

Linear actuator DSZY1-POT (Potentiometer)

The electric linear actuator DSZY1 is suitable for a variety of positioning tasks. It is available in three different models depending on the desired application:

1. DSZY1-STD
(standard for all applications without position feedback)
2. **DSZY1-POT**
(with potentiometer for absolute position feedback)
3. DSZY1-HS2
(with 2-channel Hall sensor for incremental position feedback)

Equipped with a trapezoidal screw spindle (ACME screw), these are small, compact and lightweight DC linear drives. By means of an integrated diode circuit, the direction is reversed quickly by simple voltage reversal of the DC motor. As a standard, all DSZY1 types have two integrated, non-adjustable limit switches directly connected to the DC motor. Overloading of the drive can be prevented by separate monitoring and limiting of the current.

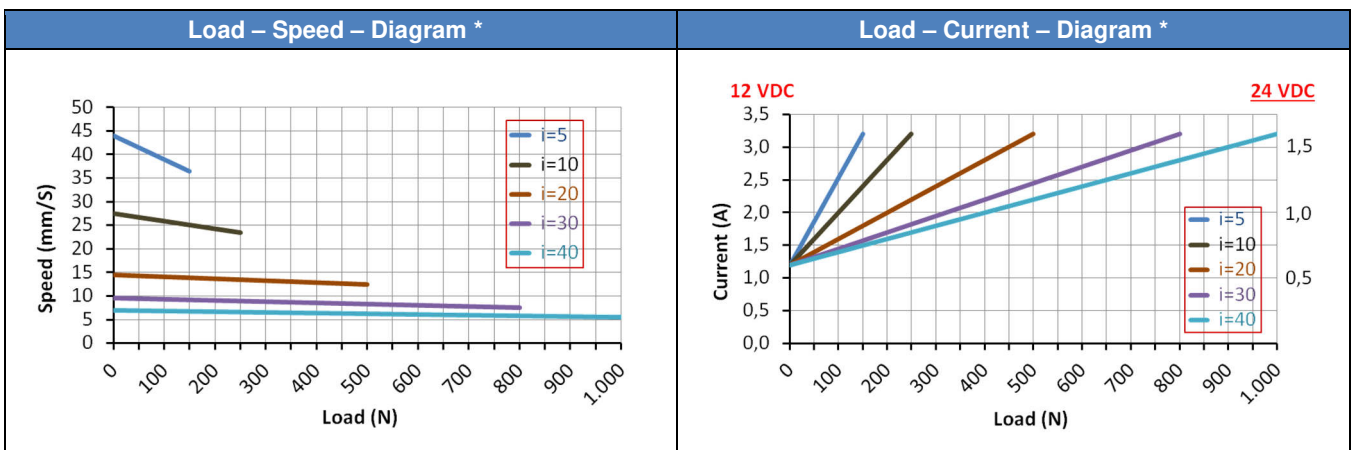


Type code (all options can be combined)

| DSZY1 - 12 - 10 - 200 - POT - IP65 | | | | | | Optional | |
|------------------------------------|---------------|------------------|--------|---------------|---------|------------------------------|-----------------------------|
| Type | Input voltage | Gear reduction i | Stroke | Model | IP Code | C | 1 |
| | 12 Vdc | 5 | 25 mm | Potentiometer | | | |
| | 24 Vdc | 10 | 50 mm | | | | |
| | | 20 | 100 mm | | | | |
| | | 30 | 150 mm | | | | |
| | | 40 | 200 mm | | | | |
| | | | 250 mm | | | | |
| | | | 300 mm | | | | |
| | | | | | | 1 | 1 |
| | | | | | | Front connector (piston rod) | Rear connector (gear cover) |
| | | | | | | 1 = standard | 1 = standard |
| | | | | | | 3 = spherical rod eye | 3 = rotated 90° |
| | | | | | | 6 = plastic slot | |

Performance data: Load – Speed – Current

| Gear reduction i | Dynamic load (N) | Static load (N) | Typical speed * (mm/s) | | Typical current * (A) | | | |
|------------------|------------------|-----------------|------------------------|--------------|-----------------------|--------|--------------|--------|
| | | | minimum load | maximum load | minimum load | | maximum load | |
| | | | | | 12 Vdc | 24 Vdc | 12 Vdc | 24 Vdc |
| 5 | 150 | 2,500 | 43.9 | 36.5 | 1.2 | 0.6 | 3.2 | 1.6 |
| 10 | 250 | 2,500 | 27.6 | 23.5 | 1.2 | 0.6 | 3.2 | 1.6 |
| 20 | 500 | 2,500 | 14.6 | 12.3 | 1.2 | 0.6 | 3.2 | 1.6 |
| 30 | 800 | 2,500 | 9.5 | 7.5 | 1.2 | 0.6 | 3.2 | 1.6 |
| 40 | 1,000 | 2,500 | 7.0 | 5.5 | 1.2 | 0.6 | 3.2 | 1.6 |



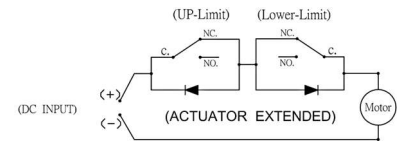
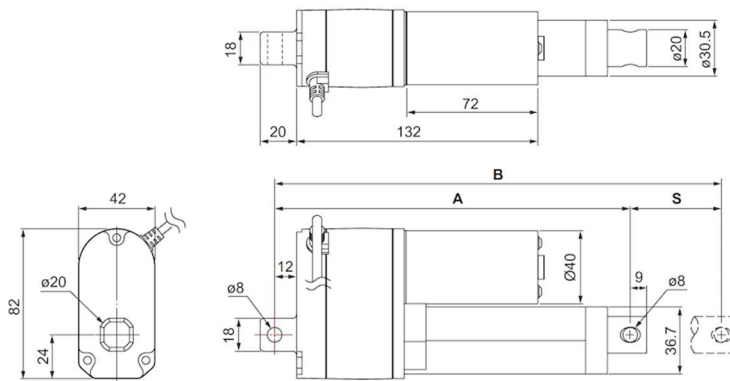
(*) Average values

Additional technical specifications

- Operating voltage 12 Vdc and 24 Vdc
- Thrust and tensile load up to 1,000 N
- Static load 2,500 N
- Noise level: ≤ 74 dB
- Duty cycle 25 % (e.g. 1 min continuous operation – 3 min pause)
- Zinc alloy casing
- Aluminum outer tube and push rod
- Working temperature -25 °C - 65 °C
- IP Code IP65 for all models
- Piston rod secured against rotation – see installation instructions
- CE - EMV 2014/30/EU (EN 55014-1:2006+A1:2009+A2:2011 EN 55014-2:1997+A1:2001+A2+:2008 Category I)

Dimensions

| Front connector | Dimensions (length) in mm | | | | | | | |
|--------------------|---------------------------|-------|-------|-------|-------|-------|-------|-------|
| | Stroke (S) ± 3 mm | 25 | 50 | 100 | 150 | 200 | 250 | 300 |
| C1.. (Standard) | (A) retracted | 165 | 195 | 246 | 297 | 348 | 399 | 450 |
| | (A+S) extended | 190 | 245 | 346 | 447 | 548 | 649 | 750 |
| C3.. | (A) retracted | 206 | 236 | 287 | 338 | 389 | 440 | 491 |
| | (A+S) extended | 231 | 286 | 387 | 488 | 589 | 690 | 791 |
| C6.. | (A) retracted | 178.5 | 205.5 | 256.5 | 307.5 | 358.5 | 409.5 | 460.5 |
| | (A+S) extended | 203.5 | 255.5 | 356.5 | 457.5 | 558.5 | 659.5 | 760.5 |



Red wire on “+” and black wire on “-”:
Actuator extends.

Black wire on “+” and red wire on “-”:
Actuator retracts.

Cable length: 900 mm

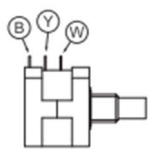
Bore tolerances: 8 mm $+0,2\text{ mm}$
 -0 mm

Weight

| Stroke in mm | 25 | 50 | 100 | 150 | 200 | 250 | 300 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|
| Weight in kg | 1.080 | 1.120 | 1.180 | 1.260 | 1.330 | 1.380 | 1.470 |

Potentiometer

| Power | | Potentiometer (10 kOhm) | | |
|-------|-------|-------------------------|--------|------|
| Red | Black | White | Yellow | Blue |
| M+ | M- | GND | Vcc | Data |



| Stroke (mm) | 25 | 50 | 100 | 150 | 200 | 250 | 300 |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Resistor value (kOhm) | 0.3-9.9 | 0.3-9.3 | 0.3-9.7 | 0.3-8.6 | 0.3-9.6 | 0.3-9.3 | 0.3-9.3 |

Voltage input range: Vcc to 70 Vdc - Output voltage of signal: Data = Vcc - Total resistance tolerance: ± 5 %
The resistor increases during extension and decreases during retraction.

Front and rear connector

| Front connector (piston rod) | | |
|------------------------------|-----------------------|------------------|
| 1 = standard (metal) | 3 = spherical rod eye | 6 = plastic slot |
| | | |
| D=8 mm - H=15 mm - W=6 mm | | |



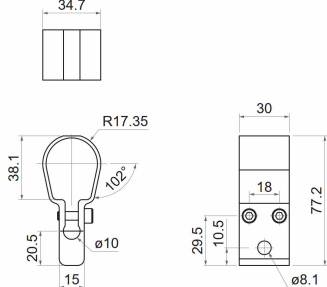
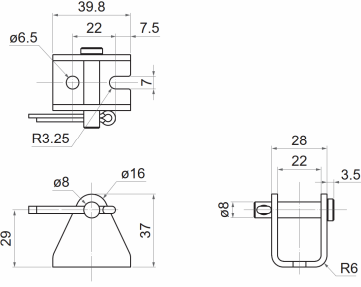
| Rear connector (gear cover) | |
|-----------------------------|-----------------|
| 1 = Standard | 3 = 90° rotated |
| | |
| D=8 mm | |

CAUTION:

C11 is standard and will not be specified in the type code.

If at least one connector is changed, option C must be attached to the type code (e.g., DSZY1...-IP65-C63)

Mounting material

| Mounting clamp DSZY1-H01 | Mounting bracket DSZY1-H02 |
|---|--|
|  |  |
|  |  |

Installation instructions

It must be ensured that the load is not greater than shown in the diagram. To protect against overload, the voltage must be switched off when the maximum rated current is reached. This can be read in the load-current diagram depending on the selected reduction ratio. Please note the correct supply voltage, which is indicated on the electric linear actuator.

The piston rod extends when the red wire is connected to positive and the black wire to negative. For the retraction of the piston rod, positive must be reversed with negative. The movement always stops automatically when the built-in limit switches are reached or when the voltage is interrupted. The limit switches cannot be changed by the customer.

The load must always be centered in the direction of movement. Transverse forces must be avoided. They shorten the service life and can impede the function or lead to irreparable damage in extreme cases.

The piston rod tube is screwed onto the spindle nut via a thread. It is therefore possible, if necessary, to rotate the piston rod and thus the fastening eye by max. 180° into the desired position.

If no rotational forces act on the piston rod, the latter retains its orientation and does not rotate.

CAUTION: The limit switches have no on/off function for the linear actuator. Therefore, the voltage must be immediately disconnected after the limit switches have been triggered, or the piston must be moved out of the end position in a timely manner.

| | | |
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