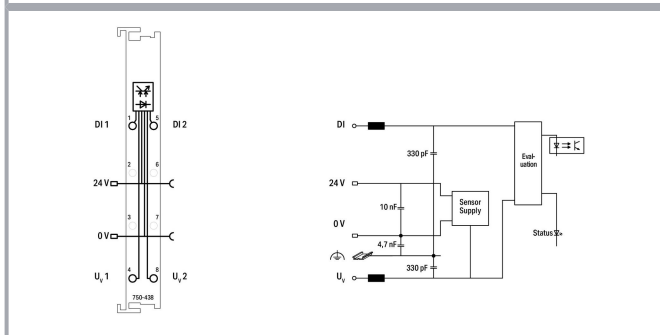
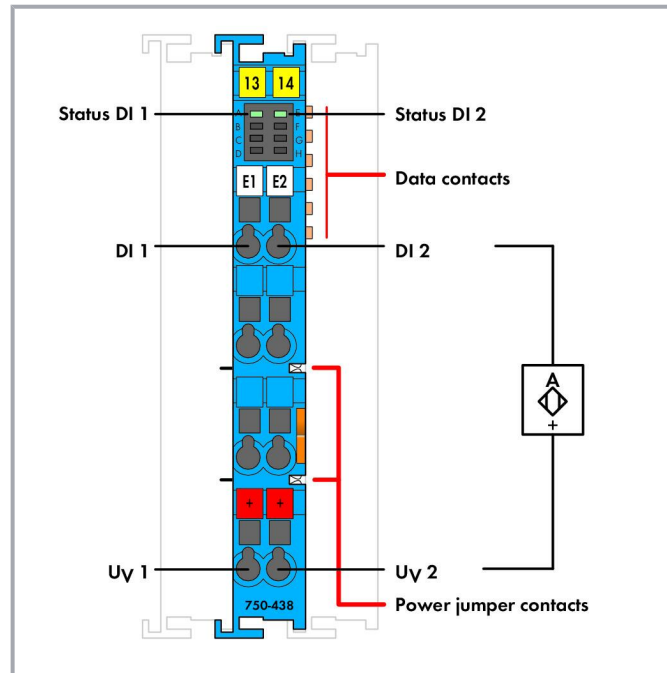


Data sheet | Item number: 750-438

2-channel digital input; NAMUR; Intrinsically safe

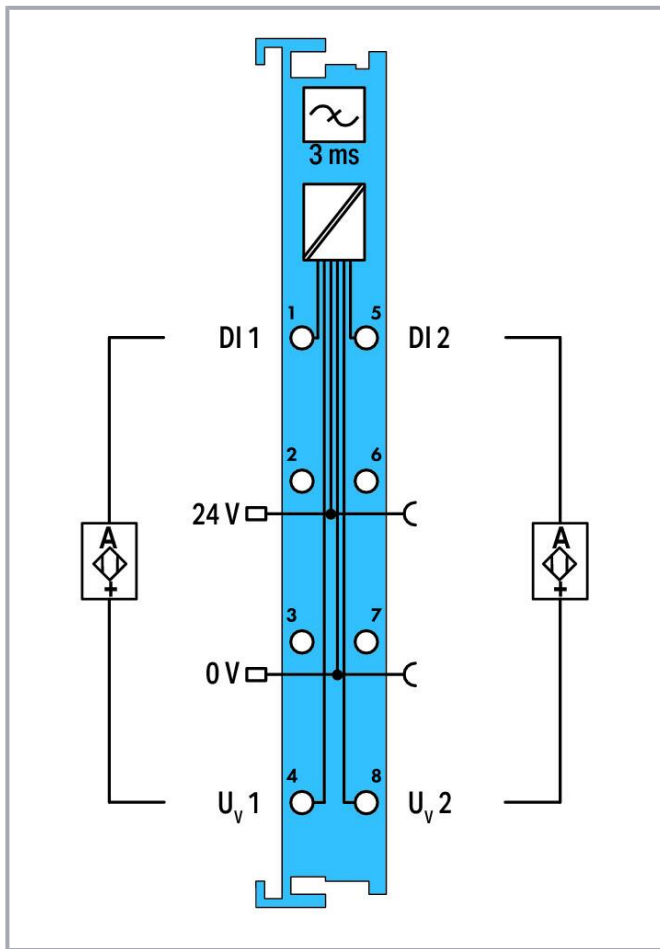
www.wago.com/750-438



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

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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 or other actuating elements can also 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)

Field and system levels are electrically isolated.

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



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	2
Total number of channels (module)	2
Signal type	NAMUR NAMUR
Sensor connection	2 x (2-wire)
Input characteristic	high-side switching
Input filter (digital)	3 ms 3 ms
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
Input pulse length	5 ms
Input pulse separation	3 ms
Power consumption $P_{\max.}$	0.4 W
Input data width (internal) max.	2 bits
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
Supply voltage (field)	24 VDC; (Ex i power supply: $U_O = \max. 27.3$ V); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	16 mA
Power loss P_I	0.27 W

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



Isolation	300 VAC system/supply
Indicators	LED (A, E) green: Status DI 1, DI 2
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)	$U_o = 12 \text{ V}$; $I_o = 13.5 \text{ mA}$; $P_o = 40.5 \text{ mW}$; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 190 \text{ mH}$; $C_o = 1.4 \text{ }\mu\text{F}$
Reactances Ex ia IIB	$L_o = 600 \text{ mH}$; $C_o = 9 \text{ }\mu\text{F}$
Reactances Ex ia IIA	$L_o = 1 \text{ H}$; $C_o = 36 \text{ }\mu\text{F}$
Reactances Ex ia I	$L_o = 1 \text{ H}$; $C_o = 38 \text{ }\mu\text{F}$
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_o) and inductance (L_o)

