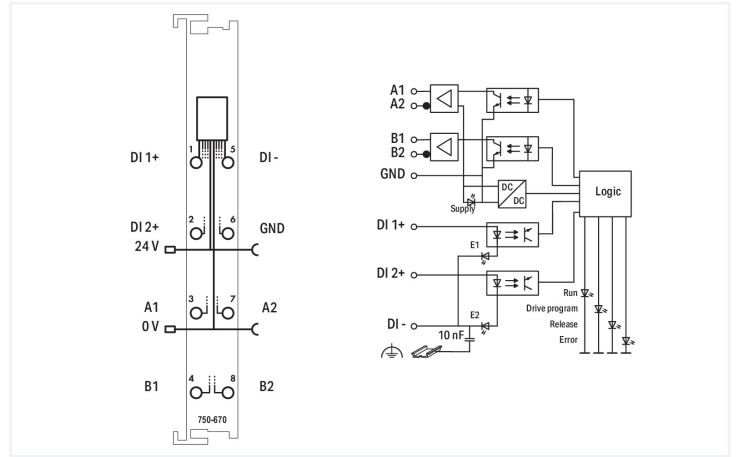
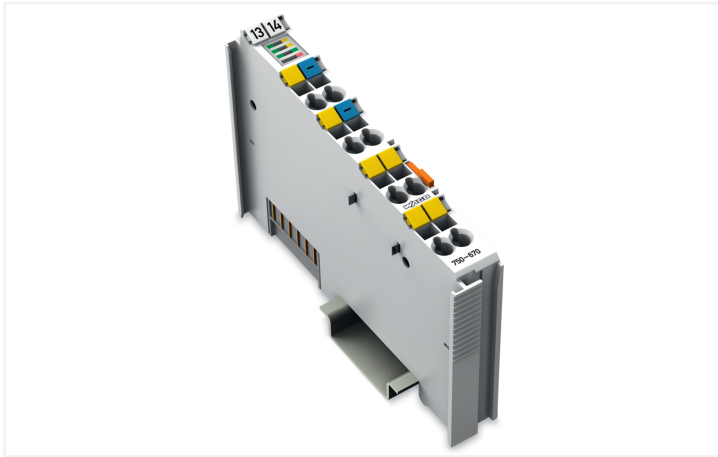
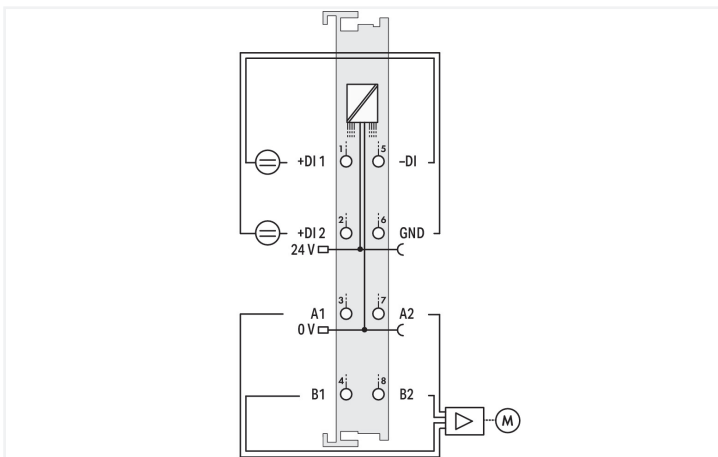
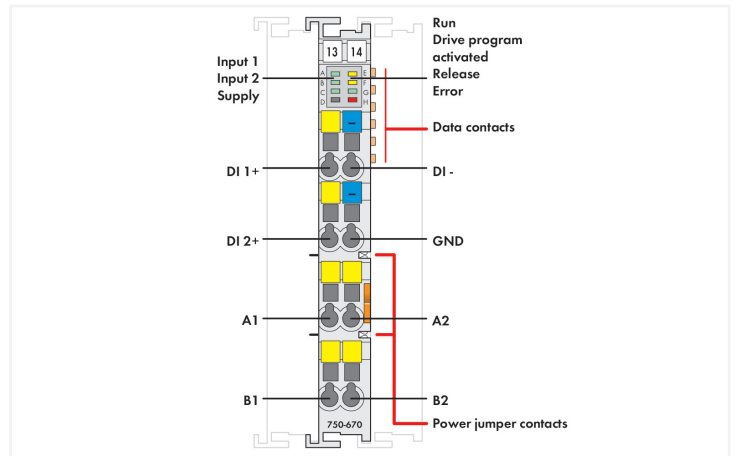
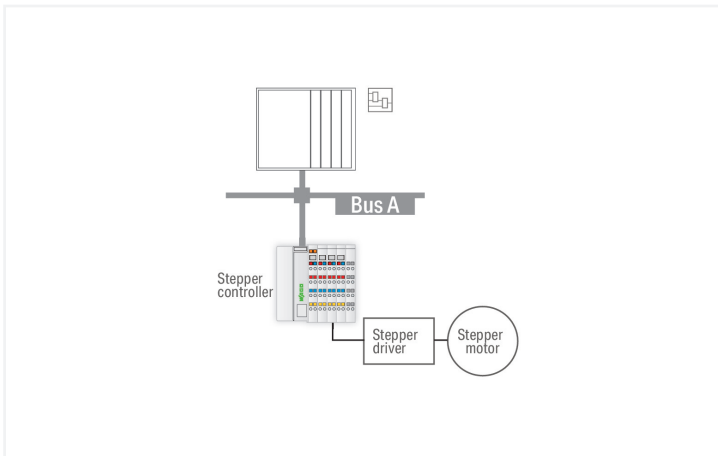


**Data Sheet | Item Number: 750-670**  
**Stepper Controller; RS-422/24 VDC; 20 mA**

<https://www.wago.com/750-670>



Color: ■ light gray



The 750-670 Module is an intelligent stepper controller used to control different drive power sections with pulse/direction interface or incremental encoder input.

