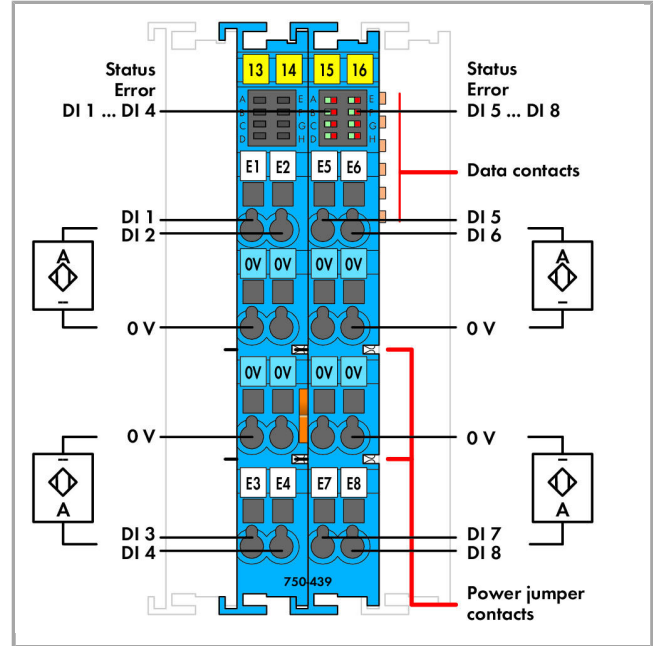
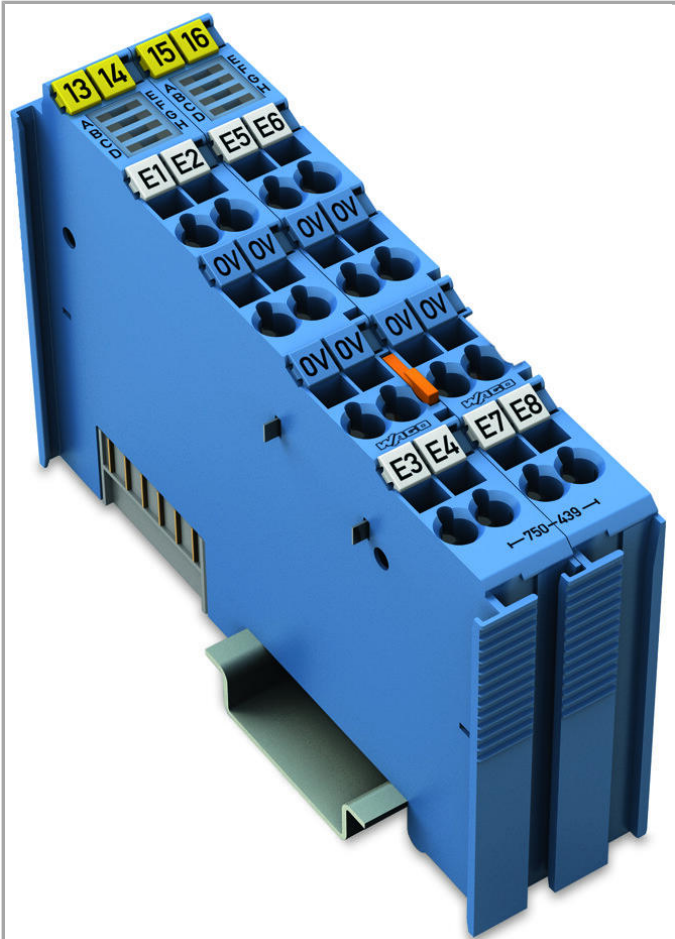


