Linear DC-Servomotors 3,6 N

for sin/cos control
QUICKSHAFT® Technology

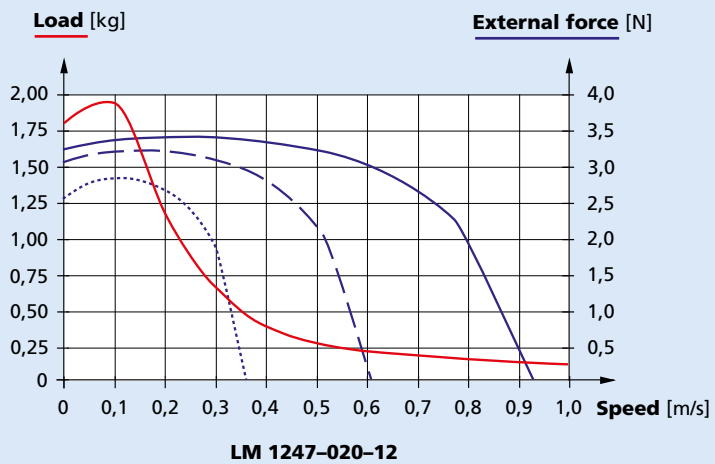
Series LM 1247 ... 12

			LM 1247–	020–12	040–12	060–12	080–12	100–12	120–12	
1	Continuous force [1]	$F_{e\,max.}$		3,6						N
2	Peak force [1] [2]	$F_{p\,max.}$		10,7						N
3	Continuous current [1]	$I_{e\,max.}$		0,55						A
4	Peak current [1] [2]	$I_{p\,max.}$		1,66						A
5	Back-EMF constant	k_E		5,25						V/m/s
6	Force constant [3]	k_F		6,43						N/A
7	Terminal resistance, phase-phase	R		13,17						Ω
8	Terminal inductance, phase-phase	L		820						µH
9	Stroke length	$s_{max.}$		20	40	60	80	100	120	mm
10	Repeatability [4]			80	80	80	80	80	80	µm
11	Precision [4]			200	220	240	260	280	300	µm
12	Acceleration [5]	$a_{e\,max.}$		198,0	148,5	127,3	101,8	91,4	82,9	m/s^2
13	Speed [5] [6]	$v_{e\,max.}$		2,0	2,4	2,8	2,9	3,0	3,2	m/s
14	Thermal resistance	R_{th1} / R_{th2}		3,2 / 20,0						K/W
15	Thermal time constant	τ_{w1} / τ_{w2}		11 / 624						s
16	Operating temperature range			– 20 ... +125						°C
17	Rod weight [7]	m_m		18	24	28	35	39	43	g
18	Total weight [7]	m_t		57	63	67	74	78	82	g
19	Magnetic pitch	τ_m		18						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 10%
[3] with sine wave commutation
[4] typical values with integrated linear Hall sensors (sin/cos) and Motion Controller Elmo "Whistle" SOL-WHI2.5/60I01. The values depend on conditions of use
[5] theorical 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.
For more information about drive electronics, please contact your local sales representative.

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



LM 1247–020–12

Trapezoidal motion profile (t1 = t2 = t3)

