

Linear DC-Servomotors

3,13 N

Electronic Commutation, Hall Sensors

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

Series LM 1247

	LM 1247-	020-01	080-01	
1 Continuous force up to ¹⁾	F _{e max.}	3,09	3,13	N
2 Peak force up to ^{1) 2)}	F _{p max.}	9,26	9,40	N
3 Continuous current up to ¹⁾	I _{e max.}	0,48	0,49	A
4 Peak current up to ^{1) 2)}	I _{p max.}	1,44	1,46	A
5 Back-EMF constant	k _E	5,25	5,25	V/m/s
6 Force constant ³⁾	k _F	6,43	6,43	N/A
7 Terminal resistance, phase-phase	R	13,17	13,17	Ω
8 Terminal inductance, phase-phase	L	820	820	μH
9 Stroke length, max.	s _{max.}	20	80	mm
10 Resolution ⁴⁾		6	6	μm
11 Repeatability ⁴⁾		40	40	μm
12 Precision ⁴⁾		120	180	μm
13 Acceleration up to	a _{e max.}	175,66	91,57	m/s ²
14 Speed up to ⁵⁾	v _{e max.}	1,87	2,71	m/s
15 Thermal resistance	R _{th 1} / R _{th 2}	8,1 / 18,1	8,1 / 17,1	K/W
16 Thermal time constant	τ _{w1} / τ _{w2}	30 / 540	30 / 530	s
17 Operating temperature range:		- 30 ... +125		°C
18 Rod weight	m _m	17,6	34,2	g
19 Total weight	m _t	56,3	72,9	g
20 Magnetic pitch (N-S)	τ _m	18	18	mm
21 Number of pole pairs		8	16	-
22 Rod bearings		polymer sleeves		
23 Housing material		non-magnetic steel		
24 Direction of movement		electronically reversible		

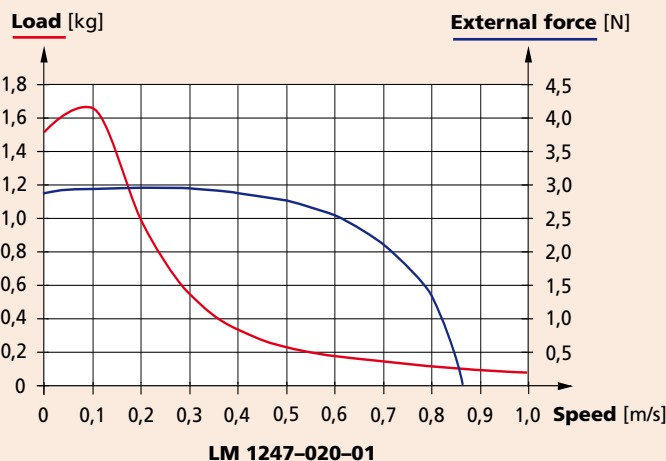
¹⁾ thermal resistance R_{th 2} by 55% reduced

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

⁵⁾ with a triangular profile and the max. stroke



Trapezoidal motion profile (t₁ = t₂ = t₃)

