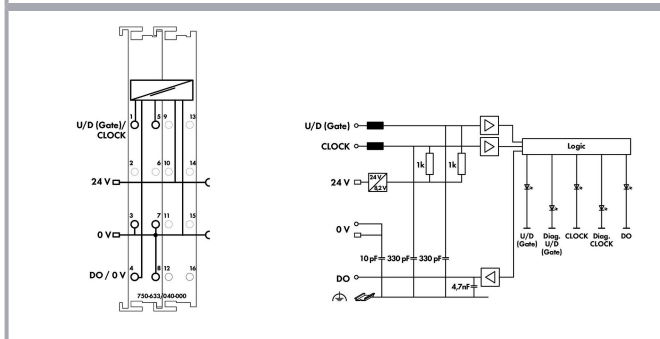
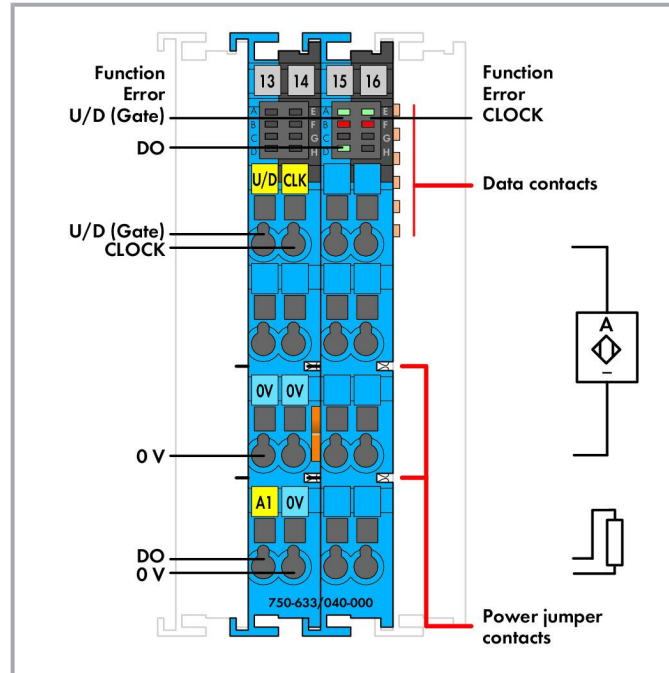
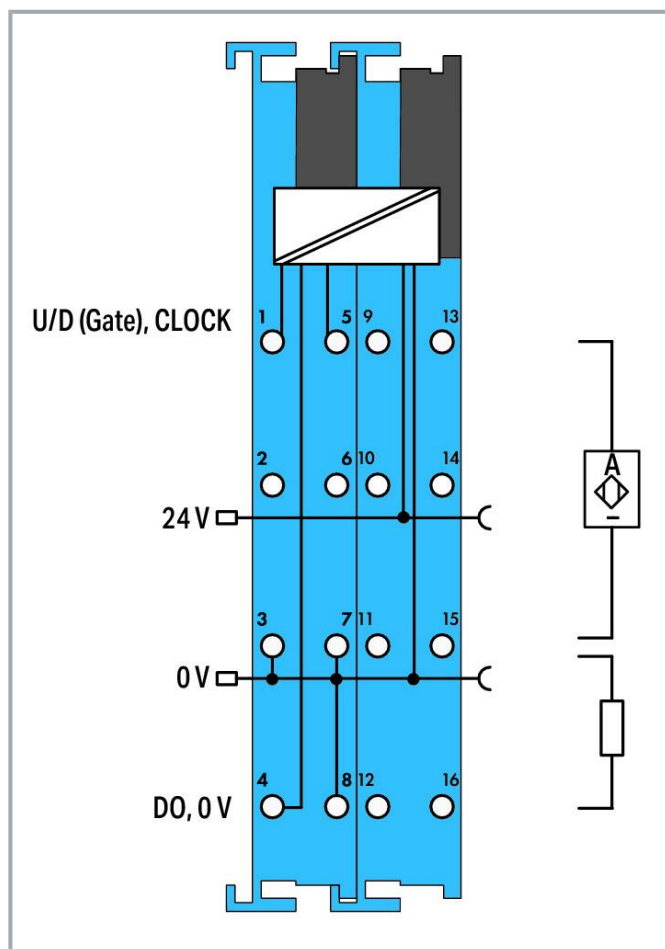




Subject to changes. Please also observe the further product documentation!

