

# Linear DC-Servomotors

6,2 N

with Analog Hall Sensors

## LM 1483 ... 11

Values at 22°C	LM 1483 ... 11		
Continuous force	$F_{e \max.}$	6,2	N
Peak force	$F_{p \max.}$	18,4	N
Continuous current	$I_{e \max.}$	0,5	A
Peak current	$I_{p \max.}$	1,48	A
Back-EMF constant	$k_E$	10,16	V/m/s
Force constant	$k_F$	12,44	N/A
Terminal resistance, phase-phase	$R$	26,3	$\Omega$
Terminal inductance, phase-phase	$L$	1 649	$\mu\text{H}$
Thermal resistance	$R_{th1} / R_{th2}$	1,97 / 12,5	K/W
Thermal time constant	$\tau_{w1} / \tau_{w2}$	12,2 / 789	s
Operating temperature range		-20 ... +125	°C
Magnetic pitch	$\tau_m$	18	mm
Rod bearings		polymer sleeves	
Housing material		metal, non-magnetic	
Direction of movement		electronically reversible	

	LM 1483-	020-11	040-11	060-11	080-11	
Stroke length	$S_{\max.}$	20	40	60	80	mm
Repeatability	$\sigma_r$	40	40	40	40	$\mu\text{m}$
Accuracy	$\sigma_a$	120	140	160	180	$\mu\text{m}$
Acceleration	$a_{e \max.}$	220,7	176,6	185,5	143,7	$\text{m/s}^2$
Speed	$v_{e \max.}$	2,1	2,7	3,1	3,4	m/s
Rod length	$L1$	127	154	172	190	mm
Rod mass	$m_m$	28	35	39	43	g
Total mass	$m_t$	117	124	128	132	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 ( $t_1 = t_2 = t_3$ )

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:

- 0,15 kg ———
- 0,3 kg - - - - -
- 0,6 kg ⋯⋯⋯



