

**Data sheet | Item number: 750-535**

2-channel digital output; 24 VDC; Intrinsically safe

[www.wago.com/750-535](http://www.wago.com/750-535)



**Color:**



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

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## Item description

This digital output module controls actuators operating in Zone 0+1 hazardous areas.

Intrinsically safe magnetic valves can be directly controlled.

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

All outputs are electronically short-circuit-protected.

Indicators:

- Green LED (output status)

Field and system levels are electrically isolated.

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



## Data Notes

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

## Technical data

Number of digital outputs	2
Total number of channels (module)	2
Signal type	Digital
Signal type (voltage)	24 VDC
Actuator connection	2 x (2-wire)
Output characteristic	high-side switching
Switching frequency (max.)	1 kHz
Load type	Resistive, inductive, lamp load
Internal resistance $R_i$	285 $\Omega$
Power consumption $P_{max}$	2.1 W (at 40 mA output current)
Output data width (internal) max.	2 bits
Intrinsic safety Ex i	yes
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	7 mA
Supply voltage (field)	24 VDC; (Ex i power supply: $U_O = \max. 27.3 \text{ V}$ ); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	8.5 mA
Power loss $P_i$	1.1 W (at 40 mA output current)
Isolation	300 VAC system/supply
Indicators	LED (A, E) green: Status DO 1, DO 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

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



## Explosion protection

Ex standard	EN IEC 60079-0, -7, -11
Safety-relevant data (circuit)	$U_o = 27.3 \text{ V}$ ; $I_o = 106 \text{ mA}$ ; $P_o = 723 \text{ mW}$ ; Linear characteristic curve
Reactances Ex ia IIC	$L_o = 3 \text{ mH}$ ; $C_o = 88 \text{ nF}$
Reactances Ex ia IIB	$L_o = 12 \text{ mH}$ ; $C_o = 680 \text{ nF}$
Reactances Ex ia IIA	$L_o = 18 \text{ mH}$ ; $C_o = 2.2 \text{ }\mu\text{F}$
Reactances Ex ia I	$L_o = 20 \text{ mH}$ ; $C_o = 3.6 \text{ }\mu\text{F}$
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 <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 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

Color	blue
Housing material	Polycarbonate; polyamide 6.6
Fire load	1.034 MJ
Weight	50.6 g
Conformity marking	CE

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

## 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 <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 (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
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454725563
Customs tariff number	85371098990

## Environmental Product Compliance

CAS-No.	11120-22-2 1303-86-2 1317-36-8 7439-92-1
REACH Candidate List Substance	Diboron trioxide

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



	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)	3e8a7c97-7b4c-474f-8496-a74b87b60f3a
SCIP notification number (Belgium)	c678f146-be73-484d-b0de-61357b04328e
SCIP notification number (Bulgaria)	d76645dc-92f6-42bf-b85b-a6283a5e8cf9
SCIP notification number (Czech Republic)	9115435c-3460-47a9-8ceb-24f4edf25ec4
SCIP notification number (Denmark)	0a6e1a82-33d4-4c0e-a321-1e09a38cffc6
SCIP notification number (Finland)	e55ceb70-edb6-41e8-b9f6-7c5c0cc1a8a8
SCIP notification number (France)	196b02a7-97b4-46ba-b4ef-72e1e9851dc1
SCIP notification number (Germany)	0d000e2e-b07c-48cd-a924-0b87e6f27ed3
SCIP notification number (Hungary)	ec63c6e2-00bf-453b-8860-e9ea2efc8b98
SCIP notification number (Italy)	e2235fe7-3bf1-4430-98f5-9d59c75f8261
SCIP notification number (Netherlands)	63345460-c84a-4e9c-8209-e8fbab45e814
SCIP notification number (Poland)	eb32fd0f-3adb-470f-83b8-915ff70fca7c
SCIP notification number (Romania)	7c292429-f237-4f30-8bdd-96319a6914b5
SCIP notification number (Sweden)	b2dae171-c90d-4037-8b49-57d02324377b

## Notes

Note

## Technical data

Actuator connection

Output characteristic

Load type

Intrinsic safety Ex i

Supply voltage (field)

Indicators

## Mechanical data

Mounting type

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## 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
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## Approvals / Certificates

### General approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>EAC</b> Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02.B.00087/19
	<b>KC</b> National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-DOM750
	<b>UL</b> Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.1

### Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	<b>EU-Ex-Declaration of Conformity</b> WAGO GmbH & Co. KG	-	-

### Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	<b>ABS</b> American Bureau of Shipping	-	22-2219060
	<b>BV</b> Bureau Veritas S.A.	-	13453/E0 BV

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<b>DNV</b> DNV GL SE	DNV-CG-0339, Aug. 2021	TAA0000194
<b>KR</b> Korean Register of Shipping	-	KR HMB05880-AC001
<b>LR</b> Lloyds Register EMEA	-	LR22180952TA
<b>PRS</b> Polski Rejestr Statków	-	TE/2236/880590/19
<b>RINA</b> RINA Germany GmbH	-	ELE343521XG001

