

Linear DC-Servomotors

1,03 N

with Analog Hall Sensors

LM 0830 ... 01

Values at 22°C	LM 0830 ... 01	
Continuous force	$F_{e \max.}$	1,03 N
Peak force	$F_{p \max.}$	2,74 N
Continuous current	$I_{e \max.}$	0,53 A
Peak current	$I_{p \max.}$	1,41 A
Back-EMF constant	k_E	1,58 V/m/s
Force constant	k_F	1,94 N/A
Terminal resistance, phase-phase	R	7,37 Ω
Terminal inductance, phase-phase	L	117 μH
Thermal resistance	R_{th1} / R_{th2}	6,6 / 37,4 K/W
Thermal time constant	τ_{w1} / τ_{w2}	4 / 291 s
Operating temperature range		-20 ... +125 °C
Magnetic pitch	τ_m	12 mm
Rod bearings		polymer sleeves
Housing material		metal, non-magnetic
Direction of movement		electronically reversible

	015-01	040-01	
Stroke length	$S_{\max.}$	15	40 mm
Repeatability	σ_r	40	40 μm
Accuracy	σ_a	120	140 μm
Acceleration	$a_{e \max.}$	206,9	147,8 m/s ²
Speed	$v_{e \max.}$	1,8	2,4 m/s
Rod length	L_1	58	82 mm
Rod mass	m_m	5	7 g
Total mass	m_t	15	17 g

Note: These motors are for operation with DC-voltage < 50 V DC. The given values are for free standing motors.
Other rod lengths available on request.

Motor characteristic curves

Trapezoidal motion profile ($t_1 = t_2 = t_3$)

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

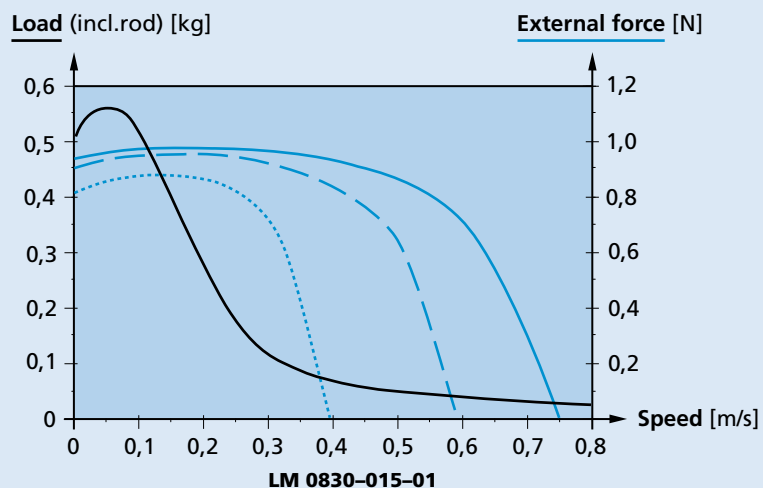
Load:

The max. applicable load (incl. rod) at a given speed with an external force of 0 N

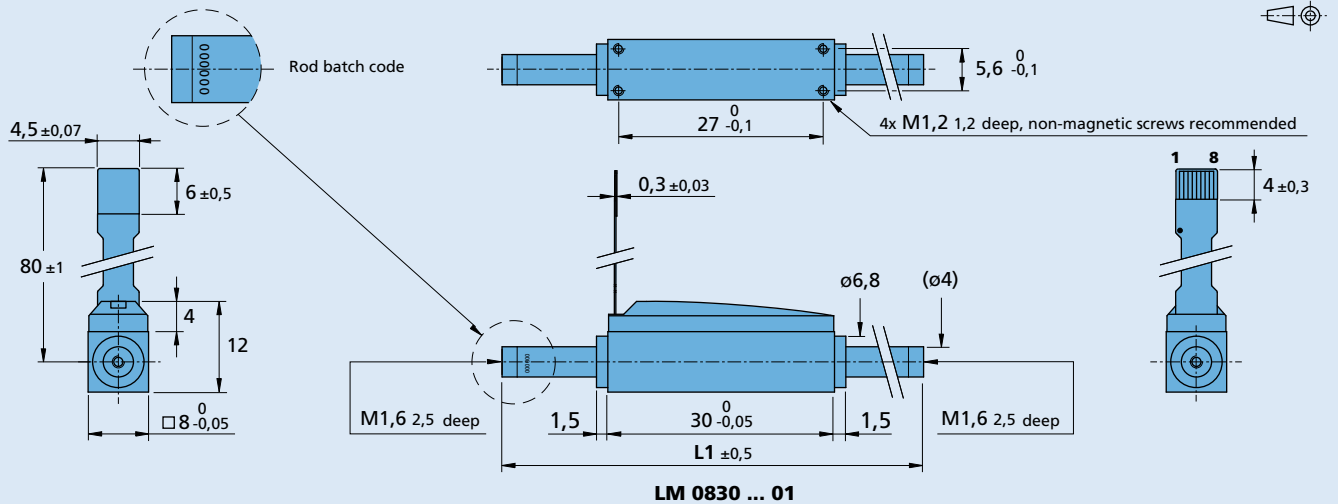
External force:

The max. permissible external force at a given speed with a load (incl. rod) of:

- 0,035 kg ———
- 0,05 kg - - - - -
- 0,1 kg



Dimensional drawing



Option, cable and connection information

Example product designation: **LM0830-015-01**

Option	Type	Description	Connection	
			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
			Flexboard	
			8 circuits; 0,5mm pitch	
			Recommended connector	
			Molex - ZIF connector,	
			Nr. 52746	

Product combination

Drive Electronics	Cables / Accessories		
MC 3001 B MC 3001 P MC 3602 B MC 5004 P	To view our large range of accessory parts, please refer to the "Accessories" chapter.		