



This fieldbus coupler connects the WAGO I/O System as a slave to the CANopen fieldbus. Data is transmitted via PDOs and SDOs.

The fieldbus coupler detects all connected I/O modules and creates a local process image. Analog and specialty module data is sent via words and/or bytes, digital data is sent bit by bit.

The local process image is divided into two data zones containing the data received and the data to be sent. The process data can be sent via the CANopen bus to a control system for further processing. The process output data is sent via the CANopen bus.

The data of the analog modules is stored in the PDOs according to the order in which the modules are connected to the coupler. The bits of the digital modules are sent byte by byte and also mapped in the PDOs. If the amount of digital I/O information exceeds eight bits, the coupler automatically starts with a new byte.

All entries of the object directory can be mapped as required in the 32 Rx PDOs and 32 Tx PDOs. The complete input and output process image can be transmitted via SDOs.

Spacer modules can be set via software.

**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

## Notes

|      |  |
|------|--|
| Note | <b>Note: Configuration files required (EDS)!</b> |
|------|--|

## Technical data

|   |   |
|---|---|
| Communications  | CANopen   |
| Number of fieldbus nodes on master (max.)             | 110   |
| Transmission rate                                     | 10 kBd ... 1 MBd  |
| Bus segment length (max.)                             | 1000 m  |
| Transmission medium (communication/fieldbus)          | Shielded Cu cable 3 x 0.25 mm <sup>2</sup>  |
| Number of modules per node (max.)                     | 64  |
| Number of modules without a bus extension (max.)      | 64  |
| Other CANopen features                                | NMT slave<br>Minimum boot-up<br>Variable PDO mapping<br>Emergency message<br>Life guarding<br>Empty module configuration  |
| Number of PDOs  | 32 Tx / 32 Rx   |
| Number of SDOs  | 2 SDO servers   |
| COB ID distribution                                   | SDO, standard   |
| Node ID distribution                                  | DIP switch  |
| Communication profile                                 | DS-301 V4.1   |
| Device profile  | DS-401 V2.0<br>Limit value monitoring<br>Edge-triggered PDOs<br>Configurable response in the event of an error  |
| Input and output process image (fieldbus) max.        | 512 bytes/512 bytes   |
| Supply voltage (system)                               | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!  |
| Current consumption (5 V system supply)               | 350 mA  |
| Total current (system supply)                         | 1650 mA   |
| Supply voltage (field)                                | 24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!   |
| Input current (typ.) at nominal load (24 V)           | 500 mA  |
| Power supply efficiency (typ.) at nominal load (24 V) | 90 %  |
| Number of outgoing power jumper contacts              | 2   |
| Current carrying capacity (power jumper contacts)     | 10 A  |
| Rated impulse withstand voltage                       | 1 kV  |
| Ratings per   | IEC/EN 60664-1  |
| Derating  | Derating (supply voltage):<br>Ambient temperatures under laboratory conditions: (-25 ... +30 %);<br>for -40 ... +55 °C: 24 V (-25 ... +20 %);<br>for +55 ... +70 °C: 24 V (-25 ... +10 %);<br>Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |

## Connection Data

|   |  |
|---|--|
| Connection technology: communication/fieldbus | CANopen: 1 x D-sub 9 plug                    |
| Connection technology: field supply           | 4 x CAGE CLAMP®                              |
| Connection technology: system supply          | 2 x CAGE CLAMP®                              |
| Connectable conductor materials               | Copper                                       |
| Connection type                               | System/field supply                          |
| Solid conductor                               | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG |
| Fine-stranded conductor                       | 0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG |
| Strip length                                  | 8 ... 9 mm / 0.31 ... 0.35 inches            |
| Connection technology: device configuration   | 1 x Male connector; 4-pole                   |

### Physical data

|                                   |                        |
|-----------------------------------|------------------------|
| Width                             | 50.5 mm / 1.988 inches |
| Height                            | 100 mm / 3.937 inches  |
| Depth                             | 71.1 mm / 2.799 inches |
| Depth from upper-edge of DIN-rail | 63.9 mm / 2.516 inches |

### Mechanical data

|               |             |
|---------------|-------------|
| Mounting type | DIN-35 rail |
|---------------|-------------|

### Material data

|                    |                              |
|--------------------|------------------------------|
| Housing material   | Polycarbonate; polyamide 6.6 |
| Fire load          | 2.165 MJ                     |
| Weight             | 176.5 g                      |
| Conformity marking | CE                           |