**Approvals for hazardous areas**

Logo	Approval	Additional Approval Text	Certificate name
<b>AEx</b> UL International Germany GmbH		UL 60079	E480271
<b>ATEX</b> TUEV Nord Cert GmbH		EN 60079-0	TUEV_12_ATEX_106032X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
<b>CCC</b> CNEX		CNCA-C23-01	2020312310000211 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
<b>EAC</b> 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)
<b>INMETRO</b> TÜV Rheinland do Brasil Ltda.		-	TÜV_14.1911_X
<b>KTL</b> Korea Testing Laboratory		KOSHA Article 34, IEC60079-0	21-KA4BO-0559X
<b>TUEV Nord</b> TUEV Nord Cert GmbH		IEC 60079, IEC 60079-0	IECEX TUN 12.0039X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
<b>UL</b> Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)		UL 121201	E198726 Sec.1

**Optional accessories****Marking accessories**

Marker carrier		
<b>Item no.: 750-103</b> Group marker carrier		<a href="http://www.wago.com/750-103">www.wago.com/750-103</a>
Marker		

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**Item no.: 2009-145/000-006** [www.wago.com/2009-145/000-006](http://www.wago.com/2009-145/000-006)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

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**Item no.: 2009-145** [www.wago.com/2009-145](http://www.wago.com/2009-145)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

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**Item no.: 2009-145/000-002** [www.wago.com/2009-145/000-002](http://www.wago.com/2009-145/000-002)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

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**Item no.: 2009-145/000-007** [www.wago.com/2009-145/000-007](http://www.wago.com/2009-145/000-007)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

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**Item no.: 2009-145/000-005** [www.wago.com/2009-145/000-005](http://www.wago.com/2009-145/000-005)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red

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**Item no.: 2009-145/000-012** [www.wago.com/2009-145/000-012](http://www.wago.com/2009-145/000-012)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

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**Item no.: 2009-145/000-023** [www.wago.com/2009-145/000-023](http://www.wago.com/2009-145/000-023)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

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**Item no.: 2009-145/000-024** [www.wago.com/2009-145/000-024](http://www.wago.com/2009-145/000-024)  
Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

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**Item no.: 248-501/000-006** [www.wago.com/248-501/000-006](http://www.wago.com/248-501/000-006)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

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**Item no.: 248-501/000-007** [www.wago.com/248-501/000-007](http://www.wago.com/248-501/000-007)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

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**Item no.: 248-501/000-002** [www.wago.com/248-501/000-002](http://www.wago.com/248-501/000-002)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

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**Item no.: 248-501/000-012** [www.wago.com/248-501/000-012](http://www.wago.com/248-501/000-012)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

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**Item no.: 248-501** [www.wago.com/248-501](http://www.wago.com/248-501)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

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**Item no.: 248-501/000-017** [www.wago.com/248-501/000-017](http://www.wago.com/248-501/000-017)  
Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

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**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](http://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](http://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](http://www.wago.com/248-501/000-023)**Group marker carrier****Item no.: 750-107**

Group marker carrier

[www.wago.com/750-107](http://www.wago.com/750-107)**Supply module**

## Supply module

**Item no.: 750-625/000-001**

Power Supply; 24 VDC; Intrinsically safe

[www.wago.com/750-625/000-001](http://www.wago.com/750-625/000-001)**Item no.: 750-606**

Power Supply; 24 VDC; Diagnostics; Intrinsically safe

[www.wago.com/750-606](http://www.wago.com/750-606)**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](http://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](http://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](http://www.wago.com/790-108)**Item no.: 790-140**

Shield clamping saddle; diameter of compatible conductor

[www.wago.com/790-140](http://www.wago.com/790-140)**Item no.: 790-216**

Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm

[www.wago.com/790-216](http://www.wago.com/790-216)**Item no.: 790-220**

Shield clamping saddle; 30 mm wide; 6 ... 20 mm

[www.wago.com/790-220](http://www.wago.com/790-220)**Item no.: 790-208**

Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

[www.wago.com/790-208](http://www.wago.com/790-208)**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](http://www.wago.com/210-197)

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<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; copper-colored	<a href="http://www.wago.com/210-198">www.wago.com/210-198</a>
<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; silver-colored	<a href="http://www.wago.com/210-504">www.wago.com/210-504</a>
<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; silver-colored	<a href="http://www.wago.com/210-505">www.wago.com/210-505</a>
<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; silver-colored	<a href="http://www.wago.com/210-506">www.wago.com/210-506</a>
<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; silver-colored	<a href="http://www.wago.com/210-508">www.wago.com/210-508</a>
<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; silver-colored	<a href="http://www.wago.com/210-113">www.wago.com/210-113</a>
<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; silver-colored	<a href="http://www.wago.com/210-118">www.wago.com/210-118</a>
<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; silver-colored	<a href="http://www.wago.com/210-112">www.wago.com/210-112</a>
<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; silver-colored	<a href="http://www.wago.com/210-114">www.wago.com/210-114</a>
<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; silver-colored	<a href="http://www.wago.com/210-115">www.wago.com/210-115</a>
<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; silver-colored	<a href="http://www.wago.com/210-196">www.wago.com/210-196</a>

## Downloads

### Documentation

#### Data sheet

750-535, 2DO 24VDC Ex i, data sheet	pdf 226.4 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
Product Manual 2-channel, 24VDC, Ex i	V 1.2.0	pdf	Download

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short-circuit protected, high-side switching			1.2 MB	
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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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Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 年8月18 日		pdf 2.2 MB	Download
<b>System Description</b>				
750/753 Series I/O-System – General Product Information			pdf 976.2 kB	Download
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ZUKEN Portal 750-535

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## Device Files

### Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0 2014 年9月10 日	zip 4.8 MB	<a href="#">Download</a>
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## Installation Notes

## Product family

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

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