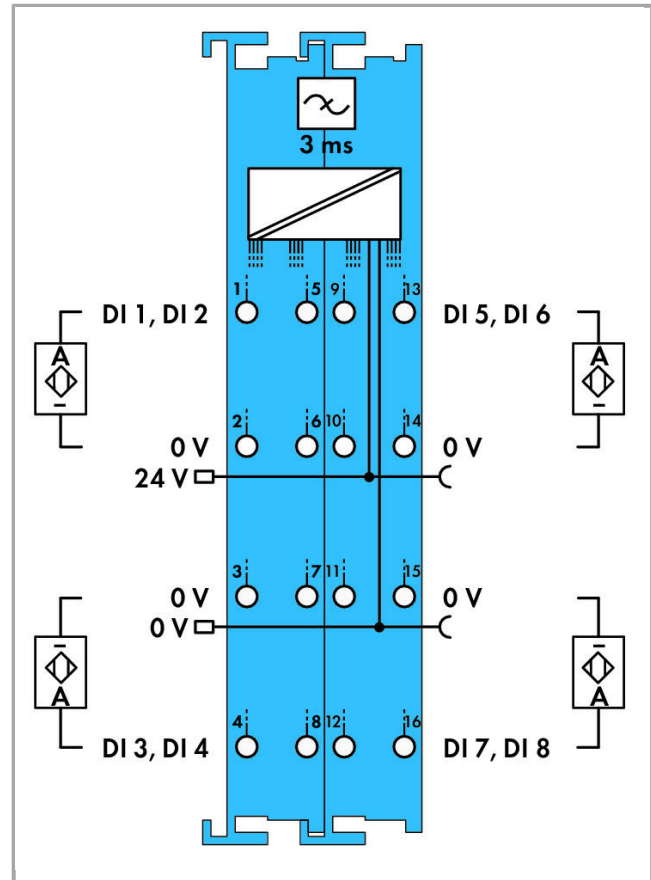
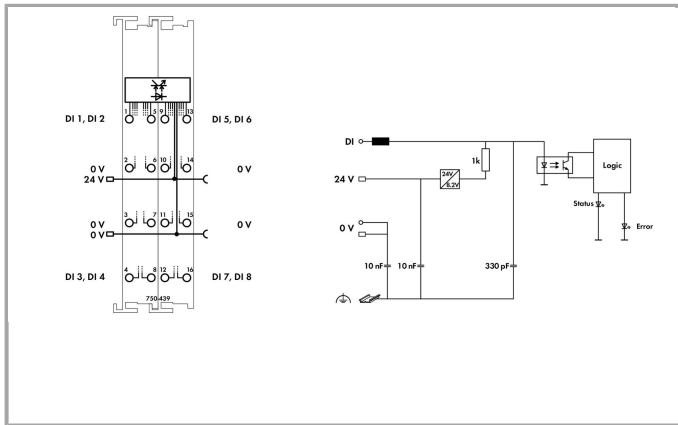
Data sheet | Item number: 750-439  
 8-channel digital input; NAMUR; Intrinsically safe



750-439



RoHS  Compliant [BOMcheck.net](https://www.bomcheck.net)



## Item description

The 750-439 Digital Input Module records binary signals from sensors operating in hazardous environments of Zones 0 and 1, permitting channel-by-channel short-circuit and wire-break diagnostics. NAMUR sensors, optocouplers, mechanical contacts (LED diagnostics can be turned off via control byte) 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 8.2V.

Field and system levels are electrically isolated.

LED displays:

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

## 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!

## Data

## Technical Data

Number of digital inputs	8
Total number of channels (module)	8
Type of signal	NAMUR
Sensor supply voltage	DC 8.2 V; short-circuit-protected, isolated channels
Sensor connection	4 x (2-conductor)
Input characteristic	high-side switching
Input filter (digital)	3 ms
Open-circuit voltage	8.2 V
Short-circuit current	$\leq 8.2 \text{ mA}$ ( $\pm 0.2 \text{ mA}$ )
Signal current (0) NAMUR	1.2 mA
Signal current (1) NAMUR	2.1 mA
Switching hysteresis	0.2 mA
Contact resistance max.	1000 $\Omega$
Input pulse duration	5 ms
Input pulse separation	3 ms
Power consumption $P_{\text{max}}$	1.2 W
Max input data width (internal)	16 Bit
Max output data width (internal)	16 Bit
Intrinsic safety Ex i	yes
System supply voltage	DC 5 V; via data contacts
Current consumption, system supply (5 V)	56 mA
System and sensor supply voltage	)
Field supply voltage	DC 24 V; (Versorgung über Einspeisung Ex i $U_O = \text{max. } 27,3 \text{ V}$ ); über Leistungskontakte (Einspeisung über Messerkontakt; Weiterleitung über Federkontakt)
Current consumption, field supply (module with no external load)	11 mA
Power loss $P_V$	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 of the power jumper contacts	1 A
Ex guideline	EN/IEC 60079-0, -7, -11, -26, -31
Electric circuit, safety-relevant data	$U_O = 11.76 \text{ V}$ ; $I_O = 12.4 \text{ mA}$ ; $P_O = 36.67 \text{ mW}$ ; Characteristic: Linear
Reactances Ex ia IIC	$L_O = 100 \text{ mH}$ ; $C_O = 1 \mu\text{F}$
Reactances Ex ia IIB	$L_O = 100 \text{ mH}$ ; $C_O = 9.9 \mu\text{F}$
Ex ia IIA reactances	$L_O = 100 \text{ mH}$ ; $C_O = 9,9 \mu\text{F}$
Reactances Ex ia I	$L_O = 100 \text{ mH}$ ; $C_O = 30 \mu\text{F}$

## Reactances

(The above-listed ratings do not account for the coincidental occurrence of capacitances and inductances. For ratings taking the coincidental occurrence of capacitances and inductances into account, see manual)

## Marking

ATEX, IECEx, INMETRO, Underwriters Laboratories Inc.

**Connection data**

Connection technology: In-/Outputs	16 x CAGE CLAMP®
Connection type (1)	Inputs/Outputs
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch

**Geometrical Data**

Width	24 mm / 0.945 inch
Height	67.8 mm / 2.669 inch
Height from upper-edge of DIN-35 rail	60.6 mm / 2.386 inch
Depth	100 mm / 3.937 inch

**Mechanical data**

Type of mounting	DIN-35 rail
------------------	-------------

**Material Data**

Color	blue
Housing material	Polycarbonate, polyamide 6.6
Fire load	0 MJ
Weight	92.7 g
Conformity marking	1

**Environmental Requirements**

Surrounding air (operating) temperature	0 ... 55 °C
Surrounding air (storage) temperature	-40 ... 85 °C
Protection class	IP20
Degree of pollution (5)	2 per IEC 61131-2
Operating altitude	0 ... 2000 m
Mounting position	horizontal (standing/lying) or vertical
Relative air humidity (no condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	acc. to EN 61000-6-2, marine applications


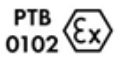

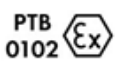

EMC emission of interference	acc. to EN 61000-6-3, marine applications
Exposure to pollutants	Per IEC 60068-2-42 and IEC 60068-2-43
Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %	25 ppm

### Commercial data

Product Group	15 (Remote I/O)
Country of origin	DE
GTIN	4050821623366
Customs Tariff No.	85389099990

### Approvals / Certificates

#### Ex-Approvals

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
	IECEX TUEV Nord Cert GmbH	IEC 60079	IECEX TUN 12.0039X
	INMETRO TÜV Rheinland do Brasil Ltda.	-	TÜV_14.1911_X
	TUEV Nord TUEV Nord Cert GmbH	EN 60079-0	TUEV_12_ATEX_106032X
	TUEV Nord TUEV Nord Cert GmbH	-	TÜV_14.1911_X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726 Sec.1

#### Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
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KC  
National Radio Research Agency


Article 58-2, Clause 3

MSIP-  
REM-W43-  
DIM750

### Ship Approvals




Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	19- HG1821926
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAA0000194
	<b>GL</b> Germanischer Lloyd	-	11 631 - 10 HH
	<b>PRS</b> Polski Rejestr Statków	-	TE/2236 /880590/19



















### UL-Approvals
















Logo	Approval	Additional Approval Text	Certificate name
	<b>UL</b> UL International Netherlands B.V. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1





