

Linear DC-Servomotors

with Analog Hall Sensors
QUICKSHAFT® Technology

1,03 N

For combination with
Drive Electronics:
Motion Controller

Series LM 0830 ... 01

	LM 0830-	015-01	040-01	
1 Continuous force ¹⁾	$F_{e \max.}$	1,03		N
2 Peak force ^{1) 2)}	$F_{p \max.}$	2,74		N
3 Continuous current ¹⁾	$I_{e \max.}$	0,53		A
4 Peak current ^{1) 2)}	$I_{p \max.}$	1,41		A
5 Back-EMF constant	k_E	1,58		V/m/s
6 Force constant ³⁾	k_F	1,94		N/A
7 Terminal resistance, phase-phase	R	7,37		Ω
8 Terminal inductance, phase-phase	L	117		μH
9 Stroke length	$s_{\max.}$	15	40	mm
10 Repeatability ⁴⁾		40	40	μm
11 Precision ⁴⁾		120	140	μm
12 Acceleration ⁵⁾	$a_{e \max.}$	206,9	147,8	m/s ²
13 Speed ^{5) 6)}	$v_{e \max.}$	1,8	2,4	m/s
14 Thermal resistance	R_{th1} / R_{th2}	6,6 / 37,4		K/W
15 Thermal time constant	τ_{w1} / τ_{w2}	4 / 291		s
16 Operating temperature range		- 20 ... +125		°C
17 Rod weight ⁷⁾	m_m	5	7	g
18 Total weight ⁷⁾	m_t	15	17	g
19 Magnetic pitch	τ_m	12		mm
20 Rod bearings		polymer sleeves		
21 Housing material		metal, non-magnetic		
22 Direction of movement		electronically reversible		

¹⁾ thermal resistance R_{th2} 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 and Motion Controller.

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

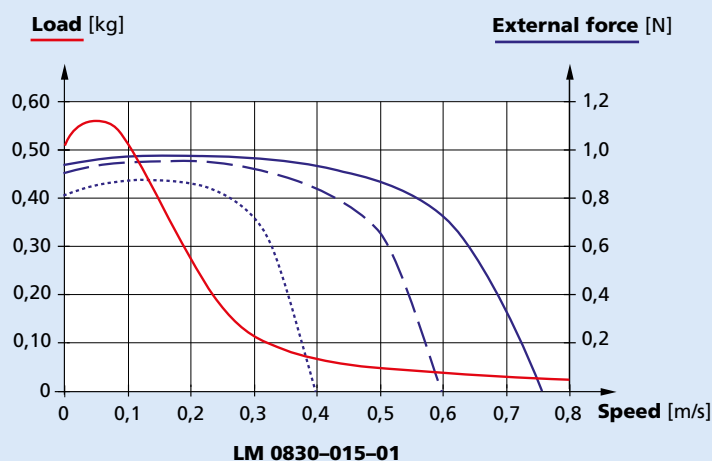
⁷⁾ rounded value, for reference only

Notes: These motors are for operation with DC-voltage < 50 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 ($t_1 = t_2 = t_3$)

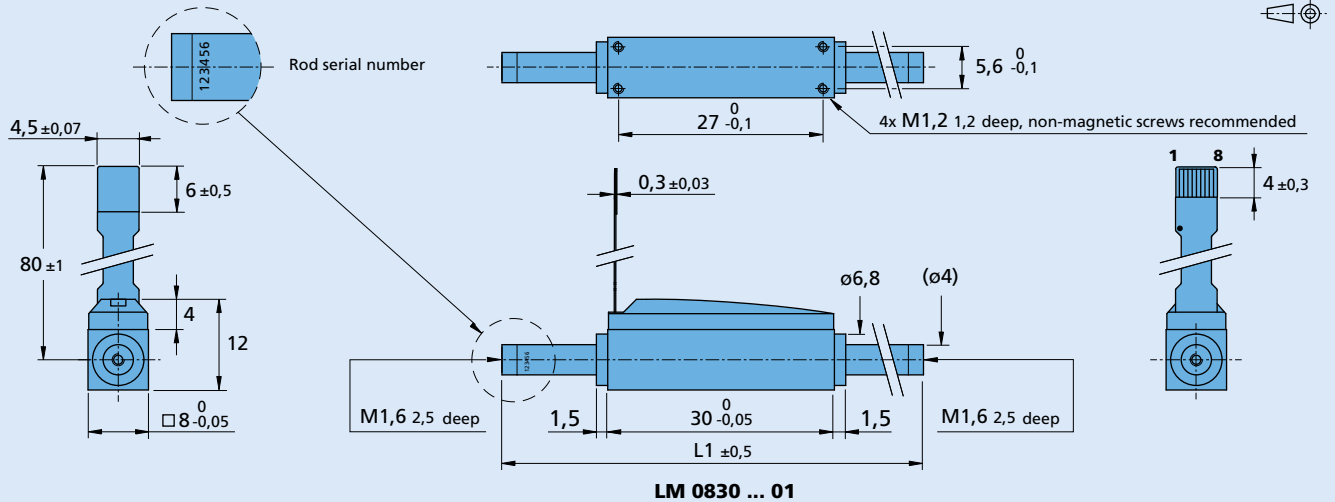
Displacement distance:	15 mm
Friction coefficient:	0,2
Slope angle:	0°
Rest time:	0,1 s

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:

- 0,035 Kg	_____
- 0,05 Kg	_____
- 0,1 Kg	_____

Linear DC-Servomotor LM 0830



Ordering information

Linear DC-Servomotors Series	Stroke mm	Rod length L1 ±0,5 mm
LM 0830-015-01		58
LM 0830-040-01		82

Note: Single rod available on request.

Options

- Flexboard adapter (part no. 6501.00117), size 18 x 23 x 6 mm
- Cable with connector (part no. 6501.00118), 200 mm length $\pm$ 10 mm, 8 conductors

Cable and connection information

