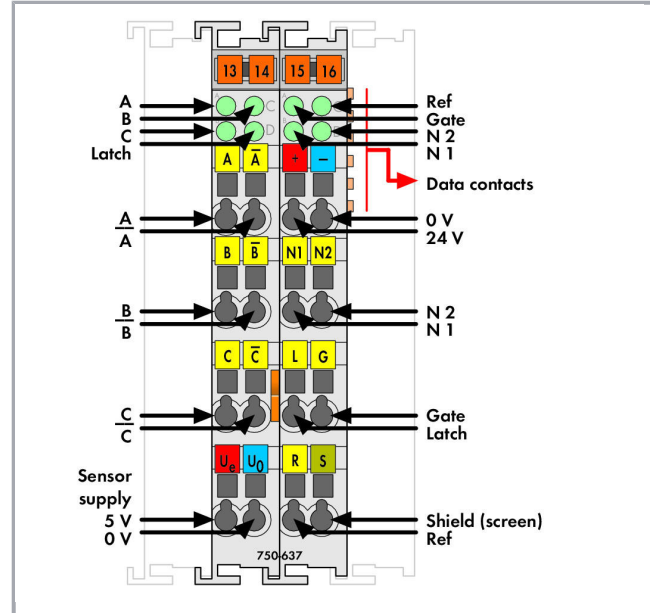


Data sheet | Item number: 750-637/000-003

Incremental encoder interface; RS-422; 32 bits; Single Interpreter; light gray

www.wago.com/750-637/000-003



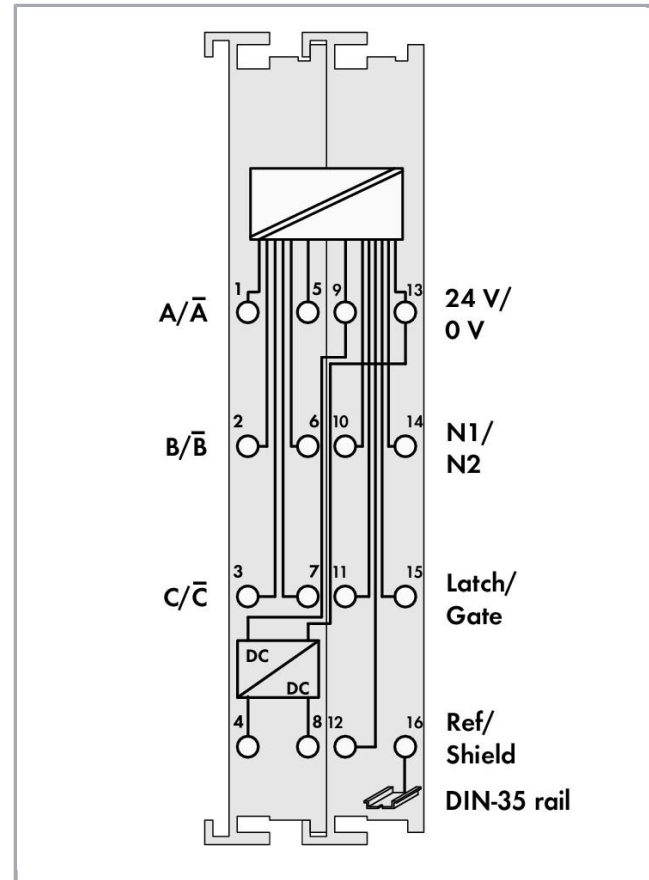
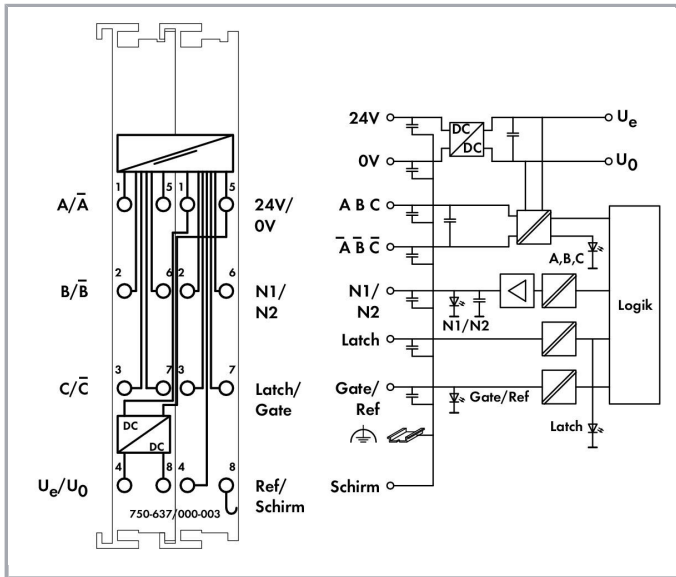
RoHS Compliant