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

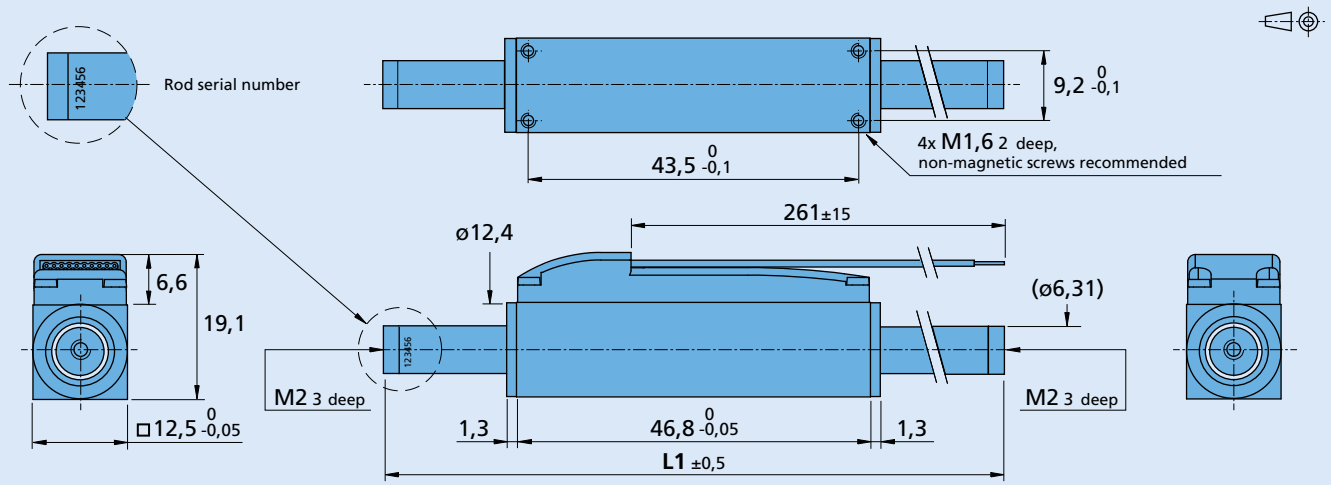
Load: The max. permissible load at a given speed with an external force of 0 N

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

- 0,1 Kg
- 0,2 Kg
- 0,5 Kg

For notes on technical data and lifetime performance refer to "Technical Information".
Edition 2017

Linear DC-Servomotor LM 1247 ... 12 with axial connection



LM 1247 ... 12

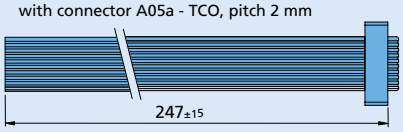
Ordering information

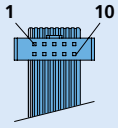
Linear DC-Servomotors Series	Stroke mm	Rod length L1 ±0,5 mm
LM 1247–020–12	–10 … +10	82
LM 1247–040–12	–20 … +20	109
LM 1247–060–12	–30 … +30	127
LM 1247–080–12	–40 … +40	154
LM 1247–100–12	–50 … +50	172
LM 1247–120–12	–60 … +60	190

Note: Single rod available on request.

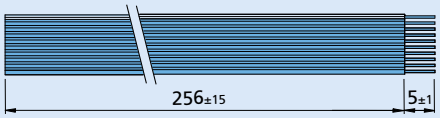
Cable and connection information

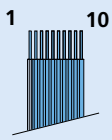
Cable for LM 1247–...–12C
Material PVC, 10 conductors, AWG 28
with connector A05a - TCO, pitch 2 mm



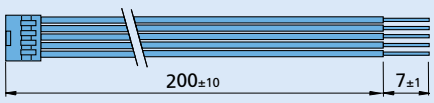


Cable for LM 1247–...–12
Material PVC, 10 conductors, AWG 28, grid 1mm, wires tinned





Cable for LM 1247–...–02
Single wires, material PVC, 10 conductors, AWG 28.
Recommended connector: Molex - Nr. 51110-1060



* The color reference refers only to the **LM 1247-...-02** version.

Connection

LM 1247–...–02

PIN	Function	Color*
1	Phase C	yellow
7	Phase B	orange
8	Phase A	brown
4	GND	black
3	+5V	red
2	Sin +	green
5	Sin -	blue
6	Cos +	grey
9	Cos -	white
10	N.C.	purple

LM 1247–...–12 / 12C

PIN	Function
1	Phase C
2	Phase B
3	Phase A
4	GND
5	+5V
6	Sin +
7	Sin -
8	Cos +
9	Cos -
10	N.C.