

NEW

Linear DC-Servomotors

with Analog Hall Sensors
QUICKSHAFT® Technology

9,2 N

For combination with
Motion Controllers:
MCLM 3003/06 S, MCLM 3003/06 C

Series LM 2070 ... 01

	LM 2070-	040-01	120-01		
1 Continuous force ¹⁾	F _{e max.}	9,2		N	
2 Peak force ^{1) 2)}	F _{p max.}	27,6		N	
3 Continuous current ¹⁾	I _{e max.}	0,79		A	
4 Peak current ^{1) 2)}	I _{p max.}	2,37		A	
5 Back-EMF constant	k _E	9,5		V/m/s	
6 Force constant ³⁾	k _F	11,64		N/A	
7 Terminal resistance, phase-phase	R	10,83		Ω	
8 Terminal inductance, phase-phase	L	1 125		μH	
9 Stroke length	s _{max.}		40	120	mm
10 Repeatability ⁴⁾			60	60	μm
11 Precision ⁴⁾			200	400	μm
12 Acceleration ⁵⁾	a _{e max.}		93,9	54,8	m/s ²
13 Speed ^{5) 6)}	v _{e max.}		1,9	2,6	m/s
14 Thermal resistance	R _{th 1} / R _{th 2}	3,1 / 9,3			K/W
15 Thermal time constant	τ _{w1} / τ _{w2}	30 / 1 200			s
16 Operating temperature range		- 20 ... +125			°C
17 Rod weight ⁷⁾	m _m		98	168	g
18 Total weight ⁷⁾	m _t		236	306	g
19 Magnetic pitch	τ _m		24	24	mm
20 Rod bearings		polymer sleeves			
21 Housing material		metal, non-magnetic			
22 Direction of movement		electronically reversible			

¹⁾ thermal resistance R_{th 2} by 55% reduced

²⁾ for max. 1 second with a duty cycle of 20%

³⁾ with sine wave commutation

⁴⁾ typical values with integrated linear Hall sensors and Motion Controller MCLM 3003/06 S/C.

The values depend on conditions of use

⁵⁾ theoretical value, referring only to the motor

⁶⁾ with a triangular speed profile and the max. stroke

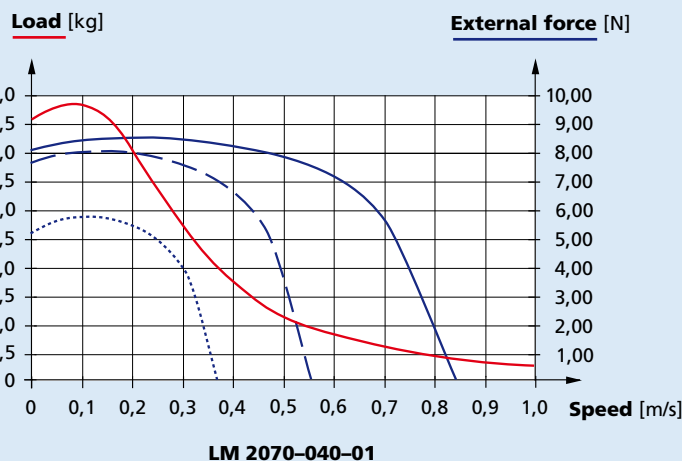
⁷⁾ rounded value, for reference only

Notes: These motors are for operation with DC-voltage < 75 V DC.

The given values are for free standing motors.

The mounting with magnetic conductive metal can influence the characteristics of the motor.

Caution: Presence of strong magnetic fields. Static sensitive device.



Trapezoidal motion profile (t1 = t2 = t3)

Displacement distance:	40 mm
Friction coefficient:	0,2
Slope angle:	0°
Rest time:	0,1 s

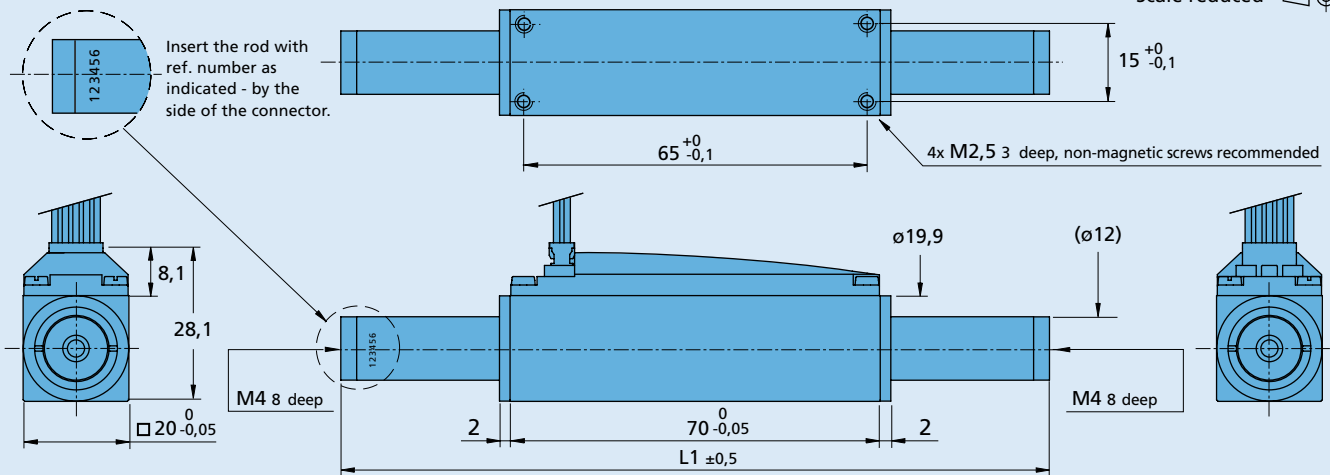
Load: The max. permissible load at a given speed with an external force of 0 N

External force: The max. permissible external force at a given speed with a load of:

- 0,5 Kg —————
- 1,0 Kg - - - - -
- 2,0 Kg ·········

Linear DC-Servomotor LM 2070

Scale reduced



Ordering information

Linear DC-Servomotors Series

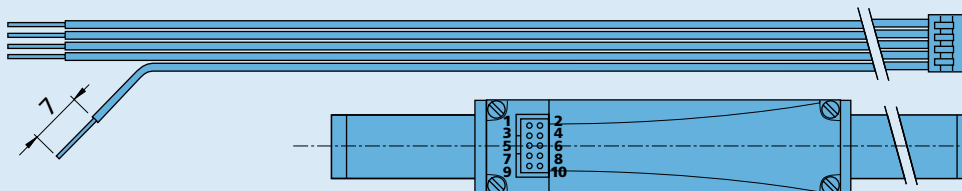
Stroke mm

Rod length L1 ±0,5 mm

Series	Stroke mm	Rod length L1 ±0,5 mm
LM 2070-040-01	-20 to +20	134
LM 2070-120-01	-60 to +60	218

Note: Single rod available on request.

Cable and connection information



Cable
Single wires, material PVC
Length 200 mm ± 10 mm
10 conductors, AWG 28

Recommended connector
Molex - Nr. 51110-1060

Connection

PIN	Function	Colour
10	N.C.	purple
9	N.C.	white
6	Hall sensor C	grey
1	Phase C	yellow
5	Hall sensor B	blue
7	Phase B	orange
2	Hall sensor A	green
8	Phase A	brown
3	Logic supply +5V	red
4	Logic GND	black

