Linear actuator DSZY1-NO/NC (Limit switches led through)

As a special solution, we supply the electric cylinder DSZY1-NO/NC with guided-out limit switches. These provide individual control and interrogation of the respective end positions.

There are 2 versions for the wiring of the limit switches:
NO: The contact of the limit switch is closed when the end position is reached (normally open).
NC: The contact of the limit switch is opened when the end position is reached (normally closed)

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. Overloading of the drive can be prevented by separate monitoring and limiting of the current.

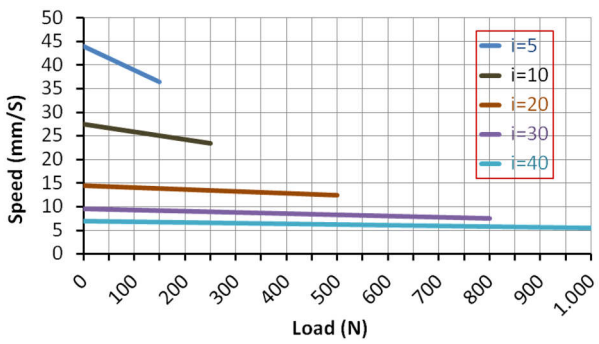
Type code (all options can be combined)

							Optional	
DSZY1	- 12	- 10	- 200	- NO	- IP65	- C	1	1
Type	**Input voltage** 12 Vdc 24 Vdc	**Gear reduction i** 5 10 20 30 40	**Stroke** 25 mm 50 mm 100 mm 150 mm 200 mm 250 mm 300 mm	**Model** Limit switches led through NO (normally open) NC (normally closed)	**IP Code**		**Front connector** (piston rod) **1 = standard** 3 = spherical rod eye 6 = plastic slot	**Rear connector** (gear cover) **1 = standard** 3 = rotated 90°

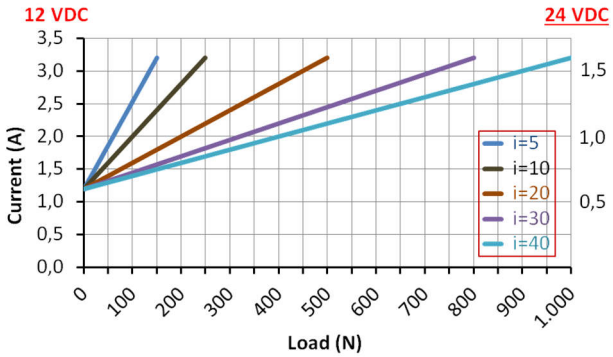
Performance data: Load – Speed – Current

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

Load – Speed – Diagram *



Load – Current – Diagram *



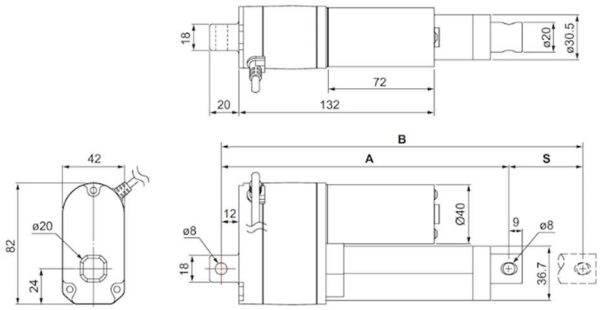
(*) Average Values

Additional technical specifications

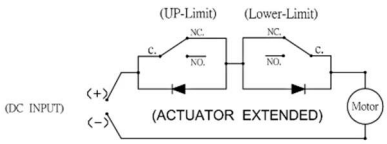
- Operating voltage 12 Vdc and 24 Vdc
- Thrust and tensile load up to 1,000 N
- Static load 2,500 N
- Noise level: ≤ 74 dB
- Duty cycle 25 % (e.g. 1 min continuous operation – 3 min pause)
- Zinc alloy casing
- Aluminum outer tube and push rod
- Working temperature -25 °C - 65 °C
- IP Code IP65 for all models (in idle state)
- 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



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



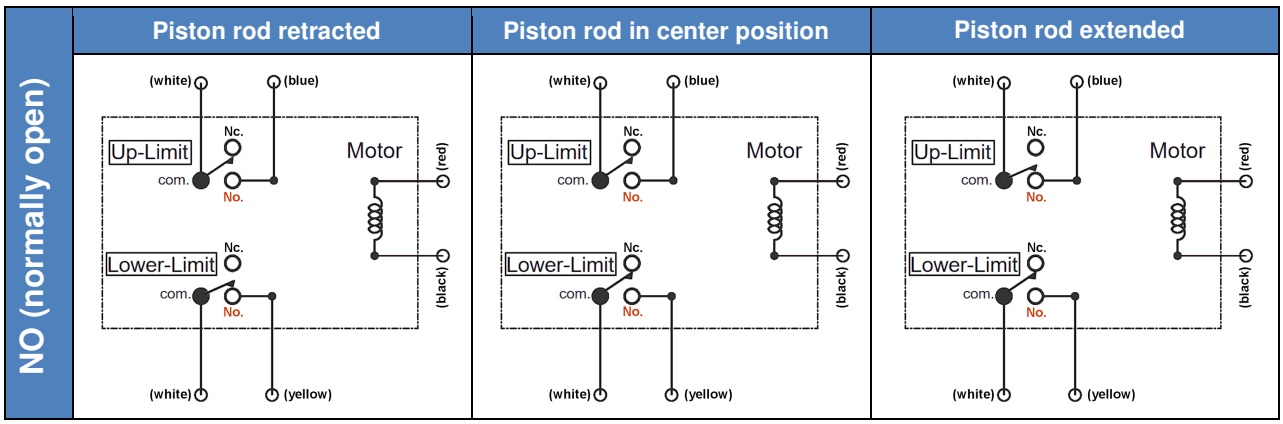
Red wire on “+” and black wire on “-”: Actuator extends.
Black wire on “+” and red wire on “-”: Actuator retracts.