### Compatible products

#### Carrier rail

	<b>Item no.: 210-112</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm	210-112
	<b>Item no.: 210-113</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715	210-113
	<b>Item no.: 210-114</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715	210-114

	<b>Item no.: 210-115</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm	210-115
	<b>Item no.: 210-118</b> Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	210-118
	<b>Item no.: 210-196</b> Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715	210-196
	<b>Item no.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	210-197
	<b>Item no.: 210-198</b> Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	210-198
	<b>Item no.: 210-504</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	210-504
	<b>Item no.: 210-505</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715	210-505
	<b>Item no.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715	210-506
	<b>Item no.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715	210-508
<b>shield connection</b>		
	<b>Item no.: 790-108</b> Shield clamping saddle; 11 mm wide; diameter of compatible conductor	790-108
	<b>Item no.: 790-116</b> Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm	790-116
	<b>Item no.: 790-124</b> Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm	790-124
	<b>Item no.: 790-140</b> Shield clamping saddle; diameter of compatible conductor	790-140
	<b>Item no.: 790-208</b> Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	790-208
	<b>Item no.: 790-216</b> Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	790-216
	<b>Item no.: 790-220</b> Shield clamping saddle; 30 mm wide; 6 ... 20 mm	790-220
<b>Supply module</b>		
	<b>Item no.: 750-606</b> Power Supply; 24 VDC; Diagnostics; Intrinsically safe	750-606
	<b>Item no.: 750-625/000-001</b> Power Supply; 24 VDC; Intrinsically safe	750-625 /000-001
<b>Marking accessories</b>		

	<b>Item no.: 2009-145</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type		2009-145
	<b>Item no.: 2009-145/000-002</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-002	2009-145
	<b>Item no.: 2009-145/000-005</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-005	2009-145
	<b>Item no.: 2009-145/000-006</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-006	2009-145
	<b>Item no.: 2009-145/000-007</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-007	2009-145
	<b>Item no.: 2009-145/000-012</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-012	2009-145
	<b>Item no.: 2009-145/000-023</b> Mini-WSB Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-023	2009-145
	<b>Item no.: 2009-145/000-024</b> Mini-WSB Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type	/000-024	2009-145
	<b>Item no.: 248-501</b> Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card		248-501
	<b>Item no.: 248-501/000-002</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-002	248-501
	<b>Item no.: 248-501/000-005</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-005	248-501
	<b>Item no.: 248-501/000-006</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-006	248-501
	<b>Item no.: 248-501/000-007</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-007	248-501
	<b>Item no.: 248-501/000-012</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-012	248-501
	<b>Item no.: 248-501/000-017</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	/000-017	248-501

	<b>Item no.: 248-501/000-023</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501
		7000-023
	<b>Item no.: 248-501/000-024</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type	248-501
		7000-024
	<b>Item no.: 750-103</b> Group marker carrier	750-103
	<b>Item no.: 750-107</b> Group marker carrier	750-107

## Downloads

### Documentation

#### Data sheet

750-439, 8DI NAMUR Ex i, data sheet	pdf	Download
	130.3 kB	

#### Manual

NAMUR, Ex-i, 8-Channel Digital Input Module	V 1.2.0	pdf	Download
Proximity switch acc. to DIN EN 50227		2.0 MB	

#### Bid Text

750-439	Oct 2, 2014	doc	Download
IO-Klemmen		31.2 kB	

#### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf	Download
		265.8 kB	

#### System Description

Design Notes	V 2.0.0	pdf	Download
Basic conditions and recommendations for higher operational safety		1.5 MB	

Ex i Overview		pdf	Download
		616.0 kB	

Use in Hazardous Environments	V 1.0.0	pdf	Download
Term definition, marking and installation regulations		1.0 MB	

Overview on WAGO-I/O-SYSTEM 750 approvals		pdf	Download
		780.2 kB	

750/753 Series I/O-System – General Product Information		pdf	Download
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## CAD/CAE - Smart Data

### CAD data

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URL

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## Product family

**750/753 Series I/O-System**

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Subject to changes.

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