Both RS-422 and 24 V or 20 mA interfaces are available.

Due to the high output frequency, stepper output stages with smooth microstepping resolution can be used.

In addition, this module can also be used as a high-precision frequency or pulse width modulator.

Two configurable inputs for start/stop, limit switches, reference cams, jog/tip, etc., are directly processed by the internal software without delay.

Versatile functions, such as positioning with different acceleration slopes, command tables, camshaft controller, auto referencing and other event-de-

pendent properties provide this controller with a wide spectrum of possible uses.

The programmer's interface is the same for all WAGO Stepper Controllers.

Additional operating modes:

- Pulse width modulation
- Frequency generator
- Single-shot mode

### Technical data

Device-specific	Operating modes: Individual positioning, reference run, jog, tip, command tables, PWM
Number of digital inputs	2
Number of outputs	1 channel (2 differential outputs A1, A2, B1, B2)
Input filter	100 µs, software filter can be connected
Input current (typ.)	2.8 mA
Output current per channel	0.03 A
Output current	short-circuit-protected
Load type	RS-422, TTL, optocoupler
Voltage range for signal (0)	-3 ... +5 VDC
Voltage range for signal (1)	15 ... 30 VDC
Signal voltage	5 VDC (internal), 5 ... 24 VDC (external)
Signal frequency (min.)	0 Hz
Signal frequency (max.)	500000 Hz
Resolution	15 bits + 16 bit prescaler
Stepper resolution	23 bits + sign bit
Duty cycle	50 % (in stepper motor mode)
Data width	12-byte input/output
Function	Absolute/relative positioning, setpoint change on the fly, rotary axis, etc.
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	98 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts (power supply via blade contact; transmission (field side supply voltage only) via spring contact)
Isolation	500 V system/field
Indicators	LED (A-C, G) green: Input 1, Input 2, Power Supply, Enable; LED (E, F) yellow: Run, Run Program Active; LED (H) red: Error
Number of incoming power jumper contacts	2
Number of outgoing power jumper contacts	2

### Connection Data

Connection technology: I/O	8 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	12 mm / 0.472 inches
Height	100 mm / 3.937 inches
Depth	67.8 mm / 2.669 inches
Depth from upper-edge of DIN-rail	60.6 mm / 2.386 inches

### Mechanical data

Mounting type	DIN-35 rail
Pluggable connector	fixed

### Material data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	0.84 MJ
Weight	49.9 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 <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	4045454539719
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**

RoHS Compliance Status	Compliant, No Exemption
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**Approvals / Certificates**

**General approvals** **Declarations of conformity and manufacturer's declarations**



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-MCM750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199

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

**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 750-670	↓
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## Documentation

Manual				System Description			
Product Manual Stepper Controller RS-422 / 24V / 20mA	V 1.0.3	pdf	2215.46 KB	750/753 Series I/O-System – General Product Information	pdf	953.35 KB	
System Manual Series 750/753				Overview on WAGO-I/O-SYSTEM 750 approvals	pdf	770.48 KB	

Bid Text				Instruction Leaflet			
750-670	19.02.2019	xml	6.23 KB	CCC Ex (Additional information)	26.04.2023	pdf	159.76 KB
750-670	09.10.2017	doc	28.50 KB				

## Application Notes

Application Note CoDeSys 2.3				Application Note e!COCKPIT			
Nutzung der Bibliothek Stepper_02 für die Module 750-670,750-671 (a114900)	1.0.3 25.02.2008	zip	3761.39 KB	e!COCKPIT Application Note WagoAppStepper	1.0.1 06.12.2021	pdf	3306.34 KB

Application note SIEMENS			
	1.1.0 03.02.2017	zip	8659.49 KB
Using stepper modules with TIA Portal (a114904)	1.2.5 05.01.2021	zip	9967.41 KB

## CAD/CAE-Data

CAD data		CAE data	
2D/3D Models 750-670		EPLAN Data Portal 750-670	
		WSCAD Universe 750-670	
		ZUKEN Portal 750-670	

## Device Files

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

**Libraries**

Library	Version	File Type	Size	Download
Stepper_03.lib	1.0.5 18.01.2021	zip	588.94 KB	
Function blocks for the stepper modules 750-670 and 750-671	1.0.5 03.01.2007	zip	865.32 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.: 750-107**  
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

1.1.2.2 Marker



**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 Supply module

1.1.4.1 Supply module



**Item No.:** [750-612](#)

Power Supply; 0 ... 230 V AC/DC



**Item No.:** [750-602](#)

Power Supply; 24 VDC



**Item No.:** [750-601](#)

Power Supply; 24 VDC; fuse holder



**Item No.:** [750-610](#)

Power Supply; 24 VDC; fuse holder; Diagnostics

1.1.5 System enclosure

1.1.5.1 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

### 1.1.5.1 System enclosure



**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