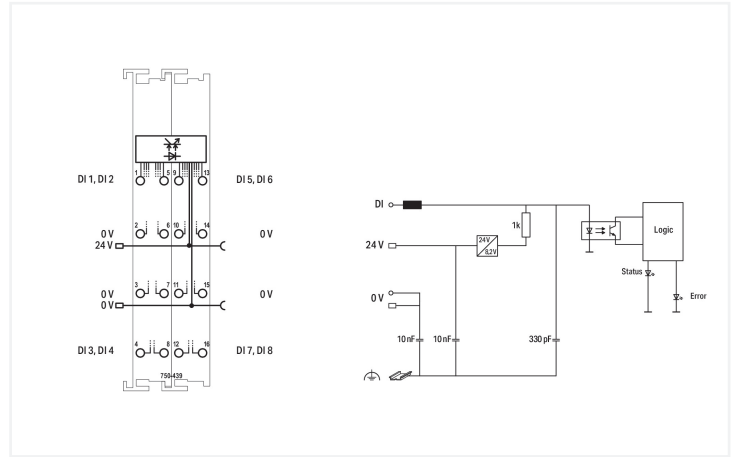
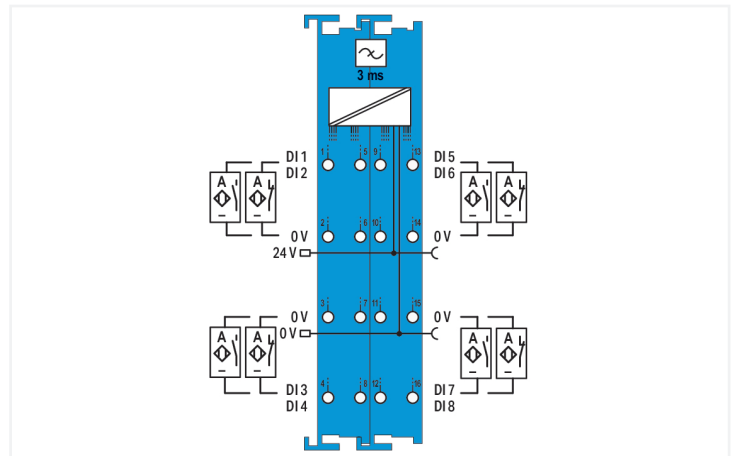
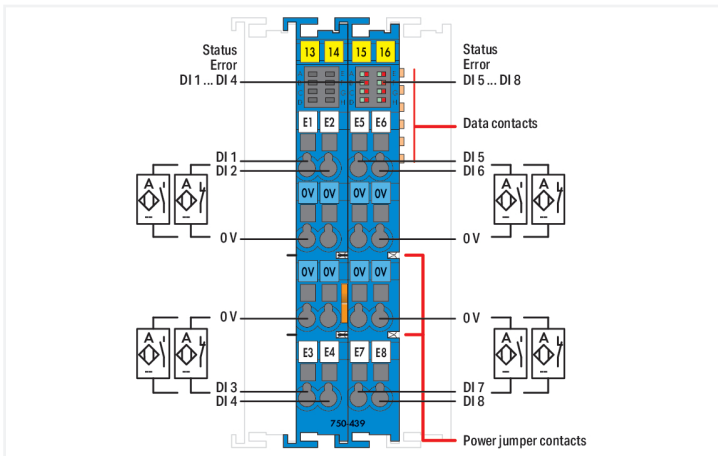


Data Sheet | Item Number: 750-439
8-channel digital input; NAMUR; Intrinsically safe

<https://www.wago.com/750-439>



Color: ■ blue



This digital input module records binary signals from sensors operating in Zone 0+1 hazardous areas, permitting channel-by-channel short circuit and wire-break diagnostics.

NAMUR sensors, optocouplers, mechanical contacts or other actuating elements can also be connected via intrinsically safe devices. The process image can be used to define the sensor type (break or make contact) as well as to switch off the diagnostics (e.g., if contact monitoring in order to suppress the LED diagnostics).

The WAGO I/O System 750/753 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)
- Red flashing LED (wire-break)

Field and system levels are electrically isolated.

Notes

Note	The digital input module must only be operated with a 24 VDC Ex i power supply! General information on explosion protection, including installation regulations, can be found in the WAGO I/O System 750/753 manuals!
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Technical data

Item description	8-Channel Digital Input; NAMUR
Number of digital inputs	8
Total number of channels (module)	8
Signal type	NAMUR
Signal current (0) NAMUR	≤1.2 mA
Signal current (1) NAMUR	≥2.1 mA
Sensor connection	8 x (2-wire)
Input characteristic	high-side switching
Input filter	3 ms
Sensor supply	8.2 VDC
Input pulse length	≥5 ms
Input pulse separation	≥3 ms
Protection against incorrect wiring	Short circuit monitoring: > 6.4 mA Wire break monitoring: < 0.3 mA
Open-circuit voltage	8.2 V
Short-circuit current	≤ 8.2 mA (± 0.2 mA)
Switching hysteresis	0.2 mA
Input resistance	1000 Ω
Intrinsically safe Ex i	Yes
Diagnostics	Short circuit; wire break (can be switched off)
Input data width (internal) max.	16 bits
Output data width (internal) max.	16 bits
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	56 mA
Supply voltage (field)	24 VDC; (Ex i power supply: $U_o = \max. 26.8 \text{ V}$); via power jumper contacts (supply via blade contact; distribution via spring contact)
Current consumption, field supply (module with no external load)	11 mA
Power consumption P_{max}	1.2 W
Power loss P_l	0.54 W
Isolation	300 VAC system/supply
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2
Current carrying capacity (power jumper contacts)	1 A
Indicators	LED (A-H) green/red: Status/error DI 1 ... DI 8

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): Cl I Zn 2 AEx nA [ia Ga] IIC T4 Gc; Cl 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 (Devison classified): Class I, Div. 2, Group A B C D, T4
Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	$U_o = 11.76 \text{ V}$; $I_o = 12.4 \text{ mA}$; $P_o = 36.67 \text{ mW}$; linear characteristic curve
Reactances Ex ia IIC	$L_o = 100 \text{ mH}$; $C_o = 1 \mu\text{F}$
Reactances Ex ia IIB	$L_o = 100 \text{ mH}$; $C_o = 9.9 \mu\text{F}$
Reactances Ex ia IIA	$L_o = 100 \text{ mH}$; $C_o = 39 \mu\text{F}$
Reactances Ex ia I	$L_o = 100 \text{ mH}$; $C_o = 30 \mu\text{F}$
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Connection Data

Connection technology: I/O	16 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	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
Fire load	1.97 MJ
Weight	92.7 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)
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4050821623366
Customs tariff number	8517620000

Product Classification	
UNSPSC	32151705
eCl@ss 10.0	27-24-26-04
eCl@ss 9.0	27-24-26-04
ETIM 9.0	EC001599
ETIM 10.0	EC001599
ECCN	NO US CLASSIFICATION

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)	ab2b0b13-bb95-4c15-8394-82c4c9d52749
SCIP notification number (Belgium)	c6ee6b5f-6f1a-471d-8c44-1f6d6389d951
SCIP notification number (Bulgaria)	891c072a-a3e2-4eb6-8107-16c3e92cacf2
SCIP notification number (Czech Republic)	5bf03aac-ebfb-43ce-88a4-240cf142f532
SCIP notification number (Denmark)	a03e9e8e-795d-4e0b-b425-01d5f0683a7c
SCIP notification number (Finland)	1758daaa-6689-4e30-887e-2cda3c834e90
SCIP notification number (France)	56b0f838-dc81-4307-8f78-bd3bec62180f
SCIP notification number (Germany)	f7ef89ec-ea5f-4bb7-924a-2c3007fb12ec
SCIP notification number (Hungary)	d9edf110-7a3d-4f12-ae42-db22248b10f5
SCIP notification number (Italy)	713a564a-6988-4f06-8add-5f6267f159a4
SCIP notification number (Netherlands)	55c285c4-aca9-47a9-9d76-6c974645c1f6
SCIP notification number (Poland)	d1cc851c-a1f8-4e6c-be16-f432d7894d28
SCIP notification number (Romania)	b075eed-eeb3-4cb5-959f-0a476fb1531b
SCIP notification number (Sweden)	bbcf69d5-e8d2-4110-9130-751ea0742175

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083	EU-Ex-Declaration of Con- formity WAGO GmbH & Co. KG	-	-
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-DIM750			

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Shipping	-	22-2219060
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/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 iaDa] IIIC, [Ex iaMa] I)
CCC CNEX	CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
IECEX TUEV Nord Cert GmbH	IEC 60079	IECEX TUN12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
INMETRO TÜV Rheinland do Brasil Ltda.	-	TÜV_14.1911_X
KTL Korea Testing Laboratory	KOSHA Article 34, IEC60079-0	20-KA4BO-0094X
UKEx Element Materials Technology UK	-	EMA21UKEX0069X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-439



Documentation

Manual

System Manual Series 750/753



Product Manual NA-MUR, Ex-i, 8-Channel Digital Input Module
3321881995 | 6 | en-US | 2025-09-09 11:32
pdf 2820.70 KB



System Description

750/753 Series I/O-System – General Product Information

pdf 953.35 KB



Overview on WAGO-I/O-SYSTEM 750 approvals

pdf 770.48 KB



Ex i Overview

pdf 442.07 KB



Bid Text			
750-439	19.02.2019	xml 7.49 KB	↓
750-439	06.10.2017	docx 16.32 KB	↓

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 143.96 KB	↓








CAD/CAE-Data	
CAD data	CAE data
2D/3D Models 750-439 ↓	EPLAN Data Portal 750-439 ↓
	WSCAD Universe 750-439 ↓
	ZUKEN Portal 750-439 ↓

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.: 210-197 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored	 Item No.: 210-114 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.: 210-112 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.: 210-113 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; 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 In-line; 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 In-line; 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 In-line; 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 In-line; 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 In-line; 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 In-line; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet	 Item No.: 2009-145 Mini-WSB In-line; 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 In-line; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

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.: 750-606

Power Supply; 24 VDC; Diagnostics; Intrinsically safe



Item No.: 750-625/000-001

Power Supply; 24 VDC; Intrinsically safe