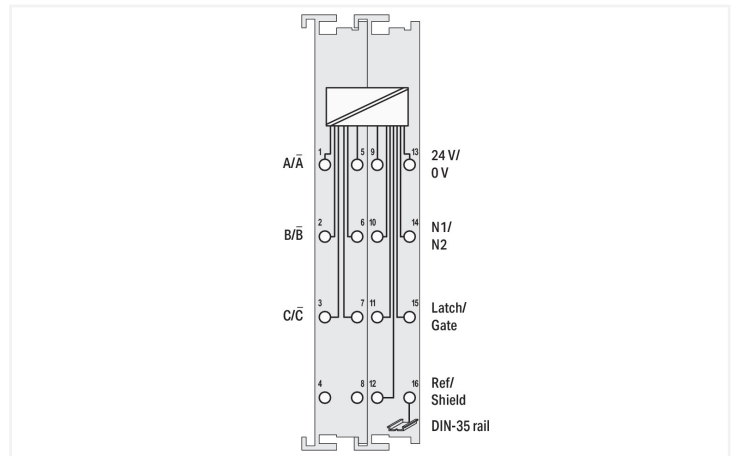
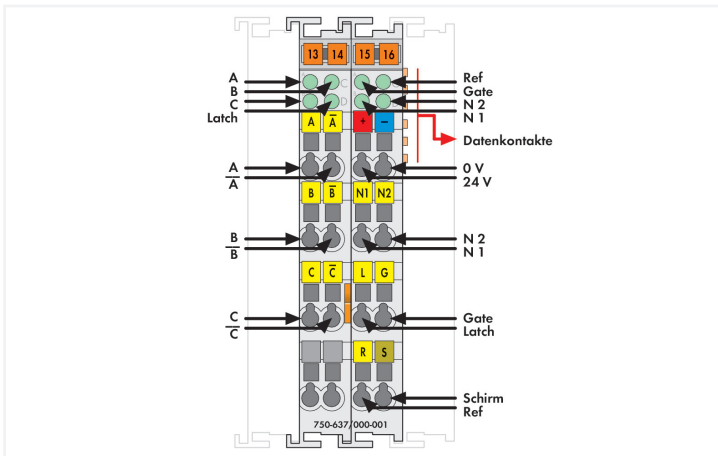


Color: ■ light gray



This module is an interface for any incremental encoder with standard connections.

A counter with a quadrature decoder as well as a latch for the zero impulse can be read or enabled by the controller. The module's control can set the counter. 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 (Ui, U0) can also be derived.

The shield directly connects to the DIN-rail.

### Technical data

Counter depth	32 bits
Encoder connection	A; /A; B; /B; C; /C (differential inputs)
Supply current (encoder) max.	300 mA
Zero impulse (latch)	32 bits
Quadrature decoder	4x evaluation
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	24 VDC
Voltage range for signal (0)	(U <sub>ABC</sub> - U <sub>ABC/</sub> ): -30 ... +15 VDC; Latch, gate, ref.: -3 ... +5 VDC
Voltage range for signal (1)	(U <sub>ABC</sub> - U <sub>ABC/</sub> ): 15 ... 30 VDC; Latch, gate, ref.: 15 ... 30 VDC

### Technical data

Data width	1 x 32-bit data 2 x 8-bit control/status
Limit frequency	250 kHz
Commands	Reading, setting, activating
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	110 mA
Current consumption, field supply (module with no external load)	35 mA
Isolation	500 V system/field
Indicators	LED (A-D/A-D) green: A, C, B, Latch, Gate, N1, Ref, N2

### Connection Data

Connection technology: I/O	14 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	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	24 mm / 0.945 inches
Height	100 mm / 3.937 inches
Depth	69.8 mm / 2.748 inches
Depth from upper-edge of DIN-rail	62.6 mm / 2.465 inches

### Mechanical data

Mounting type	DIN-35 rail
Pluggable connector	fixed

### Material data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	1.732 MJ
Weight	100.1 g
Conformity marking	CE

### Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-40 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	0 ... 2000 m / 0 ... 6562 ft
Mounting position	Horizontal left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom
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 61000-6-4, 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)
PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454925185
Customs tariff number	85389099990

### Product Classification

UNSPSC	32151705
eCl@ss 10.0	27-24-26-05
eCl@ss 9.0	27-24-26-05
ETIM 9.0	EC001601
ETIM 10.0	EC001601
ECCN	NO US CLASSIFICATION

### Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 25550-51-0 7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol 4-Methyl-1,2-cyclohexanedicarboxylic anhydride Diboron trioxide 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)	a2837c0c-57a7-46e4-8e44-5d4b7e93466b
SCIP notification number (Belgium)	50d7ce52-953c-4412-b1f3-20a1553ca3bb
SCIP notification number (Bulgaria)	d92ec1dd-9e9a-4b6c-b906-0432477388c6
SCIP notification number (Czech Republic)	702e2d47-a850-482b-b916-ba943e673093
SCIP notification number (Denmark)	4f60367b-0949-4cdd-80b3-7362d5308938
SCIP notification number (Finland)	9d6d5572-6348-4fcf-ba25-23c2958e7aeb
SCIP notification number (France)	2a22b185-818b-45b2-b5a2-4f12586f7ec9
SCIP notification number (Germany)	cd77003d-9333-4aee-b16b-923098f560ac
SCIP notification number (Hungary)	a938450b-57a3-414f-936f-ea00af3e34cb
SCIP notification number (Italy)	0d6be9e9-6157-4c41-b0e6-cf9c29464650
SCIP notification number (Netherlands)	7085e351-c502-4ca0-adee-04a5ad340666
SCIP notification number (Poland)	2e6c5bc1-b633-4c42-9702-6ba5f21fa506
SCIP notification number (Romania)	fd9ccfd3-e5ae-49ce-ad3f-430177c7d472
SCIP notification number (Sweden)	590d6535-a715-486e-a14a-19216a39169e

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-DAM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
BSH Bundesamt fuer Seeschifffahrt und Hydrographie	-	1104

Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc)
CCCEX CQST/CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
IECEX TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 14.0035 X (Ex ec IIC T4 Gc)
INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	TÜV 12.1297 X
UKEX WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA GO22UKEX003X_ec
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-637/000-001	<a href="#">↓</a>
---	-------------------

Documentation

Manual

Product Manual Incremental encoder interface	V 1.6.1 07.07.2021	pdf 3275.85 KB	<a href="#">↓</a>
System Manual Series 750/753			<a href="#">↓</a>

System Description

750/753 Series I/O-System – General Product Information	pdf 953.35 KB	<a href="#">↓</a>
Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 770.48 KB	<a href="#">↓</a>

Bid Text			
750-637/000-001	09.10.2017	doc 28.00 KB	<a href="#">↓</a>
750-637/000-001	19.02.2019	xml 5.81 KB	<a href="#">↓</a>

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 159.76 KB	<a href="#">↓</a>

CAD/CAE-Data	
<b>CAD data</b> 2D/3D Models 750-637/000-001 <a href="#">↓</a>	<b>CAE data</b> EPLAN Data Portal 750-637/000-001 <a href="#">↓</a>  WSCAD Universe 750-637/000-001 <a href="#">↓</a>  ZUKEN Portal 750-637/000-001 <a href="#">↓</a>

Device Files			
<b>Device Driver</b>			
WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0 10.09.2014	zip 4721.96 KB	<a href="#">↓</a>

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 DIN-rail

##### 1.1.1.1 Mounting accessories



**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



**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



**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



**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



**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



**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



**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



**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











### 1.1.2 Marking

#### 1.1.2.1 Group marker carrier




**Item No.: 750-106**  
 Group marker carrier

1.1.2.2 Marker

 <p><b>Item No.: 750-100</b> Marker card; as a DIN A4 sheet; plain</p>	<p><b>Item No.: 2009-145/000-006</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue</p>	<p><b>Item No.: 2009-145/000-007</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray</p>	<p><b>Item No.: 2009-145/000-023</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green</p>
<p><b>Item No.: 2009-145/000-012</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange</p>	<p><b>Item No.: 2009-145/000-005</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red</p>	<p><b>Item No.: 2009-145/000-024</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet</p>	<p><b>Item No.: 2009-145</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>
<p><b>Item No.: 2009-145/000-002</b> Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow</p>	 <p><b>Item No.: 248-501/000-006</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue</p>	 <p><b>Item No.: 248-501/000-007</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray</p>	 <p><b>Item No.: 248-501/000-023</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green</p>
 <p><b>Item No.: 248-501/000-017</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green</p>	 <p><b>Item No.: 248-501/000-012</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange</p>	 <p><b>Item No.: 248-501/000-005</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red</p>	 <p><b>Item No.: 248-501/000-024</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet</p>
 <p><b>Item No.: 248-501</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white</p>	 <p><b>Item No.: 248-501/000-002</b> Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow</p>		

1.1.2.3 Marker carrier

 <p><b>Item No.: 750-103</b> Group marker carrier</p>
--

1.1.3 Shield termination

1.1.3.1 Shield clamping saddles

 <p><b>Item No.: 790-108</b> Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm</p>	 <p><b>Item No.: 790-208</b> Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm</p>	 <p><b>Item No.: 790-116</b> Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm</p>	 <p><b>Item No.: 790-216</b> Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm</p>
 <p><b>Item No.: 790-124</b> Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm</p>	 <p><b>Item No.: 790-220</b> Shield clamping saddle; 30 mm wide; 6 ... 20 mm</p>	 <p><b>Item No.: 790-140</b> Shield clamping saddle; diameter of compatible conductor</p>	

## 1.1.4 System enclosure

## 1.1.4.1 System enclosure

**Item No.: 850-825**

IP65 enclosure; Aluminium (RAL 7032);  
WxHxD (160x100x160 mm); 9 x M12, 4 x  
M20

**Item No.: 850-826**

IP65 enclosure; Aluminium (RAL 7032);  
WxHxD (240x100x160 mm); 4 x M20, 4 x  
M16, 14 x M12 cable grip

**Item No.: 850-827**

IP65 enclosure; Aluminium (RAL 7032);  
WxHxD (320x100x160 mm); 4 x M20, 8 x  
M16, 17 x M12 cable grip

**Item No.: 850-828**

IP65 enclosure; Aluminium (RAL 7032);  
WxHxD (480x100x160 mm); 4 x M20, 10 x  
M16, 35 x M12 cable grip

**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

**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

**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

**Item No.: 850-834**

IP65 enclosure; Polyester (RAL 7032); Wx-  
HxD (164x100x164 mm); 9 x M12, 4 x M20

**Item No.: 850-835**

IP65 enclosure; Polyester (RAL 7032); Wx-  
HxD (244x100x164 mm); 4 x M20, 4 x  
M16, 14 x M12 cable grip

**Item No.: 850-836**

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

**Item No.: 850-814/002-000**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (200x120x200 mm); without flan-  
ge plate

**Item No.: 850-815/002-000**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (300x120x200 mm); without flan-  
ge plate

**Item No.: 850-816/002-000**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (400x120x200 mm); without flan-  
ge plate

**Item No.: 850-817/002-000**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (600x120x200 mm); without flan-  
ge plate