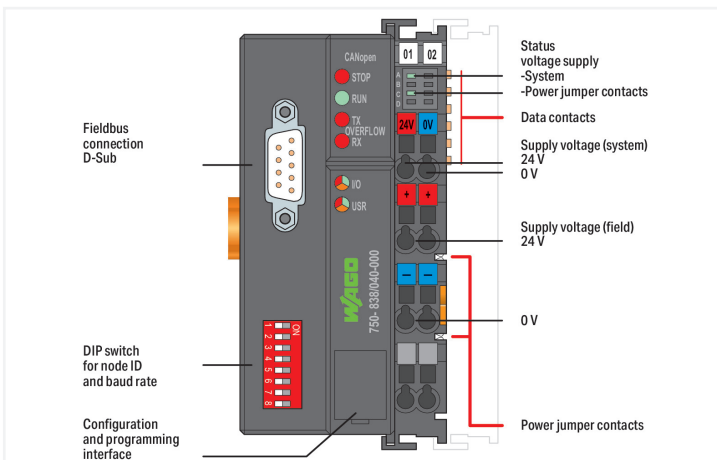


Color: ■ dark gray



The CANopen Controller combines control functionality, I/O interface and fieldbus in one device. Application programming is IEC 61131-3 compliant. The programmer can access all fieldbus and I/O data.

Features and applications:

- Central control system is assisted by decentralized processing units
- Devide complex applications into individually testable units
- Programmable fault response in the event of fieldbus failure
- Signal pre-processing reduces fieldbus transmissions
- Peripheral equipment can be controlled directly, resulting in faster system response times (without any "detour" over the CANopen fieldbus system)
- Compact, self-sufficient controller
-
- **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 | Note: Configuration files required (EDS)! The EDS files can be downloaded for free at www.wago.com . |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------|

Technical data

| | |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Communication | CANopen |
| Visualization | none |
| CPU | 32 bits |
| Programming languages per IEC 61131-3 | Instruction List (IL) Ladder Diagram (LD) Function Block Diagram (FBD) Continuous Function Chart (CFC) Structured Text (ST) Sequential Function Chart (SFC) |
| Programming environment | WAGO-I/O-PRO V2.3 (based on CODESYS V2.3) |
| Configuration options | EDS device description file WAGO-I/O-CHECK |
| Cycle time | < 3 ms for 1000 bit instructions/256 digital I/O |
| Baud rate | 10 kBd ... 1 MBd |
| Bus segment length (max.) | 1000 m |
| Transmission medium (communication/fieldbus) | Shielded Cu cable 3 x 0.25 mm ² |
| Number of fieldbus nodes on master (max.) | 110 |
| Program memory | 640 KB |
| Data memory | 832 KB |
| Non-volatile software memory | 8 KB |
| Memory for fieldbus input variables (max.) | 512 bytes |
| Memory for fieldbus output variables (max.) | 512 bytes |
| Number of modules per node (max.) | 64 |
| Number of PDOs | 32 Tx / 32 Rx |
| Number of SDOs | 2 SDO servers / 16 SDO clients |
| Input and output process image (fieldbus) max. | 512 bytes/512 bytes |
| Other CANopen features | NMT slave Minimum boot-up Variable PDO mapping Emergency message Life guarding/heartbeat Empty module configuration |
| COB ID distribution | SDO, standard |
| Node ID distribution | DIP switch |
| Supported profiles | Communication profile: DS-301 V4.01; device profile: DS-401 V2.0; limit monitoring, flank-triggered PDOs, configurable response in the event of an error, DSP 405, NMT master programmable using function blocks |
| Indicators | LED (STOP) red: Device/node Stop; LED (RUN) green: Initialization; LED (TX, RX OVERFLOW) red: CAN send/receive buffer overflow; LED (I/O, USR) red/green/orange: Local status, status programmable by user; LED (A, B) green: System power supply status, field supply |
| Derating | Total current (system supply): 1650 mA (ambient temperature (operation) < 60 °C); 1250 mA (ambient temperature (operation): 60 ... 70 °C); Derating (supply voltage): Ambient temperature under laboratory conditions: (-25 ... +30 %); for -40 ... +55 °C: 24 V (-25 ... +20 %); for +55 ... +70 °C: 24 V (-25 ... +10 %); Lower limit in all temperature ranges: -27.5 % (including 15 % residual ripple) |
| Supply voltage (system) | 24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed! |
| Input current (typ.) at nominal load (24 V) | 500 mA |
| Power supply efficiency (typ.) at nominal load (24 V) | 90 % |
| 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! |
| Current carrying capacity (power jumper contacts) | 10 A |
| Number of outgoing power jumper contacts | 2 |
| Ratings per | IEC/EN 60664-1 |