### Environmental requirements

|  |   |
|--|---|
| Ambient temperature (operation)  | -40 ... +70 °C  |
| Ambient temperature (storage)  | -40 ... +85 °C  |
| Ambient temperature (installation)   | -20 ... +70 °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 left, horizontal up, vertical top and vertical bottom  |
| 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   | According to type test for marine classification (ABS, BV, DNV, IACS, LR): acceleration: 5g, IEC 60068-2-6, EN 60870-2-2, IEC 60721-3-1, -3, EN 50155, EN 61373 |
| Shock resistance   | per IEC 60068-2-27 (10g/16 ms/half-sine/1,000 shocks; 25g/6 ms/half-sine/1,000 shocks), EN 50155, EN 61373  |
| EMC immunity to interference   | per EN 61000-6-1, -2, EN 61131-2, marine applications, EN 50121-3-2, -4, -5, EN 60255-26  |
| 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, EN 50121-3-2, EN 50121-4, -5                                      |
| 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                  | 4050821460145   |
| Customs tariff number | 8517620000      |

| Product Classification |                      |
|------------------------|----------------------|
| UNSPSC                 | 32151705             |
| eCl@ss 10.0            | 27-24-26-07          |
| eCl@ss 9.0             | 27-24-26-07          |
| ETIM 9.0               | EC001603             |
| ETIM 10.0              | EC001603             |
| ECCN                   | NO US CLASSIFICATION |

| Environmental Product Compliance          |   |
|---|---|
| CAS-No.                                   | 1303-86-2<br>1317-36-8<br>7439-92-1<br>79-94-7  |
| REACH Candidate List Substance            | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol<br>Diboron trioxide<br>Lead<br>Lead monoxide<br>Perfluorobutane sulfonic acid (PFBS) and its salts |
| RoHS Compliance Status                    | Compliant,With Exemption  |
| RoHS Exemption                            | 6(c)<br>7(a)<br>7(c)-I<br>7(c)-II   |
| SCIP notification number (Austria)        | 81a21ba6-08c7-4694-a15e-b16000d7fccd  |
| SCIP notification number (Belgium)        | b3d96990-dbed-44a7-9acb-7e7b6fe64314  |
| SCIP notification number (Bulgaria)       | b4e7ee55-ea12-4ba7-9745-8888af8e1177  |
| SCIP notification number (Czech Republic) | ab0ffa1e-8bd0-486e-9f96-888a73abf80d  |
| SCIP notification number (Denmark)        | d739ba71-cf22-406c-8370-46a3573781bb  |
| SCIP notification number (Finland)        | 09629630-5663-42f9-a617-9d2840ac9b9c  |
| SCIP notification number (France)         | 33e7d9e8-8167-4a38-b9f2-9759de3103fe  |
| SCIP notification number (Germany)        | a66ab265-ac02-4ce8-8e90-ed3f3c4f7017  |
| SCIP notification number (Hungary)        | c04421ac-f0b7-4009-80db-e7f65e343dbb  |
| SCIP notification number (Italy)          | 91558b2d-1823-4810-873c-6922e2a5c695  |
| SCIP notification number (Netherlands)    | 23058bd8-1880-4d53-823d-4d6db7a70131  |
| SCIP notification number (Poland)         | 3ed6dc64-30e1-4fd6-b612-8b4e47efa9a4  |
| SCIP notification number (Romania)        | ad2c4fa2-f929-4a80-8982-1906e7990abc  |
| SCIP notification number (Sweden)         | 27170e24-a743-4e39-88e3-0fdd3ff94dd9  |

**Approvals / Certificates**

| General approvals   |                        |                     | Declarations of conformity and manufacturer's declarations |          |                  |
|---|------------------------|---------------------|--|----------|------------------|
|   |                        |                     |  |          |                  |
| Approval  | Standard               | Certificate Name    | Approval   | Standard | Certificate Name |
| EAC<br>GZO Almaty Standart  | TP TC 020/2011         | EAC CoC 03083       | EU-Declaration of Confor-<br>mity<br>WAGO GmbH & Co. KG    | -        | -                |
| KC<br>National Radio Research<br>Agency                           | Article 58-2, Clause 3 | MSIP-REM-W43-FBC750 | UK-Declaration of Confor-<br>mity<br>WAGO GmbH & Co. KG    | -        | -                |
| UL<br>Underwriters Laboratories<br>Inc. (ORDINARY LOCATI-<br>ONS) | UL 508                 | E175199             |  |          |                  |

Approvals for marine applications



| Approval                                | Standard | Certificate Name  |
|---|----------|-------------------|
| ABS<br>American Bureau of Ship-<br>ping | -        | 22-2208829-PDA    |
| LR<br>Lloyds Register                   | -        | LR22276776TA      |
| PRS<br>Polski Rejestr Statków           | -        | TE/1099/880590/23 |

Approvals for hazardous areas



| Approval   | Standard    | Certificate Name                              |
|--|-------------|---|
| ATEX<br>TUEV Nord Cert GmbH                                | EN 60079-0  | TUEV 17 ATEX 193969X (II 3 G Ex ec IIC T4 Gc) |
| CCC<br>CNEX  | CNCA-C23-01 | 2020312310000214 (Ex ec IIC T4 Gc)            |
| IECEX<br>TUEV Nord Cert GmbH                               | IEC 60079-0 | IECEX TUN 16.0046X (Ex ec IIC T4 Gc)          |
| UKEx<br>WAGO GmbH & Co. KG                                 | EN 60079-0  | UKCA_WA GO22UKEX005X_ec                       |
| UL<br>Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS) | UL 121201   | E198726                                       |

Downloads

Environmental Product Compliance

| Compliance Search   |
|---|
| Environmental Product Compliance<br>750-338/040-000 <a href="#">↓</a> |

Documentation

| Manual                                |                       |                   |                   |
|---------------------------------------|-----------------------|-------------------|-------------------|
| Product Manual CANo-<br>pen D-Sub/XTR | V 1.3.0<br>09.12.2019 | pdf<br>6323.20 KB | <a href="#">↓</a> |

| System Description   |  |                  |                   |
|--|--|------------------|-------------------|
| 750 XTR Series I/O-<br>System – General Pro-<br>duct Information |  | pdf<br>726.09 KB | <a href="#">↓</a> |

| Bid Text        |            |                 |                   |
|-----------------|------------|-----------------|-------------------|
| 750-338/040-000 | 19.02.2019 | xml<br>9.09 KB  | <a href="#">↓</a> |
| 750-338/040-000 | 26.10.2015 | doc<br>39.00 KB | <a href="#">↓</a> |

| Instruction Leaflet                  |            |                  |                   |
|--------------------------------------|------------|------------------|-------------------|
| CCC Ex (Additional in-<br>formation) | 26.04.2023 | pdf<br>144.58 KB | <a href="#">↓</a> |

CAD/CAE-Data

| CAD data                        |                   |
|---------------------------------|-------------------|
| 2D/3D Models<br>750-338/040-000 | <a href="#">↓</a> |

| CAE data                             |                   |
|--------------------------------------|-------------------|
| EPLAN Data Portal<br>750-338/040-000 | <a href="#">↓</a> |
| WSCAD Universe<br>750-338/040-000    | <a href="#">↓</a> |
| ZUKEN Portal<br>750-338/040-000      | <a href="#">↓</a> |

## Runtime Software

### Firmware

|   |                    |                  |  |
|---|--------------------|------------------|--|
| 0750-0338, Feldbus-koppler CANopen; D-Sub | V 23<br>18.10.2021 | zip<br>491.49 KB |  |
|---|--------------------|------------------|--|

## Libraries

### Device Description File

|   |                  |                   |  |
|---|------------------|-------------------|--|
| 750-914; EDS file for CANopen / 750, 752 and 767 Series | XT<br>12.03.2021 | zip<br>1728.38 KB |  |
|---|------------------|-------------------|--|

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 Cables and connectors

##### 1.1.1.1 Connector plug



**Item No.: 750-963**

Fieldbus Connector CANopen; with D-sub female connector; 9-pole

#### 1.1.2 Communication

##### 1.1.2.1 Communication cable



**Item No.: 750-923/000-001**

Configuration cable; USB connector; Length: 5 m

#### 1.1.3 DIN-rail

##### 1.1.3.1 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.: 210-112**

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

### 1.1.4 Marking

#### 1.1.4.1 Group marker carrier



**Item No.: 750-107**  
Group marker carrier

#### 1.1.4.2 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

**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

#### 1.1.4.3 Marker carrier



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

### 1.1.5 Shield termination

#### 1.1.5.1 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

1.1.6 System enclosure

1.1.6.1 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