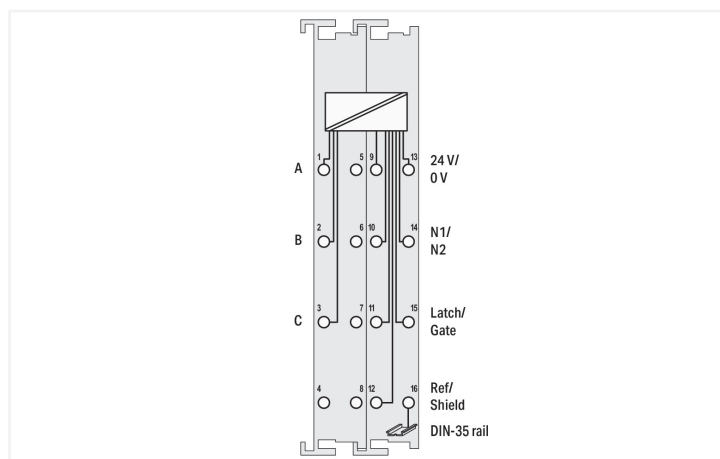
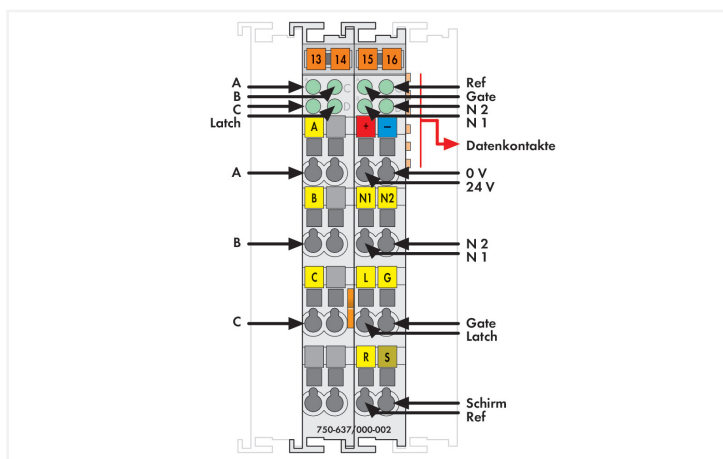


Color: ■ light gray



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; B; C (single-ended 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) | -3 ... +5 VDC |
| Voltage range for signal (1) | 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 | 11 x CAGE CLAMP® |
| Connectable conductor materials | Copper |
| Connection type | 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 | 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 | 1.555 MJ |
| Weight | 99.8 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 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) |
| PU (SPU) | 1 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4045454589905 |
| 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) | 12436877-e676-4417-b5da-a031704dbaaf |
| SCIP notification number (Belgium) | 9ba86a6b-8a5d-45ad-9270-1728cc2a4632 |
| SCIP notification number (Bulgaria) | 471642da-a89d-4c6e-8cce-5f37d447b7b1 |
| SCIP notification number (Czech Republic) | 2316f21a-a5b6-40bb-90eb-8e478be2d908 |
| SCIP notification number (Denmark) | 6b36c4ce-5118-4329-9333-b0e337e9c3ed |
| SCIP notification number (Finland) | f499a711-70ac-4d37-8002-708aab87b4bf |
| SCIP notification number (France) | da166ac7-775a-41ce-b9d2-e004ca71f13b |
| SCIP notification number (Germany) | 80a2cc9f-d6af-4031-951d-c0f297e376cb |
| SCIP notification number (Hungary) | 79756138-0b6c-4a5d-8656-c4e243ea9864 |
| SCIP notification number (Italy) | b8e06c8e-acec-4099-a9b8-dca12ce311d8 |
| SCIP notification number (Netherlands) | 473b3bf8-adb8-47c9-88f1-3929fbf11097 |
| SCIP notification number (Poland) | c60b08ef-7ff0-4601-8c40-ab834dc66401 |
| SCIP notification number (Romania) | 16d5f7dd-adac-465f-afbd-7a3d988e7968 |
| SCIP notification number (Sweden) | 561eaf5e-afd3-4c15-aa15-9e8bee8b1094 |

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 750-637/000-002 ↓ |

Documentation

| Manual | | | |
|--|-----------------------|-------------------|-------------------|
| Product Manual Incremental encoder interface | V 1.6.1 07.07.2021 | pdf 3275.85 KB | ↓ |
| System Manual Series 750/753 | | | ↓ |

| System Description | | | |
|---|--|------------------|-------------------|
| 750/753 Series I/O-System – General Product Information | | pdf 953.35 KB | ↓ |
| Overview on WAGO-I/O-SYSTEM 750 approvals | | pdf 770.48 KB | ↓ |

| Bid Text | | | |
|-----------------|------------|-----------------|-------------------|
| 750-637/000-002 | 09.10.2017 | doc 28.50 KB | ↓ |
| 750-637/000-002 | 19.02.2019 | xml 5.81 KB | ↓ |

| Instruction Leaflet | | | |
|---------------------------------|------------|------------------|-------------------|
| CCC Ex (Additional information) | 26.04.2023 | pdf 159.76 KB | ↓ |

| CAD/CAE-Data | | | | | | | | | | | | | |
|--|-------------------|--|---------------------------------|-------------------|---|----------|--|--------------------------------------|-------------------|-----------------------------------|-------------------|---------------------------------|-------------------|
| <table border="1"> <thead> <tr> <th colspan="2">CAD data</th> </tr> </thead> <tbody> <tr> <td>2D/3D Models 750-637/000-002</td> <td>↓</td> </tr> </tbody> </table> | CAD data | | 2D/3D Models 750-637/000-002 | ↓ | <table border="1"> <thead> <tr> <th colspan="2">CAE data</th> </tr> </thead> <tbody> <tr> <td>EPLAN Data Portal 750-637/000-002</td> <td>↓</td> </tr> <tr> <td>WSCAD Universe 750-637/000-002</td> <td>↓</td> </tr> <tr> <td>ZUKEN Portal 750-637/000-002</td> <td>↓</td> </tr> </tbody> </table> | CAE data | | EPLAN Data Portal 750-637/000-002 | ↓ | WSCAD Universe 750-637/000-002 | ↓ | ZUKEN Portal 750-637/000-002 | ↓ |
| CAD data | | | | | | | | | | | | | |
| 2D/3D Models 750-637/000-002 | ↓ | | | | | | | | | | | | |
| CAE data | | | | | | | | | | | | | |
| EPLAN Data Portal 750-637/000-002 | ↓ | | | | | | | | | | | | |
| WSCAD Universe 750-637/000-002 | ↓ | | | | | | | | | | | | |
| ZUKEN Portal 750-637/000-002 | ↓ | | | | | | | | | | | | |

| Device Files | | | |
|--|-----------------------|-------------------|-------------------|
| Device Driver | | | |
| WAGO USB Service Kabel Treiber / Serie 750 und 857 | 6.5.3.0 10.09.2014 | zip 4721.96 KB | ↓ |

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

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

1.1.2.3 Marker carrier

| |
|---|
|  Item No.: 750-103 Group marker carrier |
|---|

1.1.3 Shield termination

1.1.3.1 Shield clamping saddles

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

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); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



Item No.: 850-835

IP65 enclosure; Polyester (RAL 7032); WxHxD (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 flange plate



Item No.: 850-815/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate



Item No.: 850-816/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate



Item No.: 850-817/002-000

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate