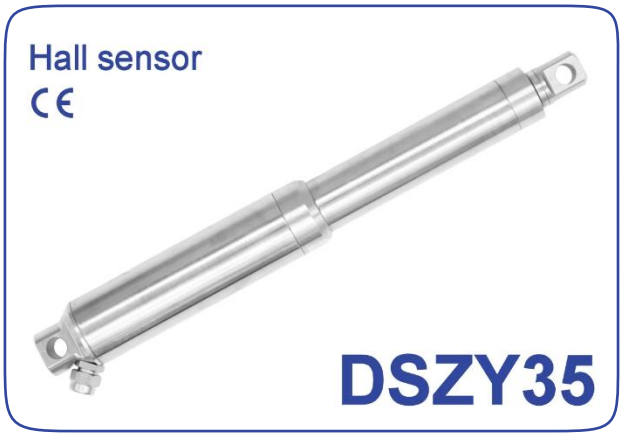
Linear actuator DSZY35 (of stainless stell)

Stainless steel electric linear actuators are required in a wide variety of applications. The electric linear actuator DSZY35 is made of stainless steel. It is available in the model:

DSZY35-HS2
(with 2-channel Hall sensor for incremental position feedback)

Equipped with a trapezoidal screw (ACME screw) it is small, compact and lightweight DC linear actuator.
With the help of an integrated diode circuit, a fast reversal of direction is achieved by simple voltage reversal of the DC motor.

The DSZY35 does not have integrated limit switches.
Overloading of the drive can be prevented by separate monitoring and limiting of the current.



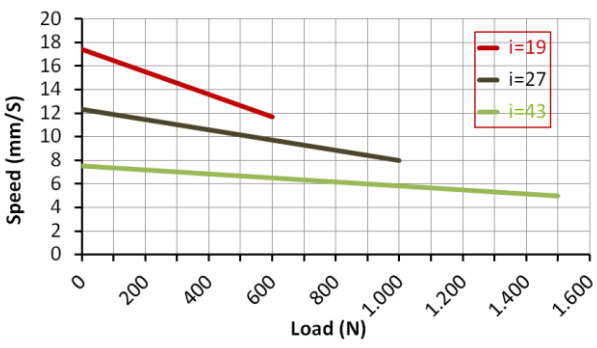
Type code (all options can be combined)

							Optional	
DSZY35	- 12	- 19	- 200	- HS2	- IP69K	- C	1	1
Type	**Input voltage**	**Gear reduction i**	**Stroke**	**Version**	**IP Code**		**Front connector** (piston rod)	**Rear connector** (gear cover)
	12 Vdc 24 Vdc	19 27 43	50 mm 100 mm 150 mm 200 mm 250 mm 300 mm 350 mm 400 mm	2-channel Hall sensor			1 = massive **2 = Standard**	**1 = Standard** **2** = clevis

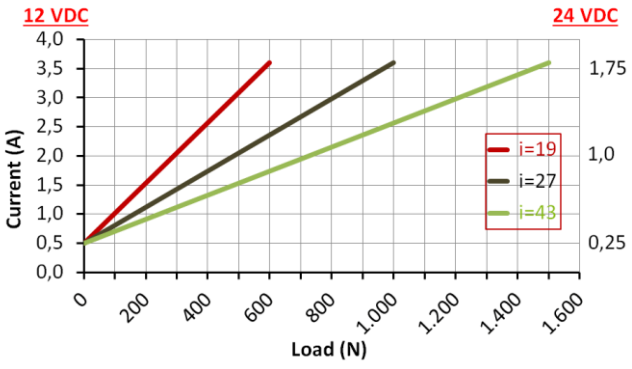
Performance data: Load – Speed – Current

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
19	600	1,800	17.4	11.7	0.5	0.25	3.6	1.8
27	1,000	1,800	12.3	8.0	0.5	0.25	3.6	1.8
43	1,500	1,800	7.5	5.0	0.5	0.25	3.6	1.8

Load – Speed – Diagram *



Load – Current – Diagram *



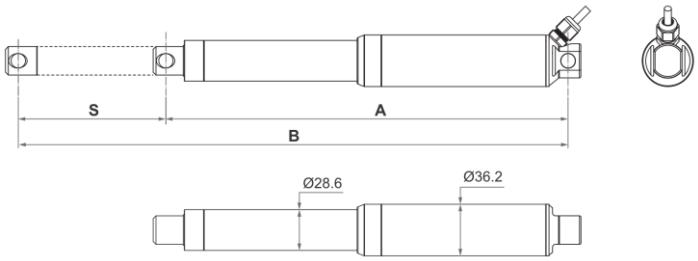
(*) Average values at room temperature with a constant load.