Technical data

| | |
|---------------------|------|
| Rated surge voltage | 1 kV |
|---------------------|------|

Connection data

| | |
|-----------------------------------------------|----------------------------------------------|
| Connection technology: communication/fieldbus | CANopen: 1 x D-sub 9 plug |
| Connection technology: system supply | 2 x CAGE CLAMP® |
| Connection technology: field supply | 4 x CAGE CLAMP® |
| Connection type 1 | System/field supply |
| Solid conductor | 0.25 ... 2.5 mm ² / 24 ... 14 AWG |
| Fine-stranded conductor | 0.25 ... 2.5 mm ² / 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

| | |
|--------------------|------------------------------|
| Weight | 182 g |
| Color | dark gray |
| Housing material | Polycarbonate; polyamide 6.6 |
| 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.) |
| 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) |
| Mounting position | horizontal (standing/lying); vertical |
| Mounting type | DIN-35 rail |
| Vibration resistance | per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155; EN 61373 |
| Shock resistance | per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/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 |
| Fire load | 2.18 MJ |
| 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) |
| eCl@ss 10.0 | 27-24-26-07 |
| eCl@ss 9.0 | 27-24-26-07 |
| ETIM 8.0 | EC000236 |
| ETIM 7.0 | EC000236 |
| PU (SPU) | 1 pcs |
| Packaging type | Box |
| Country of origin | DE |
| GTIN | 4050821460152 |
| Customs tariff number | 85371091990 |

| Environmental Product Compliance | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAS-No. | 11120-22-2 1303-86-2 1317-36-8 7439-92-1 79-94-7 |
| REACH Candidate List Substance | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide Lead silicate Perfluorobutane sulfonic acid (PFBS) and its salts |
| RoHS Compliance Status | Compliant,With Exemption |
| RoHS Exemption | 6(c) 7(a) 7(c)-I 7(c)-II |
| SCIP notification number (Austria) | f07026e2-e7bc-4eeb-ad33-ebb7ec9684df |
| SCIP notification number (Belgium) | dbabdcff-fa77-428f-a000-437bc7ca51da |
| SCIP notification number (Bulgaria) | 53eb3032-de0f-4a0c-bcf3-c762ee20c0a1 |
| SCIP notification number (Czech Republic) | 3250f19c-5305-4205-8bb6-b55fe900a4a5 |
| SCIP notification number (Denmark) | ed350b48-37be-4abe-9ad0-64d6ec5dcdba |
| SCIP notification number (Finland) | db2f6b75-b5f6-4aa4-aed3-3216db77ff02 |
| SCIP notification number (France) | 5bed3fbc-9773-4d0c-ada6-0360ad0babd7 |
| SCIP notification number (Germany) | cca90e09-0448-469c-ad0c-af894a151555 |
| SCIP notification number (Hungary) | d9713c38-2686-41fd-86ed-b903139eeacc |
| SCIP notification number (Italy) | 3ff807ca-61fd-441e-a669-afe005e67e95 |
| SCIP notification number (Netherlands) | 0ecff296-859d-4337-97db-2528f691a4c9 |
| SCIP notification number (Poland) | a2175bbe-102a-496c-91b2-2cab3dace43b |
| SCIP notification number (Romania) | 705f9f37-b742-477e-b4fe-51841b2c0b53 |
| SCIP notification number (Sweden) | c8f4db0d-3a74-47c1-9699-fbfd757b56a9 |