Color:

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

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Item description

This module is an interface for incremental encoders with standard connections (e.g., RS-422, differential, single-ended).

A counter with quadrature decoder as well as a latch for the zero impulse can be read or enabled by the controller. The controller can set the counter or transmit the counter value to the Latch. Depending on the operating mode, the counter value is added to the latch register on a positive edge at the "C" or "Latch" input.

The rate (increments/ms) is automatically acquired and can also be transmitted to the controller as an alternative to the latch value.

A counter lock-out is possible using the "Gate" input. Input "Ref" can be used to activate the initial point "C" function.

The cam outputs N1 and N2 indicate whether the counter value is within a defined range of values. The range can be adjusted.

The module must be powered using an external 24 VDC power supply, from which power to the transmitter (U_i, U₀) can also be derived.

The shield directly connects to the DIN-rail.

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



Data

Technical Data

Counter depth	32 Bit
Sensor connection	A, /A, B, /B, C, /C
Transmitter supply voltage	DC 5 V
Versorgungsstrom Geber max	300 mA
Zero impulse latch	32 Bit
Quadrature decoder	1x report
Input current typ.	Latch 5 mA, Gate 7 mA, Ref. 7 mA
Output current per channel	0.5 A
Output current	short-circuit-protected
Output voltage	5 VDC
Voltage range for signal (0)	$U_{ABC} = RS-422$; Latch, gate, ref.: -3 ... +5 VDC
Voltage range for signal (1)	$U_{ABC} = RS-422$; Latch, gate, ref.: 15 ... 30 VDC
Bit width	1 x 32-bit data 2 x 8-bit control/status
Operating frequency	250 kHz
Commands	Reading, setting, activating
System supply voltage	DC 5 V; via data contacts
Current consumption, system supply (5 V)	110 mA
Current consumption, field supply (module with no external load)	35 mA
Isolation	500 V system/field

Connection data

Connection technology: In-/Outputs	16 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 inch

Geometrical Data

Width	24 mm / 0.945 inch
Height	69,8 mm / 2.748 inch
Height from upper-edge of DIN-35 rail	62,6 mm / 2.465 inch
Depth	100 mm / 3.937 inch

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Mechanical data

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

Material Data

Color	light gray
Housing material	Polycarbonate, polyamide 6.6
Fire load	1.572 MJ
Weight	101.4 g
Conformity marking	CE

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); 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	per EN 61000-6-2, marine applications
EMC emission of interference	per EN 61000-6-4, 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 (Remote I/O)
Packaging type	BOX
Country of origin	DE
GTIN	4045454925871
Customs Tariff No.	85389099990

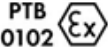


Approvals / Certificates

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Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV 07 ATEX 554086 X en.
	TUEV Nord TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 09.0001 X
	UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726 Sec.1

UL-Approvals

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

Counterpart

Compatible products



Carrier rail

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	www.wago.com/210-112
Item no.: 210-113 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715	www.wago.com/210-113
Item no.: 210-114 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715	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	www.wago.com/210-115




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	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	www.wago.com/210-118
	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
	Item no.: 210-197 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	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	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	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	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	www.wago.com/210-508