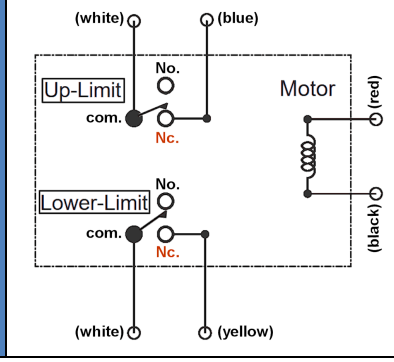
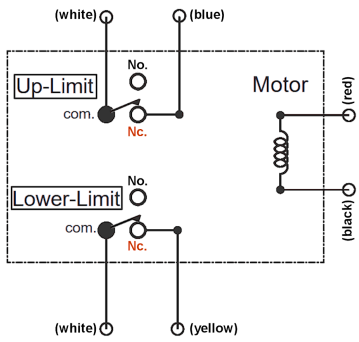
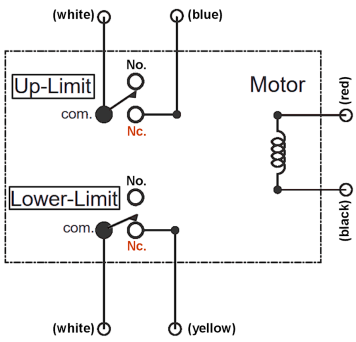
Cable length: 900 mm

Weight

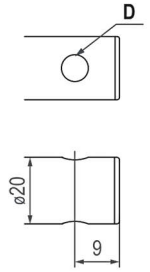
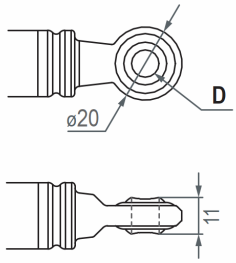
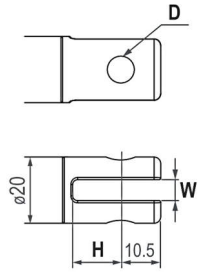
Stroke in mm	25	50	100	150	200	250	300
Weight in kg	1.080	1.120	1.180	1.260	1.330	1.380	1.470

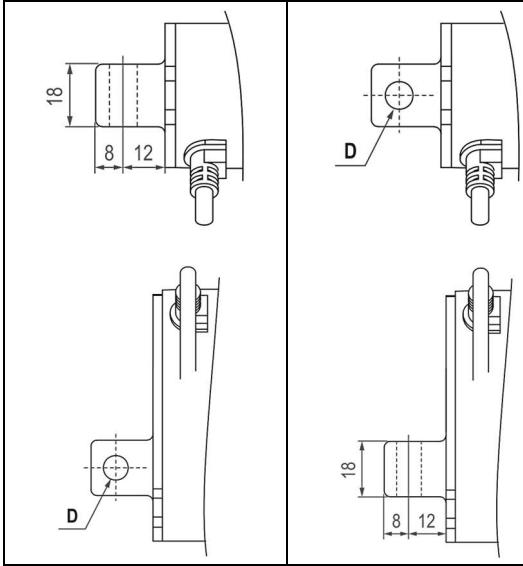
Circuit diagram of the limit switches



NC (normally closed)	Piston rod retracted	Piston rod in center position	Piston rod extended
			

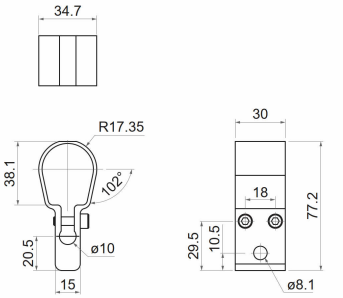
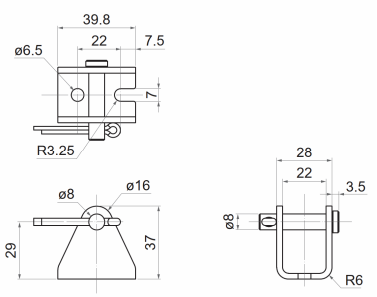
Front and rear connector

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: With this special solution, the limit switches for the lower and upper end positions are separated internally from the motor. This means that when the limit switches are triggered, the supply voltage must be disconnected from the linear actuator at the same time. If the supply voltage is not disconnected from the linear actuator at the same time, the cylinder moves to its mechanical end stop. This would cause the motor to overheat and burn out.

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