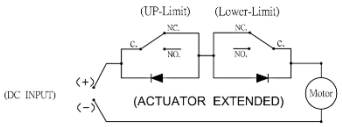
Additional technical specifications

- push/pull load: up to 1,500 N
- static load: 1,800 N (at i=43)
- Operating temperature: -20 C°- 70 C°
- Duty cycle 10 % (e.g. 2 min continuous operation – 18 min pause)
- Housing is made of SUS304 stainless steel
- Outer tube and push rod made of stainless steel SUS304
- Voltage: 12 Vdc und 24 Vdc
- IP Code IP69K for all models (in idle state)
- Certificates: CE, EMC 2014/30/EU

Dimensions

Dimensions (length) in mm									
Front- / Rear-connector	Stroke (S) ± 3mm	50	100	150	200	250	300	350	400
Standard	**(A)** retracted	237	287	337	387	437	487	537	587
	(B) extended	287	387	487	587	687	787	887	987
...-C11	**(A)** retracted	233	283	333	383	433	483	533	583
	(B) extended	283	383	483	583	683	783	883	983
...-C12	**(A)** retracted	248	298	348	398	448	498	548	598
	(B) extended	298	398	498	598	698	798	898	998
...-C22	**(A)** retracted	252	302	352	402	452	502	552	602
	(B) extended	302	402	502	602	702	802	902	1002





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

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

Cable length: 1,000 mm

Weight

Stoke in mm	50	100	150	200	250	300	350	400
Weight in kg	1.000	1.130	1.200	1.410		1.700		1.860

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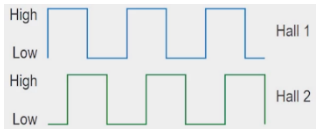
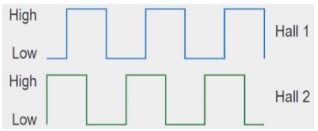
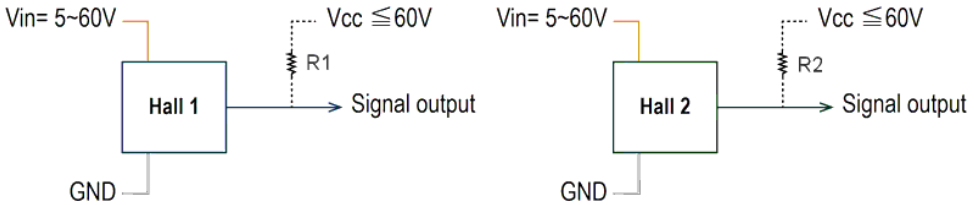
2-channel Hall sensor

Power		2-channel Hall sensor			
Red	Black	White	Yellow	Blue	Green
M+	M-	GND	Vcc (5 – 60 Vdc)	Data1	Data2
Hall sensor signal type A High = Vcc - 1.2V (±0.6V) Low = GND		 Actuator extends		 Actuator retracts	

Gear reduction i	19	27	43
Resolution (pulse/mm)	9.56	13.50	21.45

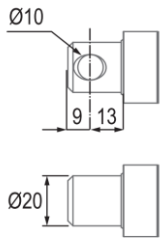
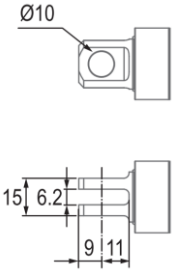
Circuit diagram - 2-channel Hall sensor

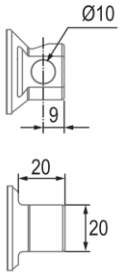
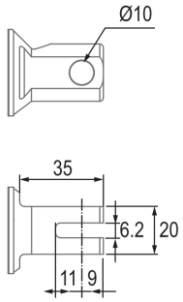
The pull-up resistors R1 and must be defined and provided according to the input electronics of the controller used. The pull-up resistors must be of a sufficient size to prevent the signal output current from falling below 20 mA. It is advisable to use pull-up resistors of approx. 10 kOhm.



COUTION: It is also advisable to use 2 separate power sources for the motor and Hall sensor.
If the VCC voltage input of the Hall sensor must be shared with the power supply of the motor, be sure to use separate cables – one from the power source to the motor and one from the power source to the Hall sensor. Otherwise, the inrush current of the motor will cause the Hall IC circuit to malfunction.

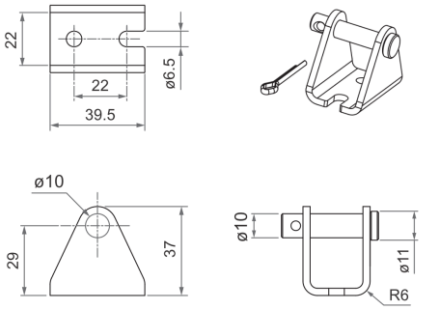
Front and rear connector

Front connector (piston rod)	
1	2 = Standard
	

Rear connector (gear cover)	
1 = Standard	2
	

CAUTION:
C21 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., DSZY35…-IP69K-C11)

Mounting material

Mounting bracket DSZY4-H02	
 Caution with rear attachment: Due to the cable routeing, the actuator is here only swivelling to a limited extent.	

Installation instructions

CAUTION: The DSZY35 does not have integrated limit switches. It must be ensured that it cannot move into its mechanical end positions. To prevent this, we recommend the use of external limit switches.

2-channel Hall sensors for position feedback are integrated as standard in the DSZY35.

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 stops as soon as the voltage is interrupted.

If the piston rod is not fixed, it will rotate when retracting or extending.

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.

NOTE on inrush current: An increased inrush current is generated for a period of approx. 0.2 seconds when the linear actuator starts up. Under the maximum possible load, the inrush current can reach around three to four times the typical rated current. It is important to take this into account when selecting a power supply unit, plug connector, relay etc. or control unit.

MSW Motion Control GmbH

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MSW Motion Control GmbH
Vertriebsgesellschaft
Schloßstr. 32/34, 33824 Werther (Westf.)
Germany

anfrage@msw-motion.de
www.msw-motion.de
Phone: +49 (0)5203 919200

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