Marking accessories

	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; white /000-002	www.wago.com/2009-145
	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.: 2009-145/000-006 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.: 2009-145/000-007 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white /000-007	www.wago.com/2009-145
	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	

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

	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 Miniature WSB Quick marking system; plain; Marker width 5 mm; 10 strips with 10 markers per card	www.wago.com/248-501
	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.: 248-501/000-005 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red	www.wago.com/248-501/000-005
	Item no.: 248-501/000-006 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.: 248-501/000-012 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange	www.wago.com/248-501/000-012
	Item no.: 248-501/000-017 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green	www.wago.com/248-501/000-017
	Item no.: 248-501/000-023 Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green	www.wago.com/248-501/000-023
	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.: 750-100 Marker card; as a DIN A4 sheet; plain; white	www.wago.com/750-100
	Item no.: 750-103 Group marker carrier; transparent	www.wago.com/750-103
	Item no.: 750-106 Group marker carrier; transparent	www.wago.com/750-106
system box		
	Item no.: 850-804 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 4 x M20, 16 x M16, 28 x M12 cable grip	www.wago.com/850-804

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

	<p>Item no.: 850-804/000-001 IP65 enclosure; Stainless steel; WxHxD (400x123x200 mm); 2 x M20, 13 x M16, 32 x M12 cable grip</p>	<p>www.wago.com/850-804/000-001</p>
	<p>Item no.: 850-805 IP65 enclosure; Stainless steel; WxHxD (600x123x200 mm); 4 x M20, 19 x M16, 67 x M12 cable grip</p>	<p>www.wago.com/850-805</p>
	<p>Item no.: 850-814/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate</p>	<p>www.wago.com/850-814/002-000</p>
	<p>Item no.: 850-815/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate</p>	<p>www.wago.com/850-815/002-000</p>
	<p>Item no.: 850-816/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate</p>	<p>www.wago.com/850-816/002-000</p>
	<p>Item no.: 850-817/002-000 IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate</p>	<p>www.wago.com/850-817/002-000</p>
	<p>Item no.: 850-825 IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20</p>	<p>www.wago.com/850-825</p>
	<p>Item no.: 850-826 IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip</p>	<p>www.wago.com/850-826</p>
	<p>Item no.: 850-826/002-000 IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip</p>	<p>www.wago.com/850-826/002-000</p>
	<p>Item no.: 850-827 IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip</p>	<p>www.wago.com/850-827</p>
	<p>Item no.: 850-827/002-000 IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip</p>	<p>www.wago.com/850-827/002-000</p>
	<p>Item no.: 850-828 IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip</p>	<p>www.wago.com/850-828</p>
	<p>Item no.: 850-828/002-000 IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip</p>	<p>www.wago.com/850-828/002-000</p>
	<p>Item no.: 850-834 IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20</p>	<p>www.wago.com/850-834</p>
	<p>Item no.: 850-835 IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable</p>	<p>www.wago.com/850-835</p>

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

grip



Item no.: 850-836

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

www.wago.com/850-836

shield connection

Item no.: 790-108

Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

www.wago.com/790-108

Item no.: 790-116

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.: 790-140

Shield clamping saddle; diameter of compatible conductor

www.wago.com/790-140



Item no.: 790-208

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

www.wago.com/790-208



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

Downloads

Documentation

Manual

Incremental encoder interface RS-422, cam outputs	V 1.6.0	pdf 2.4 MB	Download
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Additional Information

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

Overview on WAGO-I/O-SYSTEM 750 approvals		pdf 780.2 kB	Download
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Design Notes Basic conditions and recommendations for higher operational safety	V 2.0.0	pdf 1.5 MB	Download
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750/753 Series I/O System - General Product Information

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Use in Hazardous Environments V 1.0.0
Term definition, marking and installation regulations

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CAD/CAE-Data

CAD data

2D/3D Models 750-637/000-003

URL
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CAE data

EPLAN Data Portal 750-637/000-003

URL
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Device Files

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857

6.5.3.0
Sep 10, 2014

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Installation Notes

Product family

[750/753 Series – I/O System](#)
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