

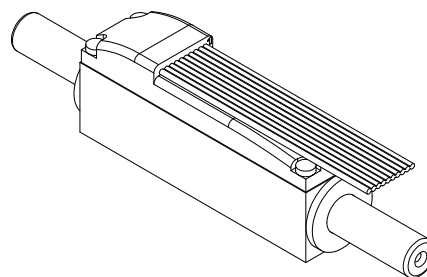
LM 1247...11 with Analog Hall Sensors

推力 : 3.6 N

瞬間推力 : 10.5 N

解析度 : ~ 4.4 μm (使用內建 Analog Hall Sensor)

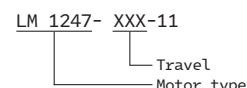
最高連續移動速度 : 3.1 m/s (依行程不同)



德國 Faulhaber LM 微型伺服線性馬達
內建 Analog Hall Sensor 做位置回饋

搭配控制器做閉迴路力量，速度與位置控制
同時具備多種通訊界面供選擇

建議搭配光學尺和線軌發揮更佳定位精度與重現性



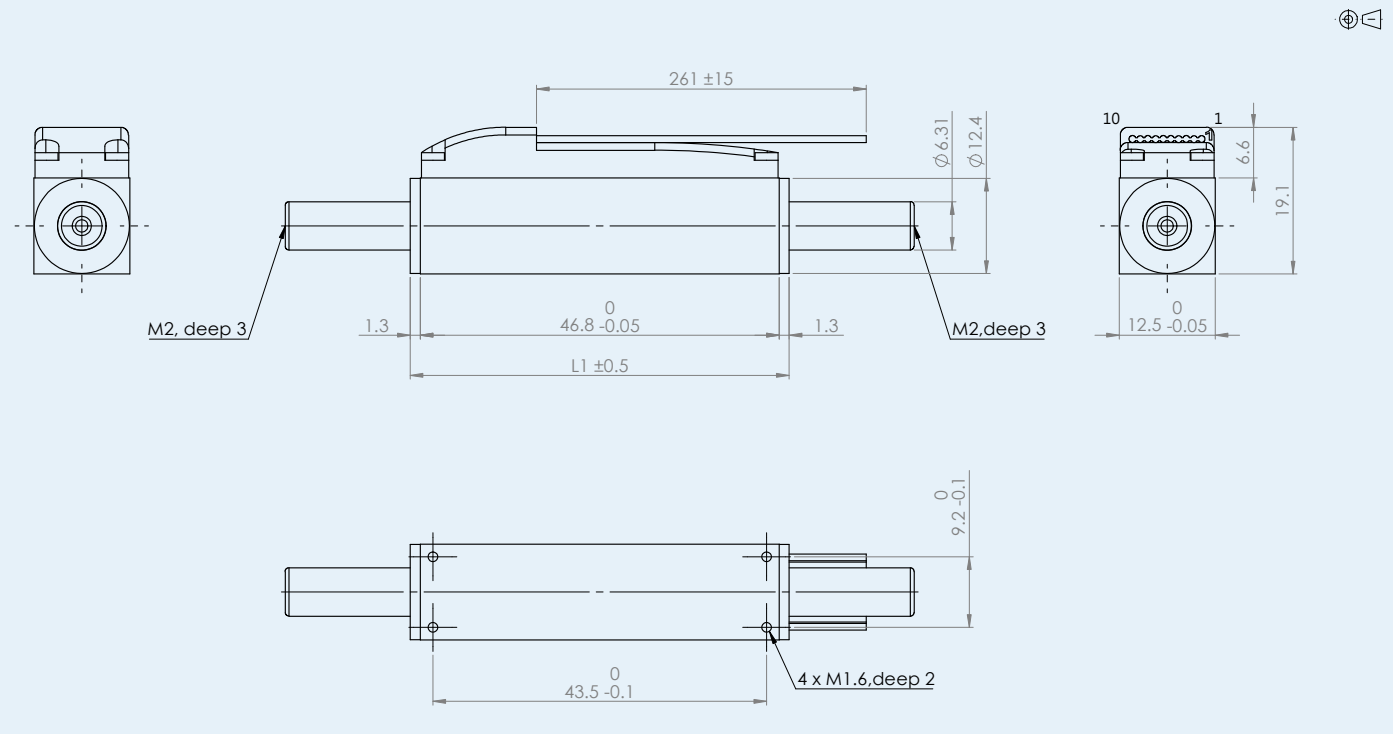
Technical Specification			Values at 22°C
Continuous force	$F_{e \max.}$	3.6	N
Peak force	$F_{p \max.}$	10.5	N
Continuous current	$I_{e \max.}$	0.55	A
Peak current	$I_{p \max.}$	1.64	A
Back-EMF constant	k_E	5.25	V/m/s
Force constant	k_F	6.43	N/A
Terminal resistance, phase-phase	R	13.17	Ω
Terminal inductance, phase-phase	L	820	μH
Terminal resistance	R_{th1}/R_{th2}	3.2 / 20	K/W
Terminal time constant	τ_{w1} / τ_{w2}	11 / 624	s
Operation 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	

		020-11	040-11	060-11	080-11	100-11	120-11	
Stroke length	S_{\max}	20	40	60	80	100	120	mm
Repeatability	O_r	40	40	40	40	40	40	μm
Accuracy	O_a	120	140	160	180	200	220	μm
Acceleration	$a_{e \max.}$	187.6	142.5	122.9	101.8	91.4	81	m/s^2
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.

Dimensional drawing



Option, cable and connection information

Example product designation: LM1247-020-11

Option	Type	Description
-11C	Connector	Material PVC, 10 conductors, AWG28 with connector A05a - TCO, pitch 2 mm

Connection -11/-11c

No	Function
Pin 1	Phase C
Pin 2	Phase B
Pin 3	Phase A
Pin 4	GND
Pin 5	Um(+5V)
Pin 6	Hall sensor C
Pin 7	Hall sensor B
Pin 8	Hall sensor A

Standard cable

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

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:

- 0,1 kg ———
- 0,2 kg - - - - -
- 0,5 kg ⋯⋯⋯

