

Data sheet | Item number: 750-673

Servo Stepper Controller; 70 VDC; 7.5 A; 6 Inputs; 2 Outputs

www.wago.com/750-673



Color:



Subject to changes. Please also observe the further product documentation!

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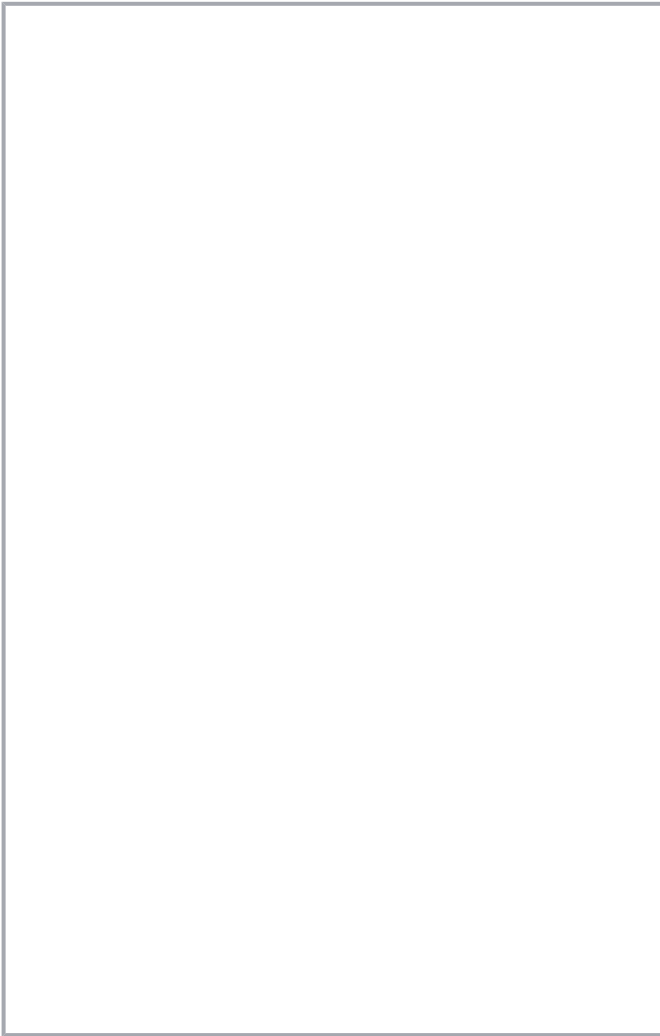
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Item description

The intelligent 750-673 Servo Stepper Controller has an on-board power driver and an incremental encoder evaluation for controlling 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

The controller features vector control that, together with the incremental encoder, contributes to an efficient and dynamic rotation speed characteristic. Six configurable inputs for start/stop, end-stop, reference, jog/tip, etc., can be 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.

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Data

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
Counter depth	32 bits
Encoder connection	A, /A, B, /B, C, /C
Encoder frequency	1 MHz
Sensor supply	5 VDC, 300 mA, short-circuit-protected
Quadrature decoder	4x evaluation
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) + approx. 100 mA (encoder); 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
Signal voltage	Compatible with RS-485/-422, common GND with motor voltage and control voltage
Diagnostics	Overcurrent, short circuit or ground fault, overtemperature, supply voltage monitoring, motor wire break, wrong rotational direction incremental encoder - motor
Resolution	15 bits + 16 bit prescaler; 64 microsteps per full step
Stepper resolution	23 bits + sign bit
Stepper frequency (full-step) max.	7,812 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
Terminating resistor	internal 120 Ω

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Functions	Positioning, sin ² -shaped ramps, setpoint change on the fly, torque control
Supply voltage (system)	5 VDC; via data contacts
Current consumption (5 V system supply)	70 mA
Isolation	500 V system/field
Indicators	LED (A) red: Error; LED (B, C, E, F) yellow: Operation, Run Program Active, Info 1 Encoder, Info 2 Encoder; LED (D, G, H) green: Enable, Control Voltage, Motor Voltage

Connection data

Connection technology: inputs/outputs	32 x CAGE CLAMP®
Connection type 1	Inputs/Outputs
Solid conductor	0.08 ... 1.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 1.5 mm ² / 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

Mechanical Data

Mounting type	DIN-35 rail
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Material Data

Color	light gray
Housing material	Polycarbonate; polyamide 6.6
Fire load	2.469 MJ
Weight	183 g
Conformity marking	CE

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Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-25 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	0 ... 2000 m / 0 ... 6562 ft
Mounting position	horizontal (standing/lying); vertical
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 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	27-24-26-05
eCl@ss 9.0	27-24-26-05
ETIM 8.0	EC001601
ETIM 7.0	EC001601
Recupel Type	
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4045454957193
Customs tariff number	85371091990

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02.B.00087/19
	KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-MCM750
	UL Underwriters Laboratories Inc.	UL 61800-5-1	E336763

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Optional accessories

Tool

Operating tool		
Item no.: 210-719	Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft	www.wago.com/210-719

System housing

System enclosure		
Item no.: 850-814/002-000	IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate	www.wago.com/850-814/002-000
Item no.: 850-815/002-000	IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate	www.wago.com/850-815/002-000
Item no.: 850-816/002-000	IP65 enclosure; Sheet steel (RAL 7035); WxHxD (400x120x200 mm); without flange plate	www.wago.com/850-816/002-000
Item no.: 850-817/002-000	IP65 enclosure; Sheet steel (RAL 7035); WxHxD (600x120x200 mm); without flange plate	www.wago.com/850-817/002-000

