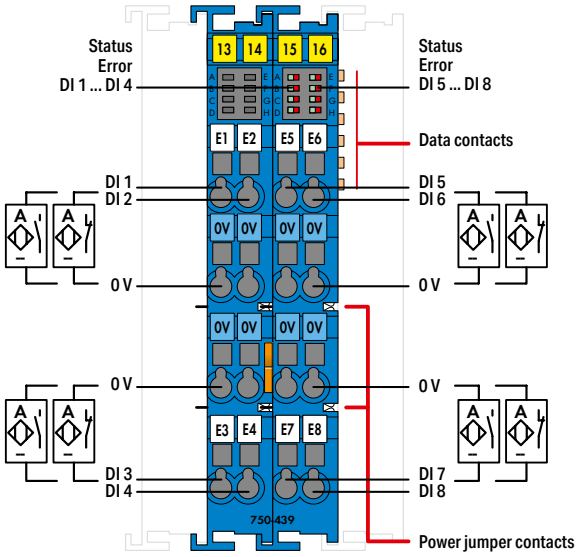
8-Channel Digital Input; NAMUR; Intrinsically Safe



The Digital Input Module records binary signals from sensors operating in hazardous environments of Zones 0 and 1, permitting channel-bychannel short-circuit and wire-break diagnostics.

NAMUR sensors, optocouplers, mechanical contacts or other actuating elements can be connected via intrinsically safe devices. The process image can be used to define the sensor type (NC – Normally closed; NO – Normally open) 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 must be installed either in Zone 2 or in a non-hazardous area.

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

LED displays:
- Green LED (signal ON)
- Red LED (short-circuit)
- Red flashing LED (wire-break)

Field and system levels are electrically isolated.

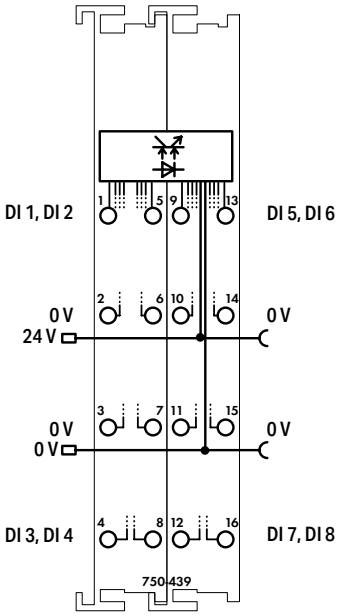
Note: The digital input module must only be operated via Ex i 24VDC power supply!

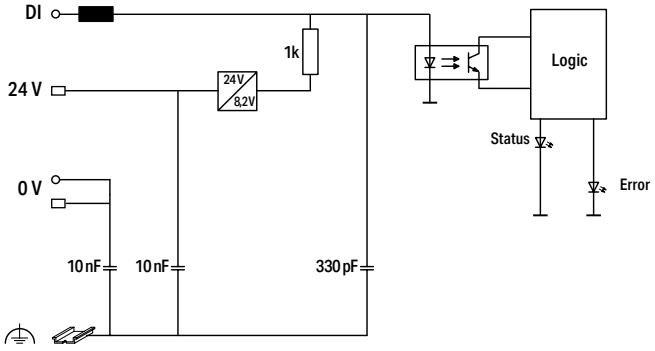
General information (e.g., installation regulations) on explosion protection is available in the WAGO-I/O-SYSTEM 750 manuals!

Description	Item No.	Pack. Unit
8DI NAMUR Ex i	750-439	1

Accessories	Item No.	Pack. Unit
Mini-WSB Quick Marking System, plain	248-501	50

Technical Data	
Number of digital inputs	8
Signal type	NAMUR
Sensor connection	2-conductor
Input characteristic	High-side switching
Input filter (digital)	3 ms
Signal current (0) NAMUR	≤ 1.2 mA
Signal current (1) NAMUR	≥ 2.1 mA
Open-circuit voltage	8.2 VDC
Input resistance	1 kΩ
Input pulse length	≥ 5 ms
Input pulse separation	≥ 3 ms
Switching hysteresis	0.2 mA
Short-circuit current	≤ 8.2 mA (± 0.2 mA)
Short circuit monitoring	> 6.4mA
Wire break monitoring	< 0.3 mA
Diagnostics	Short circuit; wire break
Supply voltage (sensor)	8.2 VDC (± 0.2 V); short-circuit-protected, isolated channels
Supply voltage (field)	24 VDC; via power jumper contacts (Ex i power supply: U_O = max. 27.3 V)
Current consumption (field supply)	11 mA + load
Current consumption (system supply)	56 mA
Power consumption $P_{max.}$	1.2 W
Power loss P_l	0.54 W
Isolation	300 VAC system/supply
Bit width	2 x 16-bit data





Technical Data	
Connection technology	CAGE CLAMP®
Conductor range	0.08 … 2.5 mm² / 28 … 14 AWG
Strip length	8 … 9 mm / 0.33 inch
Dimensions W x H x D	24 x 67.8 x 100 mm
Weight	95.6 g
Ambient temperature (operation)	0 … 55 °C
Ambient temperature (storage)	−40 … +85 °C
Relative humidity (without condensation)	95 %
Operating altitude	0 … 2000 m
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)

Explosion protection	
Safety-relevant data (circuit)	U_o = 11.76 V; I_o = 12.4 mA; P_o = 36.67 mW; Linear characteristic curve
Reactances Ex ia IIC	L_o = 100 mH; C_o = 1 µF
Reactances Ex ia IIB	L_o = 100 mH; C_o = 9.9 µF
Reactances Ex ia IIA	L_o = 100 mH; C_o = 39 µF
Reactances Ex ia I	L_o = 100 mH; C_o = 30 µF
Reactances	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o); For reactances that take into account the concurrence of C_o and L_o, see manual

Guidelines and Approvals	
Conformity marking	CE
Ex guideline	EN/IEC 60079-0, -7, -11
Marine applications	ABS, DNV GL, LR, PRS, RINA
E175199 Ordinary Locations	
TÜV 12 ATEX 106032 X	I (M1) [Ex ia Ma] I, II 3 (1) G Ex ec [ia Ga] IIC T4 Gc, II (1) D [Ex ia Da] IIIC
IECEx TUN 12.0039 X	[Ex ia Ma] I Ex ec [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC
TÜV 14.1911 X	Ex d [ia Ma] I Mb, Ex nA [ia Ga] IIC T4 Gc, Ex tc [ia Da] IIIC T135 °C Dc
UL E480271 Hazardous Locations (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
UL E198726 Hazardous Locations (Division classified)	Class I, Div. 2, Group A B C D, T4

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