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Item description

This counter records binary pulse signals with NAMUR-compliant levels at the CLK (CLOCK) input and transmits the counter status to the installed fieldbus system. The counting direction in "up/down counter" mode can be set using the U/D input. A control byte sets or resets the counter and digital output (DO). Additionally, a limit value can be set at which the DO output is activated when this value is exceeded. The output is short-circuit-proof.

Operating modes:

- Up counter with enable input
- Up/down counter
- Frequency counter
- Peak-time counter

Indicators:

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



- Green LED (Up/Down + CLK + DO status)
- Red LED (Up/Down + CLK error status)

Field and system levels are electrically isolated.

The device is ideal for operation in extreme environments thanks to:

- An extended temperature range
- Greater immunity to impulse voltages and electromagnetic interference
- Higher vibration and shock resistance

Data
Notes

Note	The up/down counter must only be operated via 24 VDC Ex i XTR power supply (750-606/040-000)!
	General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 XTR manuals!

Technical data

Number of digital outputs	1
Number of counters	1
Counter depth	32 bits
Sensor supply U_V	8.2 V
Input filter	10 μ s
Open-circuit voltage	8.2 V
Output voltage	24 VDC
Short-circuit current	8.2 mA (+/- 5 %)
Signal current (0)	1.2 mA
Signal current (1)	2.1 mA
Switching hysteresis	0.2 mA
Switching frequency	20 Hz ... 50 kHz
Input resistance (max.)	1000 Ω
Internal resistance R_i	285 Ω
Power consumption $P_{max.}$	2.2 W (sensor load: 8.2 mA + actuator load: 45 mA)
Data width	1 x 32-bit data, 1 x 8-bit status/diagnostics

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Intrinsic safety Ex i	yes
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	25 mA
Supply voltage (field)	24 VDC; (Ex i XTR power supply: $U_O = \max. 26.8 \text{ V}$); via power jumper contacts (power supply via blade contact; transmission via spring contact)
Current consumption, field supply (module with no external load)	31 mA
Power loss P_I	1.7 W (sensor load: 8.2 mA + actuator load: 45 mA)
Isolation	300 VAC system/supply
Rated surge voltage	1 kV; Rated surge voltage between intrinsically safe and non-intrinsically safe circuits: 1.5 kV (EN 60079-11)
Indicators	LED (A, D, E) green: U/D (Gate), DO, CLOCK; LED (B, F) red: Error U/D (Gate), Error CLOCK
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 data (input)	$U_O = 12 \text{ V}$; $I_O = 13.3 \text{ mA}$; $P_O = 40.4 \text{ mW}$; Linear characteristic curve
Reactances of Ex ia IIC inputs	$L_O = 100 \text{ mH}$; $C_O = 1.41 \mu\text{F}$
Reactances of Ex ia IIB inputs	$L_O = 100 \text{ mH}$; $C_O = 9 \mu\text{F}$
Reactances of Ex ia IIA inputs	$L_O = 100 \text{ mH}$; $C_O = 36 \mu\text{F}$
Reactances of Ex ia I inputs	$L_O = 100 \text{ mH}$; $C_O = 35 \mu\text{F}$
Safety data (output)	$U_O = 26.8 \text{ V}$; $I_O = 96.69 \text{ mA}$; $P_O = 674.83 \text{ mW}$; Linear characteristic curve
Reactances of Ex ia IIC output	$L_O = 1.3 \text{ mH}$; $C_O = 0.091 \mu\text{F}$
Reactances of Ex ia IIB output	$L_O = 13 \text{ mH}$; $C_O = 0.719 \mu\text{F}$
Reactances of Ex ia IIA output	$L_O = 23 \text{ mH}$; $C_O = 2.369 \mu\text{F}$
Reactances of Ex ia I output	$L_O = 33 \text{ mH}$; $C_O = 3.849 \mu\text{F}$
Reactances (note)	Reactances without accounting for the concurrence of capacitance (C_O) and inductance (L_O)

