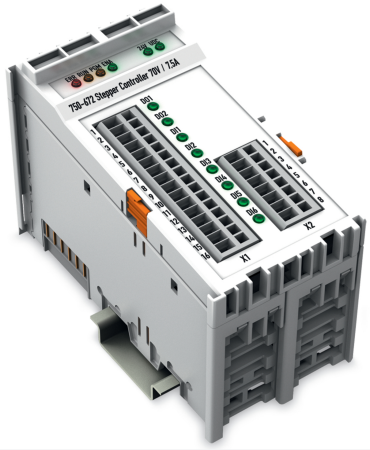
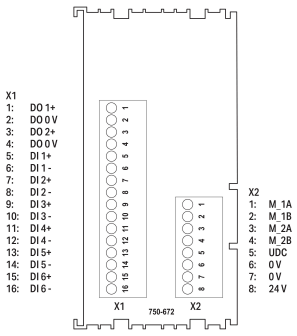
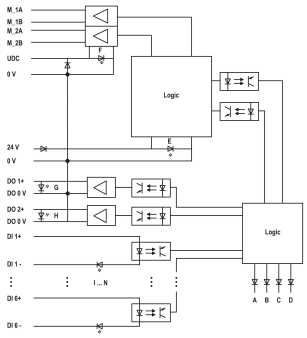
# Data Sheet | Item Number: 750-672

Stepper Controller; 70 VDC; 7.5 A

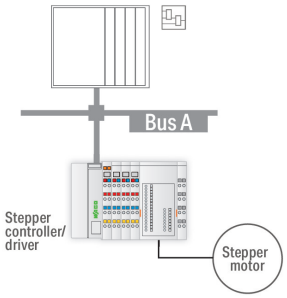
https://www.wago.com/750-672

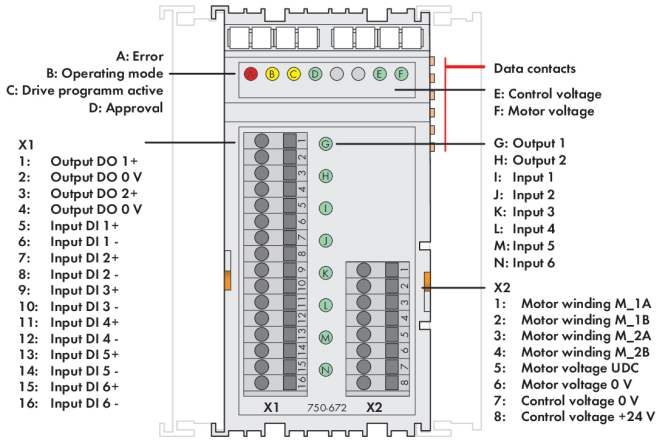


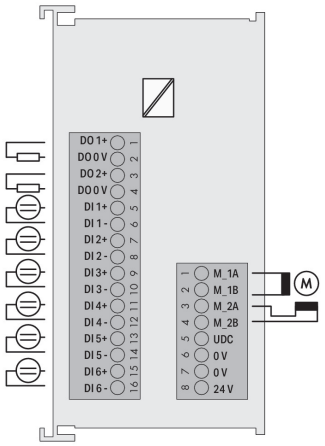



Color: light gray




The intelligent 750-672 Stepper Controller has an on-board power driver designed to control 2-phase stepper motors up to 70 V/7.5 A.
The 64 times microstepping prevents step losses due to resonance in the acceleration phases and reduces wear on the mechanical parts. Adjustable current limits for stop, acceleration and constant speed help minimize motor power dissipation. Six configurable inputs for start/stop, limit switches, reference cams, jog/tip, etc., are directly processed by the internal software without delay. Two outputs can be linked with internal functions or used freely.
Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-dependent properties provide this controller with a wide spectrum of possible uses. The programmer's interface is the same for all WAGO Stepper Controllers.

## Technical data

| | |
|---|---|
| Device-specific | Inputs (preset): DI 1: Drive stop, DI 2: Reference input, DI 3: Jog switch in positive direction, DI 4: Jog switch in negative direction, DI 5: Limit switch in positive direction, DI 6: Limit switch in negative direction, Outputs (preset): DO 1: Target reached, DO 2: Error, Inputs and outputs can be freely reconfigured. |
| Number of digital outputs | 2 |
| Input filter | 100 µs, software filter can be connected |
| Input current (typ.) | 2.8 mA |
| Output current per channel | 0.5 A |
| Output current | short-circuit-protected |
| Switching frequency (max.) | 5 Hz; Inductive load per IEC 947-5-1, DC 13 |
| Load type | Resistive load, inductive load (max. 2 H), lamps |
| Output current (max.) (motor) | 2 x 5.0 A (2 x 7.5 A transient) |
| Output voltage | **Control voltage**: 24 VDC (-25 % ... +30 %); Closed current: 120 mA + 2 x 0.5 A (DO1, DO2, load-dependent); **Motor voltage**: 55 VDC nominal value; Absolute upper limit: 71.5 V; Absolute lower limit: 18 V; Closed current (typ.) = 5 mA; Protection via external fuse 5 A |
| Voltage range for signal (0) | –3 ... +5 VDC |
| Voltage range for signal (1) | 15 ... 30 VDC |
| Diagnostics | Overcurrent, short circuit or ground fault, overtemperature, supply voltage monitoring, motor wire break |
| Resolution | 15 bits + 16 bit prescaler; 64 microsteps per full step |
| Stepper resolution | 23 bits + sign bit |
| Stepper frequency (full-step) max. | 7812 Hz |
| Data width | 12-byte input/output |
| Protection | **Short circuit monitoring of motor connections:** Winding short circuit and short circuit to 0 V and 24 V **24 V supply:** Reverse voltage protection **Motor supply:** Reverse voltage protection via external fuse |
| Function | Positioning, sin²-shaped ramps, setpoint change on the fly, rotational speed control |
| Supply voltage (system) | 5 VDC; via data contacts |
| Current consumption (system supply) | 70 mA |
| Isolation | 500 V system/field |
| Indicators | LED (A) red: Error; LED (B, C) yellow: Operation, Run Program Active; LED (D, E, F) green: Enable, Control Voltage, Motor Voltage |

