

Data sheet | Item number: 750-435

1-channel digital input; NAMUR; Intrinsically safe

www.wago.com/750-435



Color:



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

WAGO GmbH & Co. KG
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Item description

This digital input module records binary signals from sensors operating in Zone 0+1 hazardous areas.

NAMUR sensors, optocouplers, mechanical contacts (in conjunction with resistance coupling module, available as an accessory) or other actuating elements can be connected via intrinsically safe devices.

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

Each sensor is supplied with a short-circuit-protected voltage of 8.2 V.

Indicators:

- Green LED (signal on)
- Red LED (short circuit, wire breakage)

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



Field and system levels are electrically isolated.

Data

Notes

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

Technical data

Number of digital inputs	1
Total number of channels (module)	1
Signal type	NAMUR
Sensor connection	1 x (2-wire)
Input characteristic	High-side switching
Input filter (digital)	3 ms
Protection against incorrect wiring	Short circuit monitoring: > 6.4 mA Wire break monitoring: < 0.2 mA
Open-circuit voltage	8.2 V
Short-circuit current	≤ 8.2 mA
Signal current (0) NAMUR	≤ 1.2 mA
Signal current (1) NAMUR	≥ 2.1 mA
Switching hysteresis	0.2 mA
Diagnostics	Short circuit, wire break
Input pulse length	5 ms
Input pulse separation	3 ms
Power consumption P _{max.}	0.5 W
Input data width (internal) max.	2 bits
Data width	2-bit input: 1-bit status, 1-bit error (short circuit/wire break)
Intrinsic safety Ex i	Yes
Input resistance	1,000 Ω
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	2.5 mA

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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)	13 mA
Power loss P_I	0.37 W
Isolation	300 VAC system/supply
Indicators	LED (A) green: Status DI; LED (B) red: Error DI
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Current carrying capacity (power jumper contacts)	1 A
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)	$U_o = 12 \text{ V}$; $I_o = 16 \text{ mA}$; $P_o = 48 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 180 \text{ mH}$; $C_o = 1.4 \mu\text{F}$
Reactances Ex ia IIB	$L_o = 560 \text{ mH}$; $C_o = 9 \mu\text{F}$
Reactances Ex ia IIA	$L_o = 900 \text{ mH}$; $C_o = 36 \mu\text{F}$
Reactances Ex ia I	$L_o = 1 \text{ H}$; $C_o = 38 \mu\text{F}$
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Connection data

Connection technology: inputs/outputs	8 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	12 mm / 0.472 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

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Mechanical Data

Mounting type	DIN-35 rail
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Material Data

Color	blue
Housing material	Polycarbonate; polyamide 6.6
Fire load	0.976 MJ
Weight	46 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)
ETIM 8.0	EC001599
ETIM 7.0	EC001599
Recupel Type	
PU (SPU)	1 pcs
Packaging type	box

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



Country of origin	DE
GTIN	4045454725532
Customs tariff number	85389099990

Environmental Product Compliance

CAS-No.	11120-22-2 1303-86-2 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 (Austria)	2a239591-bd21-4dcf-ad44-aa133fd632ec
SCIP notification number (Belgium)	caed6a3c-d43e-48a9-8c5b-cbdd36302921
SCIP notification number (Bulgaria)	efce4914-2a6b-4272-914c-49f5bd245c34
SCIP notification number (Czech Republic)	ba99738d-70c7-40ef-a58d-5ce1b6c44c12
SCIP notification number (Denmark)	242f35ef-1631-48f8-92dc-4bbb4a6f2be9
SCIP notification number (Finland)	3289bfe7-27f4-4a4a-bb33-98ffc547d33b
SCIP notification number (France)	99c3910d-1f2a-425a-aba7-5a5a668ad948
SCIP notification number (Germany)	179a190c-c50a-4435-8bff-002aa1961681
SCIP notification number (Hungary)	1804c544-4aa8-4a60-801e-7e904eb0bca0
SCIP notification number (Italy)	3957ac6d-4b92-441e-b521-75e065e484a8
SCIP notification number (Netherlands)	524614ab-47cd-49dd-80bd-65f7ba9204e6
SCIP notification number (Poland)	f95aa432-fa87-4e68-ac0b-f93183e55beb
SCIP notification number (Romania)	54304629-0e14-4aac-a480-9d935947784e
SCIP notification number (Sweden)	2de901ee-f633-43a5-b3d3-96589416b697

Notes

Note

Technical data

Sensor connection

Input characteristic

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Protection against incorrect wiring

Intrinsic safety Ex i

Diagnostics

Supply voltage (field)

Indicators

Environmental Product Compliance

RoHS Exemption	7(a)
	7(c)-I
	7(c)-II

Mechanical data

Mounting type

Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-25 ... +85 °C
Pollution degree	
Operating altitude	
Mounting position	
EMC immunity to interference	
EMC emission of interference	
Exposure to pollutants	

Connection data

Connection type 1

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087 /19
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-DIM750

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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 Bureau Veritas S.A.	-	13453/E0 BV
	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
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079	IECEx TUN 12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex

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iaDa] IIIC, [Ex iaMa] I)

UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1
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Optional accessories**Marking accessories**

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

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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
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
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
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-	www.wago.com/210-508

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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.: 210-118**

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**Sensors**

Component module with a resistor

Item no.: 288-936Component module with resistor; 2,50 mm²www.wago.com/288-936**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**Supply module**

Supply module

Item no.: 750-625/000-001

Power Supply; 24 VDC; Intrinsically safe

www.wago.com/750-625/000-001

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Item no.: 750-606

Power Supply; 24 VDC; Diagnostics; Intrinsically safe

www.wago.com/750-606

Downloads Documentation

Data sheet

750-435, 1DI NAMUR Ex i, data sheet	pdf 237.7 kB	Download
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Manual

System Manual WAGO I/O System 750/753 Decentralized Automation Technology	V 3.3.3 2023 年8月29 日	pdf 8.7 MB	Download
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Product Manual 1-Channel, NAMUR Ex i Proximity switch acc. to DIN EN 50227	V 1.3.0	pdf 2.0 MB	Download
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System Manual Series 750/753 Online HTML		URL	Download
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Bid Text

750-435 X81 - Datei	2019 年2月19 日	xml 6.4 kB	Download
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750-435 doc - Datei	2017 年10月6 日	doc 31.2 kB	Download
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Instruction Leaflet

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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System Description

750/753 Series I/O-System – General Product Information		pdf 976.2 kB	Download
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Ex i Overview		pdf 233.9 kB	Download
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Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 223.5 kB	Download
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Additional Information

Disposal and Recycling	V 1.1.0	pdf	Download
Electrical and electronic equipment, Batteries, Packaging	2022 年8月18 日	2.2 MB	

CAD/CAE-Data

CAD data

2D/3D Models 750-435	URL	Download
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CAE data

EPLAN Data Portal 750-435	URL	Download
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ZUKEN Portal 750-435	URL	Download
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WSCAD Universe 750-435	URL	Download
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Device Files

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0	zip	Download
	2014 年9月10 日	4.8 MB	

Installation Notes

Product family

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

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