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Connection data

Connection technology: inputs/outputs	16 x CAGE CLAMP®
Connection type 1	Inputs/Outputs
Solid conductor	0.25 ... 2.5 mm² / 24 ... 14 AWG
Fine-stranded conductor	0.25 ... 2.5 mm² / 24 ... 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
---------------	-------------

Material data

Color	blue
Housing material	Polycarbonate; polyamide 6.6
Fire load	2.031 MJ
Weight	88.1 g
Conformity marking	CE

Environmental requirements

Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)
Mounting position	horizontal (standing/lying); vertical
Relative humidity (without condensation)	95 %
Relative humidity (with condensation)	Short-term condensation per Class 3K7/IEC EN 60721-3-3 and E-DIN 40046-721-3 (except for wind-driven precipitation, water and ice formation)
Vibration resistance	per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1,

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



-3

Shock resistance	per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks), EN 61373
EMC immunity to interference	per EN 61000-6-1, -2, EN 61131-2, marine applications, EN 60255-26, EN 60870-2-1, EN 61850-3, IEC 61000-6-5, IEEE 1613, VDEW: 1994
EMC emission of interference	per EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3
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

eCl@ss 10.0	27-24-26-05
eCl@ss 9.0	27-24-26-05
ETIM 8.0	EC001601
ETIM 7.0	EC001601
Recupel Type	
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4055143649599
Customs tariff number	8538909990

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
------------------------	-------------------------

Notes

Note	The up/down counter must only be operated via 24 VDC Ex i XTR power supply (750-606/040-000)! General information (e.g., installation regulations) on explosion protection is available in the WAGO I/O System 750 XTR manuals!
------	---

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



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
Safety data (input)	
Reactances of Ex ia IIC inputs	
Reactances of Ex ia IIB inputs	
Reactances of Ex ia IIA inputs	
Reactances of Ex ia I inputs	
Safety data (output)	
Reactances of Ex ia IIC output	
Reactances of Ex ia IIB output	
Reactances of Ex ia IIA output	
Reactances of Ex ia I output	
Reactances (note)	

Technical data

Order Text	Up/Down Counter; Intrinsically safe
Output voltage	
Short-circuit current	
Switching frequency	
Intrinsic safety Ex i	
Supply voltage (field)	
Power consumption $P_{\max}$	
Power loss P_I	
Rated surge voltage	
Indicators	

Environmental Product Compliance

RoHS Compliance Status	Compliant, With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II

Mechanical data

Mounting type	
---------------	--

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

Environmental requirements

Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Pollution degree	
Operating altitude	
Mounting position	
Relative humidity (with condensation)	
Vibration resistance	
Shock 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
	CCC CNEX	CNCA-C23-01	2020312310000212 (Ex ec[iaGa]IIC T4 Gc, [Ex ia Da]IIC, [Ex ia Ma]I)
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	-	E175199

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

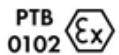
Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	22-2208829-PDA
	DNV DNV GL SE	-	TAA00000Y7
	LR Lloyds Register	-	LR22276776TA
	PRS Polski Rejestr Statków	-	TE/2215 /880590/18

Approvals for hazardous areas

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV_17_ATEX_196484X (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	CCC CNEX	CNCA-C23-01	2020312310000212 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	CCC CNEX	CNCA-C23-01	2020312310000212 (Ex ec[iaGa] IIC T4 Gc, [Ex iaDa] IIIC, [Ex iaMa] I)
	EAC	TP TC 012/2011	EAC RU C-DE.AM02.B.

