wire breakage, measurement range overflow/underflow)

Field and system levels are electrically isolated.

Data

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

Number of analog inputs	2
Total number of channels (module)	2
Signal type	Current
Signal type (current)	4 ... 20 mA DC
Sensor connection	2 x (3-wire)
Signal characteristics	Single-ended
Resolution [bit]	12 bits
Conversion time (typ.)	2 ms
Measurement error (reference temperature)	25 °C
Measurement error, deviation (max.) from the upper-range value	0.2 %
Temperature error (max.) of the upper-range value	0.01 %/K
Input resistance (max.)	100 Ω
Intrinsic safety Ex i	Yes
Data width	2 x 16-bit data; 2 x 8-bit control/status (optional)
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	31 mA
Supply voltage (field)	24 VDC; (Ex i power supply: $U_O = \text{max. } 27.3 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	11 mA
Power consumption P_{max}	1.3 W
Power loss P_I	0.75 W
Isolation	300 VAC system/supply
Number of incoming power jumper contacts	2

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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
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

Explosion protection

Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$; $I_o = 90 \text{ mA}$; $P_o = 0.61 \text{ W}$; linear characteristic curve
Reactances Ex ia IIC	$L_o = 5 \text{ mH}$; $C_o = 88 \text{ nF}$
Reactances Ex ia IIB	$L_o = 18 \text{ mH}$; $C_o = 680 \text{ nF}$
Reactances Ex ia IIA	$L_o = 40 \text{ mH}$; $C_o = 2.2 \text{ }\mu\text{F}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 3.5 \text{ }\mu\text{F}$
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

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 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

Color	blue
Housing material	Polycarbonate; polyamide 6.6

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Fire load	2.379 MJ
Weight	97.6 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 %
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 8.0	EC001596
ETIM 7.0	EC001596
Recupel Type	
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
Customs tariff number	85389099990

Environmental Product Compliance

CAS-No.	11120-22-2 1303-86-2
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1317-36-8

7439-92-1

REACH Candidate List Substance	Diboron trioxide Lead Lead monoxide Lead silicate
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Bulgaria)	5065582b-f270-43af-9e74-f9e23017a7b1
SCIP notification number (Czech Republic)	0170611b-8bdf-4c42-9ac1-72bd32bec088

Commercial data

eCl@ss 9.0
ETIM 8.0
ETIM 7.0
Customs tariff number

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	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 Sec.1

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Ex-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	22-2219060
	BV	-	13453/E0 BV

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Bureau Veritas S.A.		
DNV DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194
KR Korean Register of Shipping	-	KR HMB05880-AC001
LR Lloyds Register EMEA	-	LR22180952TA
PRS Polski Rejestr Statków	-	TE/2236/880590/19
RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
AEx UL International Germany GmbH		UL 60079	E480271
ATEX TUEV Nord Cert GmbH		EN 60079-0	TUEV_12_ATEX_106032X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
CCC CNEX		CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
EAC Brjansker Zertifizierungsstelle		TP TC 012/2011	EAC RU C-DE.AM02.B.00163/19 ([ExiaMa] I X, 2Ex e[iaGa] IIC T4 Gc X, [ExiaDa] IIIC X)
INMETRO TÜV Rheinland do Brasil Ltda.		-	TÜV_14.1911_X
KTL Korea Testing Laboratory		KOSHA Article 34, IEC60079-0	20-KA4BO-0643X
TUEV Nord TUEV Nord Cert GmbH		IEC 60079	IECEx TUN 12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)		UL 121201	E198726 Sec.1

Optional accessories

Carrier rail

Mounting accessories

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

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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
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.: 210-118 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.: 210-112 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.: 210-114 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.: 210-196 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

Supply module

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

Marking accessories

Marker carrier	
Item no.: 750-103 Group marker carrier	www.wago.com/750-103
Marker	

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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
 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.: 2009-145/000-007
 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.: 2009-145/000-005
 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.: 2009-145/000-012
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; 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.: 248-501/000-006
 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.: 248-501/000-002
 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow www.wago.com/248-501/000-002

Item no.: 248-501/000-012
 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange www.wago.com/248-501/000-012

Item no.: 248-501
 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white www.wago.com/248-501

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

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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.: 248-501/000-024 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet	www.wago.com/248-501/000-024
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
Group marker carrier	
Item no.: 750-107 Group marker carrier	www.wago.com/750-107
Shield termination	
Shield clamping saddles	
Item no.: 790-116 Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm	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
Item no.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	www.wago.com/790-108
Item no.: 790-140 Shield clamping saddle; diameter of compatible conductor	www.wago.com/790-140
Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	www.wago.com/790-216
Item no.: 790-220 Shield clamping saddle; 30 mm wide; 6 ... 20 mm	www.wago.com/790-220
Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	www.wago.com/790-208

Downloads

Documentation

Data sheet

750-485, 2AI 4-20mA Ex i, data sheet	pdf 247.2 kB	Download
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Manual

System Manual WAGO I/O System 750/753	V 3.3.3	pdf	Download
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CCC Ex (Additional information) WAGO-I/O-SYSTEM 750-*** Ex i	2023 年4月26 日	pdf 147.4 kB	Download
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Additional Information			
Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 年8月18 日	pdf 2.2 MB	Download
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ZUKEN Portal 750-485

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Device Files

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857

6.5.3.0

2014 年9月10 日

zip

4.8 MB

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Installation Notes

Product family

WAGO I/O System 750/753

[Show all products from the family](#)

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