Approvals / Certificates

| General approvals | | | Declarations of conformity and manufacturer's declarations | | |
|-------------------------------------------------------------------|------------------------|---------------------------------|------------------------------------------------------------|----------|------------------|
| | | | | | |
| Approval | Standard | Certificate Name | Approval | Standard | Certificate Name |
| EAC Brjansker Zertifizierungs- stelle | TP TC 020/2011 | EAC RU C-DE.AM02. B.00087/19 | EU-Declaration of Confor- mity WAGO GmbH & Co. KG | - | - |
| KC National Radio Research Agency | Article 58-2, Clause 3 | MSIP-REM-W43-PFC750 | | | |
| UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS) | UL 508 | E175199 Sec.1 | | | |

Approvals for marine applications



| Approval | Standard | Certificate Name |
|-----------------------------------------|----------|-------------------|
| ABS American Bureau of Ship- ping | - | 22-2208829-PDA |
| DNV DNV GL SE | - | TAA00000Y7 |
| LR Lloyds Register | - | LR22276776TA |
| PRS Polski Rejestr Statków | - | TE/2215/880590/18 |

Approvals for hazardous areas



| Approval | Standard | Certificate Name |
|--------------------------------------------------------------------|----------------|-----------------------------------------------------|
| ATEX TUEV Nord Cert GmbH | EN 60079-0 | TUEV 17 ATEX 193969X (II 3 G Ex ec IIC T4 Gc) |
| CCC CNEX | CNCA-C23-01 | 2020312310000214 (Ex ec IIC T4 Gc) |
| EAC Brjansker Zertifizierungs- stelle | TP TC 012/2011 | EAC RU C-DE.AM02. B.00163/19 (2Ex e IIC T4 Gc X) |
| IECEX TUEV Nord Cert GmbH | IEC 60079-0 | IECEX TUN 16.0046X (Ex ec IIC T4 Gc) |
| UKEx WAGO GmbH & Co. KG | EN 60079-0 | UKCA_WA GO22UKEX005X_ec |
| UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS) | UL 121201 | E198726 Sec.1 |

Downloads

Environmental Product Compliance

Compliance Search

| | |
|-----------------------------------------------------|---|
| Environmental Product Compliance 750-838/040-000 | ↓ |
|-----------------------------------------------------|---|

Documentation

| Manual | | | |
|--------------------------------------------|-----------------------|-------------------|---|
| Product Manual CANo- pen Controller/XTR | V 1.3.0 09.12.2019 | pdf 6824.68 KB | ↓ |

| System Description | | | |
|-----------------------------------------------------------|--|------------------|---|
| 750 XTR Controller, Ge- neral Product Informati- on | | pdf 458.11 KB | ↓ |

| Bid Text | | | |
|-----------------|------------|-----------------|---|
| 750-838/040-000 | 19.02.2019 | xml 9.14 KB | ↓ |
| 750-838/040-000 | 26.10.2015 | doc 39.50 KB | ↓ |

| Instruction Leaflet | | | |
|--------------------------------------|------------|------------------|---|
| CCC Ex (Additional in- formation) | 26.04.2023 | pdf 144.58 KB | ↓ |

CAD/CAE-Data

| CAD data | |
|---------------------------------|---|
| 2D/3D Models 750-838/040-000 | ↓ |

| CAE data | |
|--------------------------------------|---|
| EPLAN Data Portal 750-838/040-000 | ↓ |
| WSCAD Universe 750-838/040-000 | ↓ |
| ZUKEN Portal 750-838/040-000 | ↓ |

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 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

Configuration cable; USB connector; Length: 2.5 m



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.: 210-508

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-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.: 210-506

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; 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.: 210-504

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; 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



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

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 Software

1.1.6.1 Basic version



Item No.: 759-333
WAGO-I/O-PRO

Item No.: 759-333/000-923
WAGO-I/O-PRO; USB-Set

1.1.7 System enclosure

1.1.7.1 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