Linear DC-Servomotors 3,6 N

with Analog Hall Sensors

LM 1247 ... 11

Values at 22°C	LM 1247 ... 11		
Continuous force	$F_{e\,max.}$	3,6	N
Peak force	$F_{p\,max.}$	10,5	N
Continuous current	$I_{e\,max.}$	0,55	A
Peak current	$I_{p\,max.}$	1,64	A
Back-EMF constant	k_E	5,25	V/m/s
Force constant	k_F	6,43	N/A
Terminal resistance, phase-phase	R	13,17	Ω
Terminal inductance, phase-phase	L	820	µH
Thermal resistance	R_{th1} / R_{th2}	3,2 / 20	K/W
Thermal time constant	τ_{w1} / τ_{w2}	11 / 624	s
Operating temperature range		-20 … +125	°C
Magnetic pitch	τ_m	18	mm
Rod bearings		polymer sleeves	
Housing material		metal, non-magnetic	
Direction of movement		electronically reversible	

	LM 1247-	020-11	040-11	060-11	080-11	100-11	120-11	
Stroke length	$S_{max.}$	20	40	60	80	100	120	mm
Repeatability	σ_r	40	40	40	40	40	40	µm
Accuracy	σ_a	120	140	160	180	200	220	µm
Acceleration	$a_{e\,max.}$	187,6	142,5	122,9	101,8	91,4	81	m/s²
Speed	$v_{e\,max.}$	1,9	2,4	2,7	2,9	3	3,1	m/s
Rod length	$L1$	82	109	127	154	172	190	mm
Rod mass	m_m	19	25	29	35	39	44	g
Total mass	m_t	58	64	68	74	78	83	g

Note: These motors are for operation with DC-voltage < 75 V DC. The given values are for free standing motors.
Other rod lengths available on request.

Motor characteristic curves

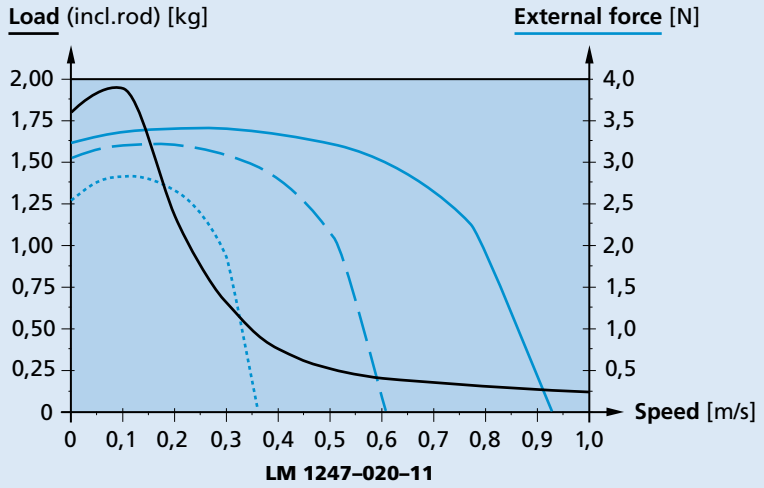
Trapezoidal motion profile (t1 = t2 = t3)

Displacement distance:	20 mm
Friction coefficient:	0,2
Slope angle:	0°
Rest time:	0,1 s

Load:
The max. applicable load (incl. rod) 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 (incl. rod) of:

- 0,1 kg
- 0,2 kg
- 0,5 kg



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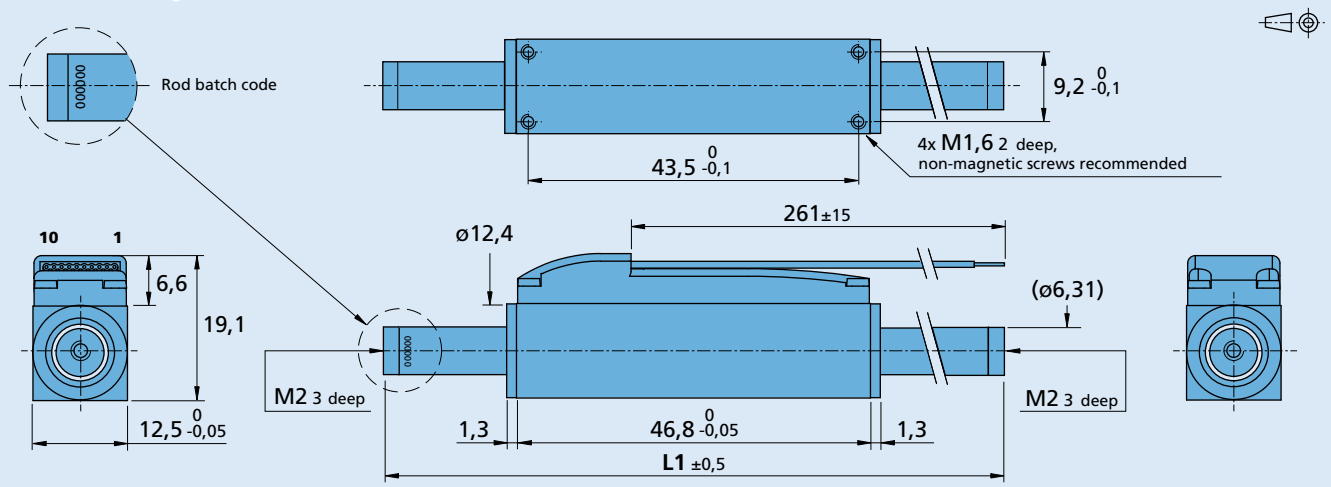
For notes on technical data and lifetime performance refer to “Technical Information”.

Dimensional drawing



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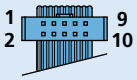
Option, cable and connection information

Example product designation: **LM1247-020-11**

Option	Type	Description
-11C	Connector 	Material PVC, 10 conductors, AWG 28 with connector A05a - TCO, pitch 2 mm

Connection -11/-11C

No.	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	U_{DD} (+5V)
6	Hall sensor C
7	Hall sensor B
8	Hall sensor A
9	N.C.
10	N.C.

Standard cable

Material PVC,
10 conductors, AWG 28,
grid 1mm, wires tinned.

Product combination

Drive Electronics

MC 3001 B
MC 3001 P
MC 3603 S
MC 5004 P
MC 5005 S

Cables / Accessories

To view our large range of accessory parts, please refer to the “Accessories” chapter.