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Brjansker Zertifizierungsstelle

00163/19 ([ExiaMa]I X,2Ex
e[iaGa]IIC T4Gc X,[ExiaDa]
IIC X)IECEX
TUEV Nord Cert GmbH

IEC 60079-0

IECEX TUN 17.0005X (Ex
ec[iaGa] IIC T4 Gc, [Ex
iaDa] IIC, [Ex iaMa] I)UL
Underwriters Laboratories Inc. (HAZARDOUS
LOCATIONS)

UL 121201

E198726 Sec.1

Optional accessories

Carrier rail

Mounting accessories

**Item no.: 210-197**

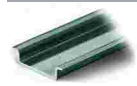
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored

www.wago.com/210-197**Item no.: 210-198**

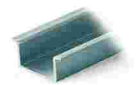
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

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**

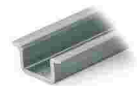
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored

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

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

WAGO GmbH & Co. KG

Hansastraße 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?

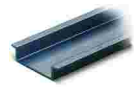
We are always happy to take your call at +49 (571) 887-44222.

**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**

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**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

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

WAGO GmbH & Co. KG

Hansastr. 27

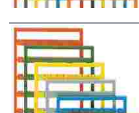
32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.

	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 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

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



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

Power supplies

Supply module



Item no.: 750-606/040-000
Power Supply; 24 VDC; Diagnostics; Intrinsically safe; Extreme

www.wago.com/750-606/040-000

Downloads
Documentation

Data sheet

750-633/040-000, Up/Down Counter Ex i XTR	pdf 224.8 kB	Download
---	-----------------	----------

Manual

System Manual XTR Basic conditions and recommendations for higher operational safety	V 2.0.1 2023 Jun 22	pdf 7.2 MB	Download
---	------------------------	---------------	----------

Product Manual Up/Down Counter Ex i /XTR	V 1.1.0 2020 Jun 8	pdf 3.6 MB	Download
--	-----------------------	---------------	----------

System Manual Series 750/753 Online HTML		URL	Download
---	--	-----	----------

Bid Text

750-633/040-000 X81 - Datei	2019 Feb 19	xml 9.9 kB	Download
--------------------------------	-------------	---------------	----------

750-633/040-000 doc - Datei	2018 Feb 8	doc 37.9 kB	Download
--------------------------------	------------	----------------	----------

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.

**Instruction Leaflet**

CCC Ex (Additional information) WAGO-I/O-SYSTEM*750-****/*040-****Ex i XTR	2023 Apr 26	pdf 146.9 kB	Download
---	-------------	-----------------	----------

System Description

System Manual XTR Basic conditions and recommendations for higher operational safety	V 2.0.1 2023 Jun 22	pdf 7.2 MB	Download
---	------------------------	---------------	----------

Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 223.5 kB	Download
---	--	-----------------	----------

Intrinsically Safe XTR Modules – General Product Information		pdf 220.1 kB	Download
--	--	-----------------	----------

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 Aug 18	pdf 2.2 MB	Download
---	------------------------	---------------	----------

CAD/CAE-Data**CAD data**

2D/3D Models 750-633/040-000		URL	Download
------------------------------	--	-----	----------

CAE data

EPLAN Data Portal 750-633/040-000		URL	Download
-----------------------------------	--	-----	----------

EPLAN Data Portal 750-633/040-000		URL	Download
-----------------------------------	--	-----	----------

ZUKEN Portal 750-633/040-000		URL	Download
------------------------------	--	-----	----------

Asset Administration Shell

Asset Administration Shell 750-633/040-000		URL	Download
--	--	-----	----------

Installation Notes

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



Product family

WAGO I/O System 750 XTR

I/O-System 750 XTR: Dort automatisieren, wo jedes andere System an seine Grenzen stößt – und das zuverlässig und wirtschaftlich! XTR – dieses Kürzel im Systemnamen steht für extremen Schutz vor klimatischen Einflüssen, Schwingungen, Erschütterungen und Überspannungen.

[Show all products from the family](#)

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.