NTS1 Spindle Actuator

MADE IN GERMANY

Electric spindle actuator for linear motion with 12 V, 24 V, or 230 V.



Key Specifications

VOLTAGE	FORCE RANGE	STROKE RANGE	SPEED	IP RATING
12 / 24 / 230 V	200 to 1,500 N	100 to 600 mm	up to 37 mm/s	IP55

Benefits at a Glance

QUALITY FROM GERMANY

Reliable manufacturing, short lead times, and direct technical support.

FLEXIBLE CONFIGURABLE

Voltage, force, and stroke length to suit the application. The NTS1 can be adapted to individual requirements.

POWERFUL AND FAST

A powerful actuator with forces up to 1,500 N or speeds up to 37 mm/s.

AUTOMATIC OVERLOAD CUTOFF

The integrated overload cutoff limits stress on the actuator and the application, helping to reduce consequential damage.

SIGNAL CONTACTS AND SYNCHRONOUS OPTION

End-position feedback and synchronized operation of two actuators are available as options.

QUICK INSTALLATION

Supplied ready for installation with a U-bracket, clevis bracket, and 1 m connecting cable.

Technical Data

Connection

Voltage	12 V DC ± 10 % 24 V DC ± 20 % 230 V AC ± 20 %
Connecting cable	1 m 0.5 mm² per conductor
Group switching relay	Not required

Performance

Maximum stroke [mm]	100 / 150 / 200 / 300 400 / 500 / 600
Stroke adjustment	Stepless
Push and pull force	200 to 1,500 N
Static holding force	2,000 N
Speed	Max. 3 to 37 mm/s depending on version

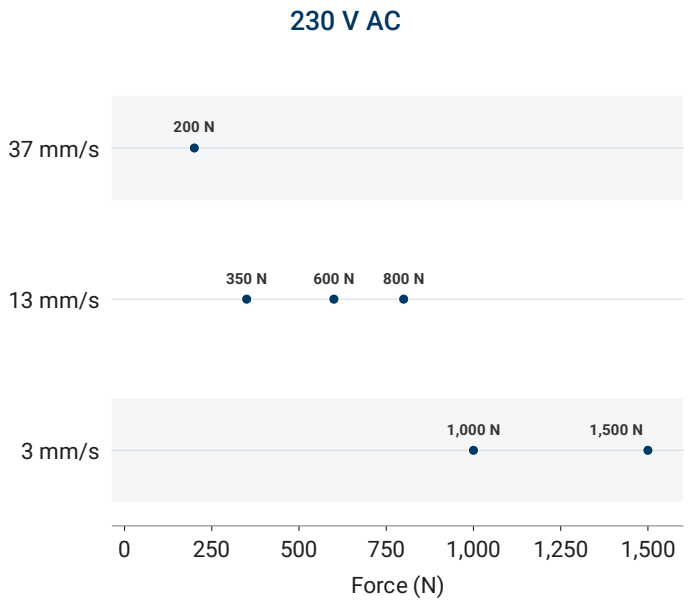
Functions

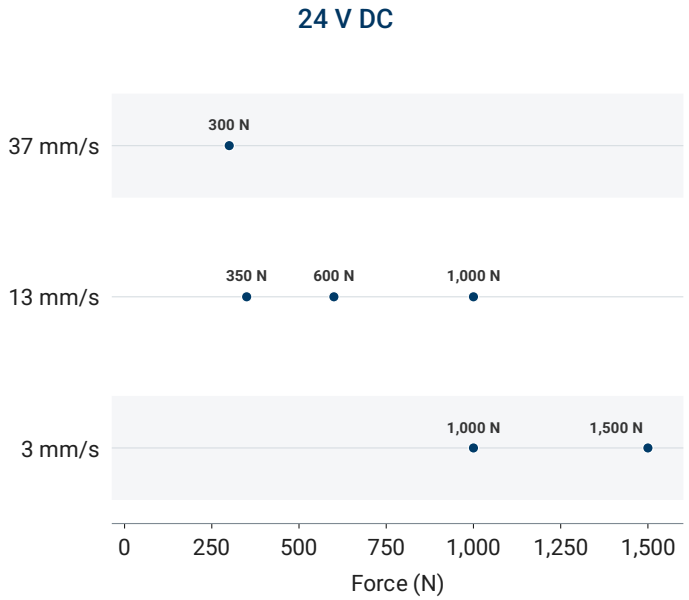
Limit switches	Anti-repeat microswitches for OPEN/CLOSE
Overload cutoff	Integrated; protects actuators and system
Signal contacts	Dry contacts, optional
Synchronous	Optional

Operation

Duty cycle	50%, S2
IP rating	IP55, for indoor use
Temperature range	–20 °C to +60 °C
Compliance	CE, RoHS
Service life	At least 10,000 double strokes

Force and Speed





Long strokes from 400 mm: maximum 600 N
12 V DC: see the variant overview on page 3

Construction

Housing	Anodized EV1 aluminum profile (silver)
Weight	1.5 kg to 2.6 kg, depending on stroke
Housing dimensions	Width: 44 mm Height: 71.4 mm Length: stroke length + 186 mm

Variant Selection

Voltage	Performance level	Force	Max. speed	Current draw	Standard strokes [mm] 100 / 150 / 200 / 300	Long strokes [mm] 400 / 500 / 600	Synchronous twin-actuator option	Signal contacts
12 V DC	0	450 N	5 mm/s	1.2 A	✓	✓	Not available	Optional
24 V DC	0	600 N	13 mm/s	1.2 A	✓	✓	Optional	Optional
	1	1,000 N	3 mm/s	0.85 A	✓	×		
	2	1,500 N	3 mm/s	1.2 A	✓	×		
	3	350 N	13 mm/s	0.85 A	✓	✓		
	4	300 N	37 mm/s	3.0 A	✓	✓		
	5	1,000 N	13 mm/s	2.0 A	✓	×		
230 V AC	0	600 N	13 mm/s	0.2 A	✓	✓	Optional	Optional
	1	1,000 N	3 mm/s	0.2 A	✓	×		
	2	1,500 N	3 mm/s	0.2 A	✓	×		
	3	350 N	13 mm/s	0.2 A	✓	✓		
	4	200 N	37 mm/s	0.2 A	✓	✓		
	5	800 N	13 mm/s	0.2 A	✓	×		

Type Code

1. NTS1	–	2. Stroke length	–	3. Voltage	–	4. Force	5. Synchronization	6. Signal

Example

NTS1	–	0100	–	024	–	5	2	1

NTS1-0100-024-521: 100 mm stroke length; 24 V DC; 1,000 N at 13 mm/s; synchronous; with signal contacts

1. Base type

NTS1 = product series

2. Stroke

0100 = 100 mm	0400 = 400 mm
0150 = 150 mm	0500 = 500 mm
0200 = 200 mm	0600 = 600 mm
0300 = 300 mm	From 400 mm: ≤ 600 N

3. Voltage

012 = 012 V DC
024 = 024 V DC
230 = 230 V AC

4. Force (performance level)

0	**600 N**	**13 mm/s**	**24 + 230 V**
0	450 N	5 mm/s	12 V
1	1,000 N	3 mm/s	24 + 230 V
2	1,500 N	3 mm/s	24 + 230 V
3	350 N	13 mm/s	24 + 230 V
4	200 N	37 mm/s	230 V
4	300 N	37 mm/s	24 V
5	800 N	13 mm/s	230 V
5	1,000 N	13 mm/s	24 V

5. Synchronization

0 = No
2 = Synchronous twin-actuator option

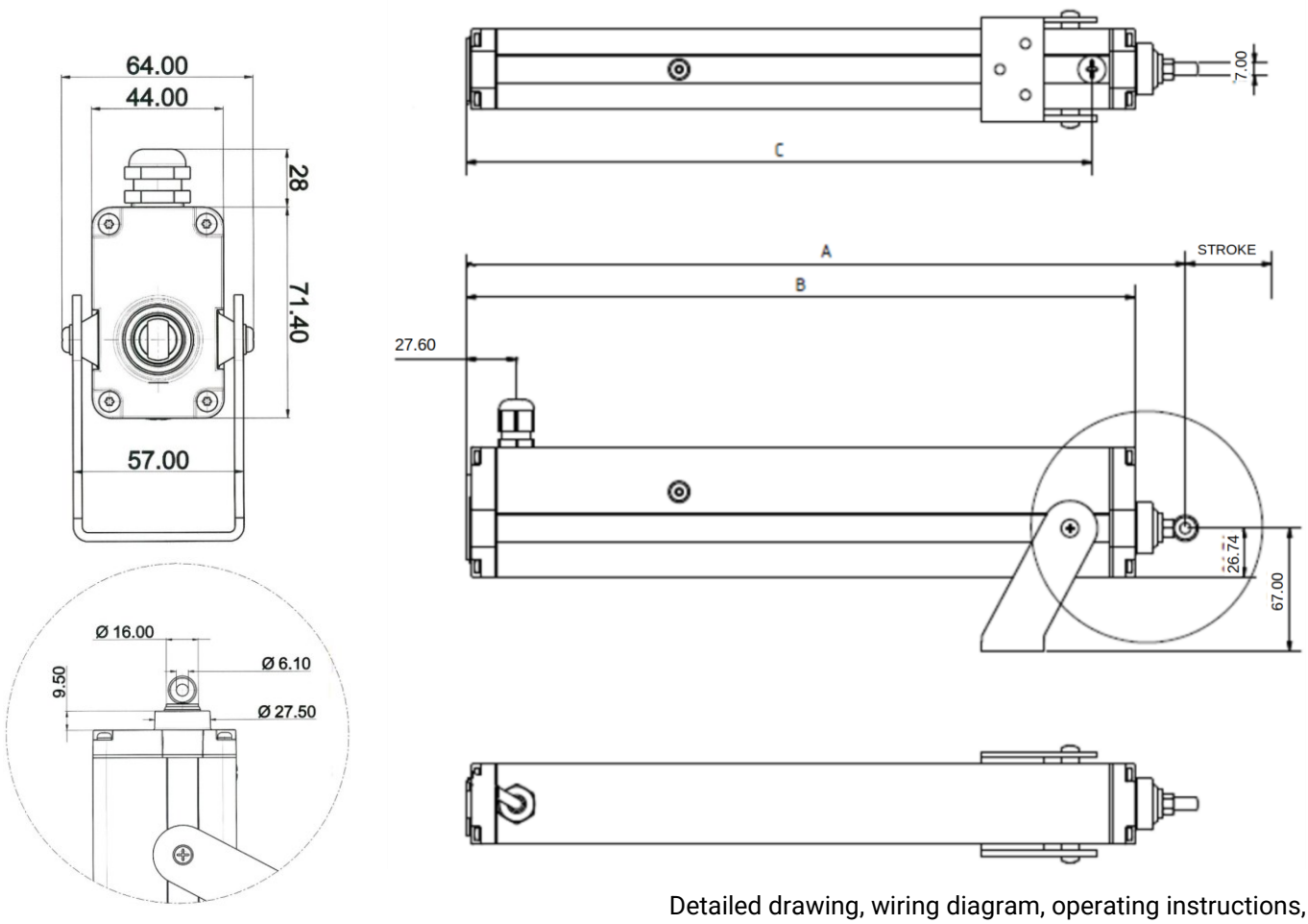
6. Signal

0 = No
1 = Signal contacts

Example Variants

Part number	Voltage	Force	Max. speed	Maximum stroke	Synchronous twin-actuator option	Signal contacts
NTS1-0200-024-000	24 V	600 N	13 mm/s	200 mm	No	No
NTS1-0200-024-100	24 V	1,000 N	3 mm/s	200 mm	No	No
NTS1-0200-024-200	24 V	1,500 N	3 mm/s	200 mm	No	No
NTS1-0200-024-300	24 V	350 N	13 mm/s	200 mm	No	No
NTS1-0200-024-400	24 V	300 N	37 mm/s	200 mm	No	No
NTS1-0200-024-500	24 V	1,000 N	13 mm/s	200 mm	No	No
NTS1-0500-024-000	24 V	600 N	13 mm/s	500 mm	No	No
NTS1-0500-024-001	24 V	600 N	13 mm/s	500 mm	No	Yes
NTS1-0500-024-020	24 V	600 N	13 mm/s	500 mm	Yes	No
NTS1-0300-230-000	230 V	600 N	13 mm/s	300 mm	No	No
NTS1-0500-230-000	230 V	600 N	13 mm/s	500 mm	No	No
NTS1-0500-230-021	230 V	600 N	13 mm/s	500 mm	Yes	Yes

Installation Dimensions



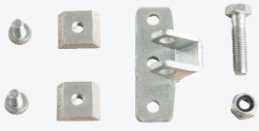
Detailed drawing, wiring diagram, operating instructions, and 3D STEP data are available online.

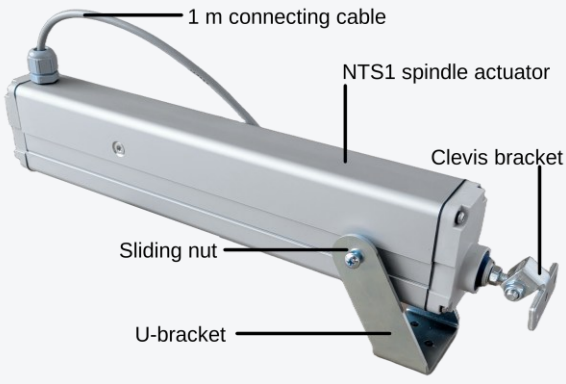
Dimensions in mm	Calculation	Stroke: 100	150	200	300	400	500	600
Dimension A	Stroke length + 186 mm	286	336	386	486	586	686	786
Dimension B	Stroke length + 160 mm	260	310	360	460	560	660	760
Dimension C	Stroke length + 137 mm	237	287	337	437	537	637	737

Scope of Delivery

- NTS1 spindle actuator with 1 m connecting cable
- Control unit integrated into the actuator
- U-bracket
- 2 sliding nuts and 2 screws for attaching the actuator to the U-bracket.
- Clevis bracket with M5 screw and nut for attachment to the moving component.







Housing-Side Mounting

U-BRACKET

Pivoting

Included in scope of delivery



Allows the actuator angle to change during operation. The U-bracket position can be adjusted along the profile groove.

BOTTOM SLIDING-NUT MOUNTING

Rigid

Included in scope of delivery



Mounts with two sliding nuts in the lower profile groove (dovetail groove). Suitable for applications with aligned movement.

FOUR-POINT MOUNTING

Rigid

Accessory



Rigid mounting with four sliding nuts, two on each side. Suitable where installation space is limited. Accessory: S1B-0001-20 “Additional sliding nuts”

PIVOT BRACKET

Pivoting

Accessory



Allows eye-to-eye mounting at the housing end. Accessory: S1E-0012-10 “Pivot bracket”

Actuator-Rod-Side Mounting

CLEVIS BRACKET

Pivoting

Included in scope of delivery



Pivoting connection to the M6 eye bolt in the actuator rod. For connection to the moving component.

ACTUATOR ROD THREAD

Customer-specific

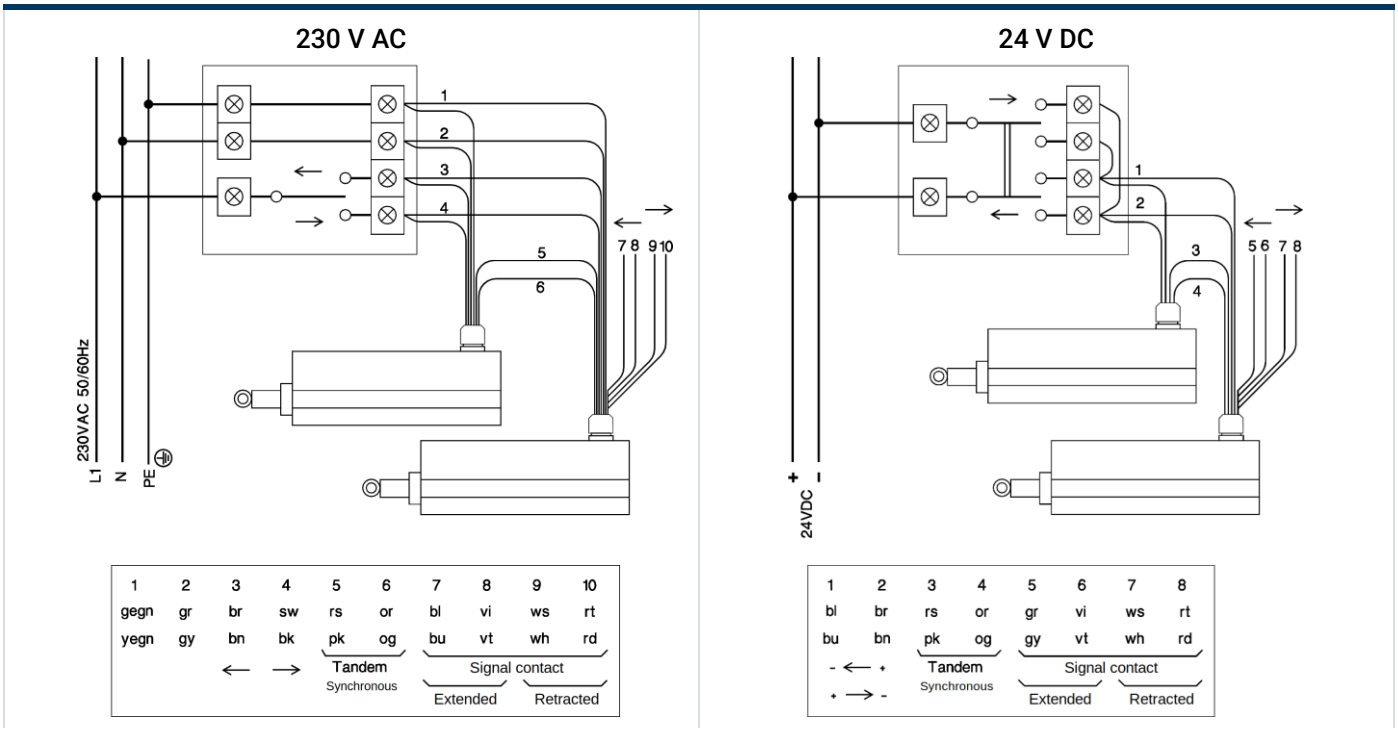
On request



The M6 threaded bushing accepts customer-specific components. The maximum thread depth is 25 mm.

Select the mounting arrangement to suit the movement and direction of force. Avoid lateral loads on the actuator rod.

Electrical Connection



Only a qualified electrician may commission the actuator!

Accessories and Spare Parts

Illustration	Part number	Description
	S1E-0011-00	NTS1 U-bracket (spare part)
	S1B-0001-00	Bracket set (spare part)
	S1E-0D4T-00	Adapter for T-bracket*
	S1E-0D08-00 S1E-0D16-00	Adapter for wide brackets*
	S1B-0111-00	Recommended relay for cable lengths of 50 m or more, 230 V AC
	S1E-0012-10	Pivot bracket
	S1E-0011-01	U-bracket, rack actuator hole pattern

* Suitable only for selected bracket types. Check compatibility before ordering.

Dry Signal Contacts

Actuator rod extended		Actuator rod retracted	
OPEN end-position contact closed		CLOSE end-position contact closed	

Version	Extended					Retracted				
230 V AC	Blue	+	Violet			Red	+	White		
12/24 V DC	Gray	+	Violet			Red	+	White		

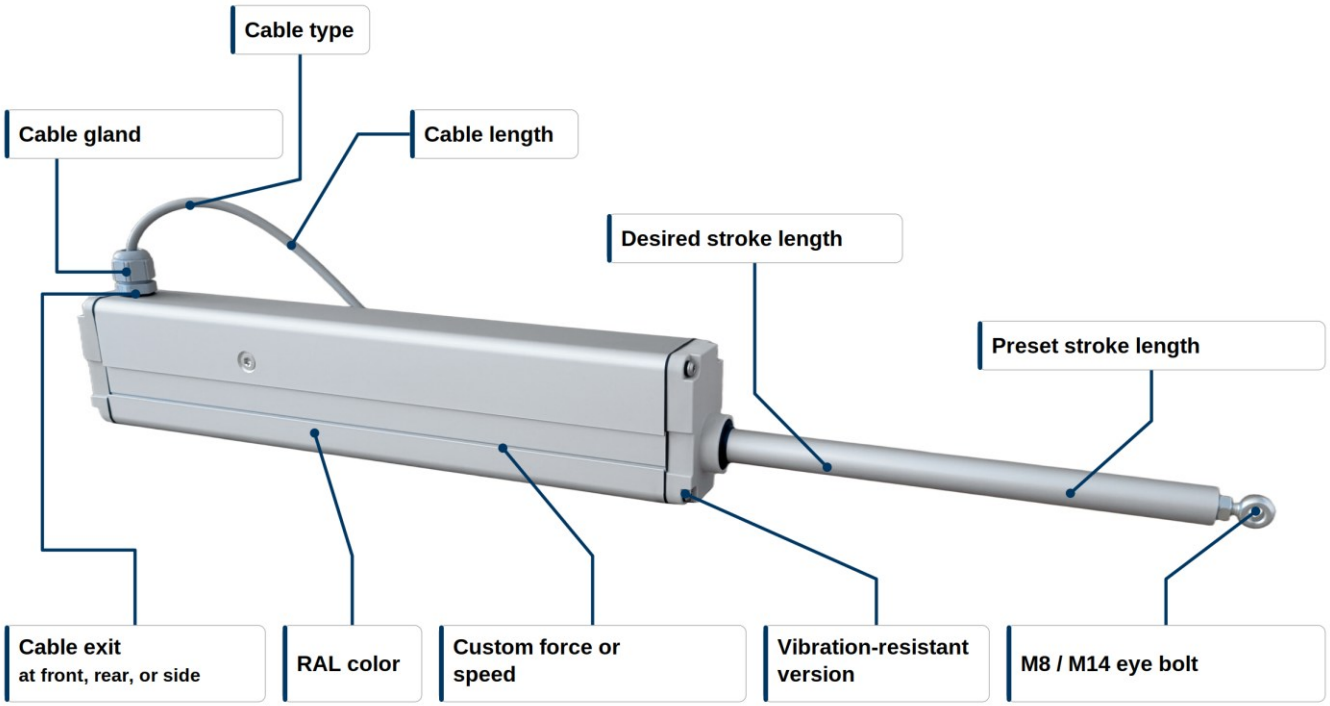
The corresponding contact pair closes when the end position is reached.	The end-position contacts do not close when the overload cutoff is triggered.	The contacts are dry contacts rated for a maximum of 250 V / 1 A.

Synchronous twin-actuator option

Connection	Function	Protection
Connect the communication wires of two NTS1 actuators.	The synchronous twin-actuator option keeps two NTS1 actuators moving together.	If one actuator stops, the second actuator is switched off.

Customer-Specific Modifications

We will be glad to assess whether these and other modifications are technically feasible for your application. These modifications are not part of the standard type code.

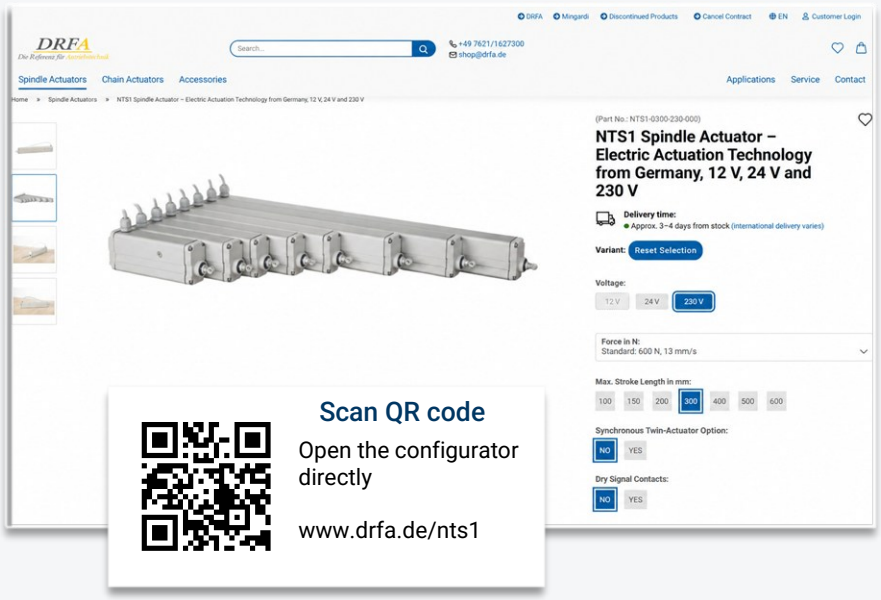


Configure the NTS1 Online

Select voltage, force, stroke length, and options online. The configurator guides you step by step to the right NTS1 version. We will be glad to assess the technical requirements of your application.

Configure NTS1 →

Configure a variant and request a quote or place an order directly.



1 Select Voltage

Select 12 V, 24 V, or 230 V

2 Select Performance Level

Select the force level and speed to suit the application

3 Set Stroke Length

Set the maximum stroke length from 100 to 600 mm

4 Add Options

Add the synchronous twin-actuator option and signal contacts as needed

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Home Page
Product Page
Operating Instructions
3D STEP Data
Wiring Diagram
Specification Texts

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