Stroke: 20 mm

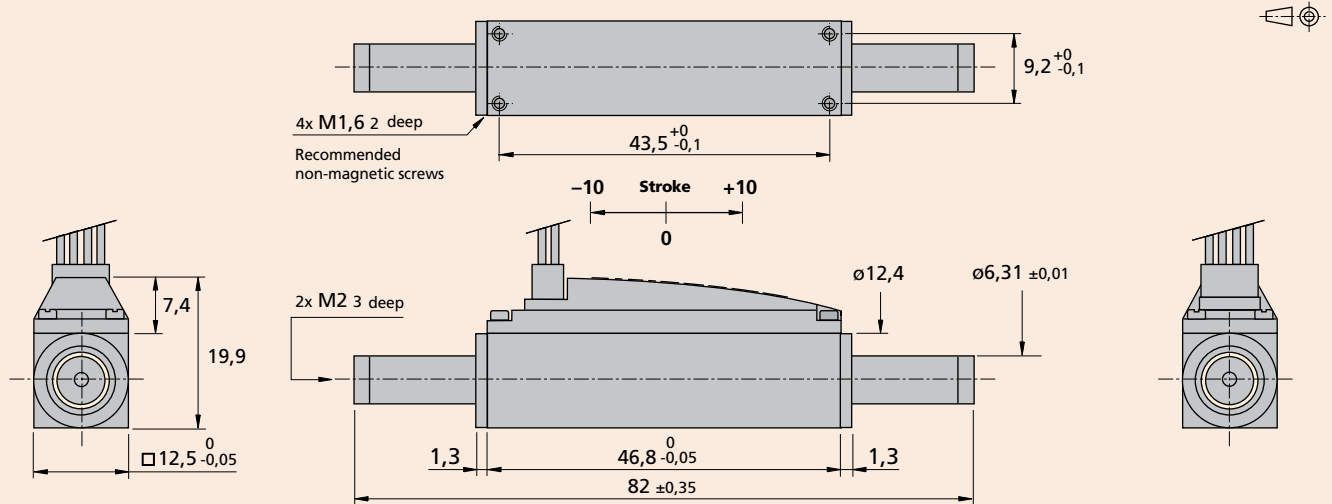
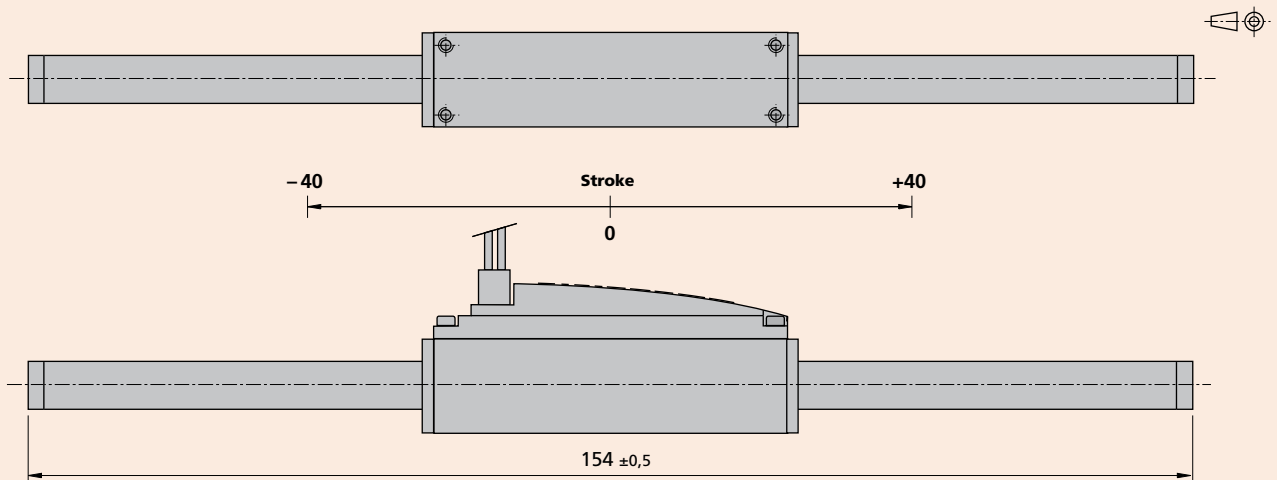
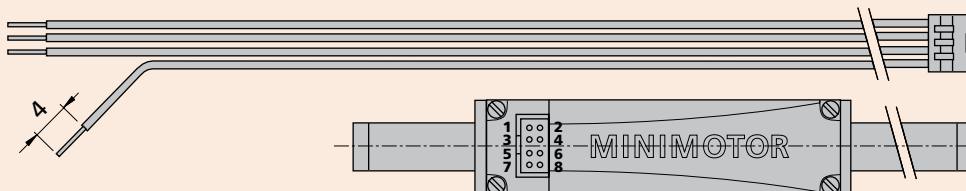
Friction constant: 0,2

Angular inclination: 0°

Stop 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 0,1 Kg

LM 1247-020-01

LM 1247-080-01

Cable and connection information

Cable

Single wires, material PTFE
Length 200 mm ± 15 mm
8 conductors

Recommended connector

Molex - Nr. 5110-0860
EME - Nr. 033415

Connection

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