Connection data

Connection technology: inputs/outputs	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

Mechanical Data

Mounting type	DIN-35 rail
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Material data

Housing material	Polycarbonate; polyamide 6.6
Fire load	0.976 MJ
Weight	44.1 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	27-24-26-04
eCl@ss 9.0	27-24-26-04
ETIM 8.0	EC001599
ETIM 7.0	EC001599
Recupel Type	
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454725525
Customs tariff number	85389099990

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Environmental Product Compliance

CAS-No.	1317-36-8 693-98-1 7439-92-1
REACH Candidate List Substance	2-methylimidazole 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)	2e881213-5d48-42e5-b089-c0bc8feeb830
SCIP notification number (Belgium)	7f5cda66-bae8-45d4-99be-4c8bf82b8719
SCIP notification number (Bulgaria)	a006b846-32ea-4a4b-b020-423b59a70af6
SCIP notification number (Czech Republic)	a0c4088e-2a56-4bb5-b35d-c1a879757654
SCIP notification number (Denmark)	266a171e-1682-4cf9-941c-65c6e91d93a5
SCIP notification number (Finland)	c2870d4e-763a-456d-baab-20e8882d1f3d
SCIP notification number (France)	62fee0f7-d05a-4ad7-9448-a09a4a57a708
SCIP notification number (Germany)	22a209d7-87fc-4d51-814a-39506fa84040
SCIP notification number (Hungary)	6ab9fa73-1997-4a0a-beb5-883e8fc28960
SCIP notification number (Italy)	5daa5544-8b46-45ae-936f-3f7b548ea68b
SCIP notification number (Netherlands)	5acce4f3-f366-45b8-b331-953da14ce73a
SCIP notification number (Poland)	e94fed5d-7868-42fa-a949-706526904ad5
SCIP notification number (Romania)	ac2ddcca-2db4-4f18-95dd-a6d9ac278146
SCIP notification number (Sweden)	1526fa2f-851b-4482-9b36-36bb138fd1fb

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!

Explosion protection

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
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Safety-relevant data (circuit)

Reactances Ex ia IIC

Reactances Ex ia IIB

Reactances Ex ia IIA

Reactances Ex ia I

Reactances (note)

Technical data

Order Text

2-Channel Digital Input; NAMUR

Sensor connection

Input characteristic

Sensor supply

DC 8,2 V

Input pulse length

 ≥ 5 ms

Input pulse separation

 ≥ 3 ms

Intrinsic safety Ex i

Supply voltage (field)

24 VDC; (Ex i power supply: U_0 = max. 27.3 V); via power jumper contacts (power supply via blade contact; transmission via spring contact)Power consumption P_{max} Power loss P_l

Indicators

Environmental Product Compliance

RoHS Exemption

6(c)
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

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

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Vibration resistance

EMC immunity to interference

EMC emission of interference

Exposure to pollutants

Connection data

Connection type 1

Commercial data

Packaging type

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
	UL UL International Netherlands B.V. (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

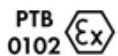
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	BV Bureau Veritas S.A.	-	30389/C0 BV
	DNV DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194
	KR Korean Register of Shipping	-	KR HMB05880-AC001
	LR Lloyds Register EMEA	-	LR22180952TA
	PRS Polski Rejestr Statków	-	TE/2236/880590/19
	RINA RINA Germany GmbH	-	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 T4Gc X, [ExiaDa] IIIC X)

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INMETRO
TÜV Rheinland do Brasil Ltda.

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TÜV_14.1911_X



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

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

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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



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

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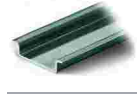
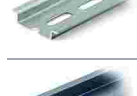
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Carrier rail

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-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

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	

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



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**Item no.: 750-606**

Power Supply; 24 VDC; Diagnostics; Intrinsically safe

www.wago.com/750-606**Downloads****Documentation****Data sheet**

750-438, 2DI NAMUR Ex i, data sheet

pdf
221.3 kB

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ManualSystem Manual WAGO I/O System 750/753
Decentralized Automation TechnologyV 3.3.3
2023 Aug 29pdf
8.7 MB

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Product Manual 2-Channel, NAMUR Ex i
Proximity switch acc. to DIN EN 50227

V 1.4.0

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System Manual Series 750/753
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doc - Datei

31.7 kB

Instruction Leaflet

CCC Ex (Additional information) WAGO-I/O-SYSTEM 750-*** Ex i	2023 Apr 26	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 Aug 18	pdf 2.2 MB	Download
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System Description

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

CAD/CAE-Data

CAD data

2D/3D Models 750-438	URL	Download
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CAE data

EPLAN Data Portal 750-438	URL	Download
WSCAD Universe 750-438	URL	Download
ZUKEN Portal 750-438	URL	Download

Asset Administration Shell

Asset Administration Shell 750-438	URL	Download
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Device Files

Device Driver

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WAGO USB Service Kabel Treiber / Serie 750 und 857

6.5.3.0
2014 Sep 10

zip
4.8 MB

[Download](#)

Installation Notes

Product family

WAGO I/O System 750/753

[Show all products from the family](#)

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