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Item no.: 850-825 IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20	www.wago.com/850-825
Item no.: 850-826 IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	www.wago.com/850-826
Item no.: 850-827 IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	www.wago.com/850-827
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	www.wago.com/850-827/002-000
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	www.wago.com/850-826/002-000
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	www.wago.com/850-828/002-000
Item no.: 850-828 IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip	www.wago.com/850-828
Item no.: 850-834 IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20	www.wago.com/850-834
Item no.: 850-835 IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip	www.wago.com/850-835
Item no.: 850-836 IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip	www.wago.com/850-836
Carrier rail	
Mounting accessories	
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	www.wago.com/210-197
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	www.wago.com/210-198
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	www.wago.com/210-504
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	www.wago.com/210-505
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	www.wago.com/210-506

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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	www.wago.com/210-508
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	www.wago.com/210-113
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	www.wago.com/210-118
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	www.wago.com/210-112
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	www.wago.com/210-114
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	www.wago.com/210-115
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	www.wago.com/210-196
Marking accessories	
Marker carrier	
Item no.: 750-103 Group marker carrier	www.wago.com/750-103
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	www.wago.com/2009-145/000-006
Item no.: 2009-145 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-145
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	www.wago.com/2009-145/000-002
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	www.wago.com/2009-145/000-007
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	www.wago.com/2009-145/000-005
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	www.wago.com/2009-145/000-012

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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

www.wago.com/2009-145/000-023

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

www.wago.com/2009-145/000-024

Item no.: 248-501/000-006

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

www.wago.com/248-501/000-006

Item no.: 248-501/000-007

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

www.wago.com/248-501/000-007

Item no.: 248-501/000-002

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

www.wago.com/248-501/000-002

Item no.: 248-501/000-012

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

www.wago.com/248-501/000-012

Item no.: 248-501

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

www.wago.com/248-501

Item no.: 248-501/000-017

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

www.wago.com/248-501/000-017

Item no.: 248-501/000-005

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

www.wago.com/248-501/000-005

Item no.: 248-501/000-024

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet

www.wago.com/248-501/000-024

Item no.: 248-501/000-023

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green

www.wago.com/248-501/000-023

Group marker carrier

Item no.: 750-106

Group marker carrier

www.wago.com/750-106

Shield termination

Shield clamping saddles

Item no.: 790-116

Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

www.wago.com/790-116

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Item no.: 790-124 Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm	www.wago.com/790-124
Item no.: 790-108 Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm	www.wago.com/790-108
Item no.: 790-140 Shield clamping saddle; diameter of compatible conductor	www.wago.com/790-140
Item no.: 790-216 Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm	www.wago.com/790-216
Item no.: 790-220 Shield clamping saddle; 30 mm wide; 6 ... 20 mm	www.wago.com/790-220
Item no.: 790-208 Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm	www.wago.com/790-208

Downloads

Documentation

Manual

System Manual WAGO I/O System 750/753 Decentralized Automation Technology	V 3.3.3 2023 年8月29 日	pdf 8.7 MB	Download
Product Manual Servo stepper controller 70 V / 7.5 A 6IN, 2OUT	V 1.0.3	pdf 3.0 MB	Download
System Manual Series 750/753 Online HTML		URL	Download

Bid Text

750-673 X81 - Datei	2019 年2月19 日	xml 9.3 kB	Download
750-673 doc - Datei	2017 年10月9 日	doc 35.3 kB	Download

System Description

750/753 Series I/O-System – General Product Information	pdf 976.2 kB	Download
Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 223.5 kB	Download

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Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 年8月18 日	pdf 2.2 MB	Download
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Application Notes

Application Note e!COCKPIT

e!COCKPIT Application Note WagoAppStepper In this Application Note, several example projects for the library "WagoAppStepper" are described.	1.0.1 2021 年12月6 日	pdf 3.4 MB	Download
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Application note SIEMENS

Using stepper modules with TIA Portal (a114904) This application note describes how to use WAGO Stepper modules and MC2 function blocks with Siemens TIA Portal.	1.2.5 2021 年1月5 日	zip 10.2 MB	Download
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Benutzung der Stepper Module 750-670,750-671,750-672,750-673 mit Siemens Step 7 (a114903) Dieser Anwendungshinweis beschreibt die Bausteine, die zur Nutzung der verschiedenen Stepper Module bereitgestellt werden.	1.1.0 2017 年2月3 日	zip 8.9 MB	Download
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Application Note CoDeSys 2.3

How to use Matlab code in a CODESYS project (a500710) An example showing how to use matlab code in a CODESYS program for controlling an inverted pendulum.	1.0.0 2014 年4月9 日	zip 2.7 MB	Download
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Libraries

Library

Stepper_03.lib Function blocks for the stepper modules 750-670,750-671,750-672,750-673.	1.0.5 2021 年1月18 日	zip 603.1 kB	Download
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CAD/CAE-Data

CAD data

2D/3D Models 750-673		URL	Download
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CAE data

EPLAN Data Portal 750-673	URL	Download
WSCAD Universe 750-673	URL	Download
ZUKEN Portal 750-673	URL	Download

Device Files

Device Driver

WAGO USB Service Kabel Treiber / Serie 750 und 857	6.5.3.0 2014 年9月10日	zip 4.8 MB	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 750-673 Servo Stepper Controller; 70 VDC; 7.5 A; 6 Inputs; 2 Outputs	URL	Download
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Installation Notes

Product family

[WAGO I/O System 750/753](#)
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