## Connection Data

| | |
|---|---|
| Connection technology: I/O | 24 x CAGE CLAMP® |
| Connectable conductor materials | Copper |
| Connection type | Inputs/outputs |
| Solid conductor | 0.08 ... 1.5 mm² / 28 ... 14 AWG |
| Fine-stranded conductor | 0.08 ... 1.5 mm² / 28 ... 14 AWG |
| Strip length | 5 ... 6 mm / 0.2 ... 0.24 inches |
| Connection requirement (permissible cable length) | 30 m |
| Connection requirement (permissible cable type) | Motor connection: shielded |
| Note (conductor cross-section) | 14 AWG: THHN, THWN |

## Physical data

| | |
|---|---|
| Width | 48 mm / 1.89 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 |


Continued on next page

## Mechanical data

| | |
|---|---|
| Mounting type | DIN-35 rail |
| Pluggable connector | fixed |

## Material data

| | |
|---|---|
| Color | light gray |
| Housing material | Polycarbonate; polyamide 6.6 |
| Fire load | 2.367 MJ |
| Weight | 175 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 | Per IEC 60068-2-6 |
| Shock resistance | 15g per IEC 60068-2-27 |
| EMC immunity to interference | per EN 61000-6-2 |
| EMC emission of interference | per EN 61000-6-3 |
| Exposure to pollutants | per IEC 60068-2-42 and IEC 60068-2-43 |
| Permissible $H_2S$ 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 | 4045454763701 |
| Customs tariff number | 85389091890 |

## 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 |


Continued on next page

## Environmental Product Compliance

| | |
|---|---|
| RoHS Compliance Status | Compliant,No Exemption |

## Approvals / Certificates

### General approvals

| Approval | Standard | Certificate Name |
|---|---|---|
| EAC<br>GZO Almaty Standart | TP TC 020/2011 | EAC CoC 03083 |
| KC<br>National Radio Research Agency | Article 58-2, Clause 3 | MSIP-REM-W43-MCM750 |
| UL<br>Underwriters Laboratories Inc. | UL 61800-5-1 | E336763 |

### Declarations of conformity and manufacturer's declarations

| Approval | Standard | Certificate Name |
|---|---|---|
| EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | - | - |

## Downloads

### Environmental Product Compliance

**Compliance Search**

| | |
|---|---|
| Environmental Product Compliance 750-672 | |

### Documentation

**Manual**

| | | | |
|---|---|---|---|
| Product Manual Stepper Controller 70 V / 7.5 A 6IN, 2OUT | V 1.0.5 | pdf<br>2572.03 KB | |
| System Manual Series 750/753 | | | |

**System Description**

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

**Bid Text**

| | | | |
|---|---|---|---|
| 750-672 | 19.02.2019 | xml<br>8.36 KB | |
| 750-672 | 09.10.2017 | doc<br>33.50 KB | |


Continued on next page

## Application Notes

**Application Note CoDeSys 2.3**

| | | | |
|---|---|---|---|
| Anwendungshinweis für die Steuerung eines Igus robolink | 12.11.2015<br>12.11.2015 | zip<br>1281.38 KB | |

**Application Note e!COCKPIT**

| | | | |
|---|---|---|---|
| e!COCKPIT Application Note WagoAppStepper | 1.0.1<br>06.12.2021 | pdf<br>3306.34 KB | |

**Application note SIEMENS**

| | | | |
|---|---|---|---|
| | 1.1.0<br>03.02.2017 | zip<br>8659.49 KB | |
| Using stepper modules with TIA Portal (a114904) | 1.2.5<br>05.01.2021 | zip<br>9967.41 KB | |

## CAD/CAE-Data

**CAD data**

2D/3D Models 750-672

**CAE data**

EPLAN Data Portal 750-672

WSCAD Universe 750-672

ZUKEN Portal 750-672

## Device Files

**Device Driver**

| | | | |
|---|---|---|---|
| WAGO USB Service Kabel Treiber / Serie 750 und 857 | 6.5.3.0<br>10.09.2014 | zip<br>4721.96 KB | |

## Libraries

**Library**

| | | | |
|---|---|---|---|
| Stepper_03.lib | 1.0.5<br>18.01.2021 | zip<br>588.94 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


Continued on next page

### 1.1.1.1 Mounting accessories



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.: 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


Continued on next page

## 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

## 1.1.5 Tool

### 1.1.5.1 Operating tool



Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft