

	Parameter	Remarks	Sym	Unit	TM3		TM6		TM12	TM18	
Performance	Winding type				S	Z	S	Z	S	N	S
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 400V _{ac rms} (600V _{dc})						
	Ultimate Force @ 10°C/s increase	magnet @ 25°C	F _u	N	120	120	240	240	480	720	
	Peak Force @ 6°C/s increase	magnet @ 25°C	F _p	N	105	105	210	210	420	630	
	Continuous Force*	coils @ 100°C	F _c	N	60	60	120	120	240	360	
	Maximum Speed**	@ 600 V	v _{max}	m/s	12	36.6	12	36.5	12	4.5	10.0
	Motor Force Constant	mount. sfc. @ 20°C	K	N/A _{rms}	39	12.9	39	12.9	39	79	39
	Motor Constant	coils @ 25°C	S	N ² /W	95	95	190	190	380	570	
Electrical	Ultimate Current	magnet @ 25°C	I _u	A _{rms}	4.1	12.6	8.2	25.1	16.4	12.3	25.1
	Peak Current	magnet @ 25°C	I _p	A _{rms}	3.1	9.5	6.2	18.9	12.4	9.2	18.9
	Maximum Continuous Current*	coils @ 100°C	I _c	A _{rms}	1.5	4.7	3	9.3	6	4.5	9.3
	Back EMF Phase-Phase _{peak}		B _{emf}	V/m/s	32	11	32	11	32	65	32
	Resistance per Phase*	coils @ 25°C ex. cable	R _{ph}	Ω	5.4	0.56	2.7	0.28	1.35	3.6	0.85
	Induction per Phase	I < 0.6 I _p	L _{ph}	mH	35	3.65	17	1.83	9	23	5.5
	Electrical Time Constant*	coils @ 25°C	τ _e	ms	6.5	6.5	6.5	6.5	6.5	6.5	
Thermal	Maximum Continuous Power Loss	all coils	P _c	W	49	49	99	99	197	296	
	Thermal Resistance	coils to mount. sfc.	R _{th}	°C/W	1.5	1.5	0.75	0.75	0.38	0.25	
	Thermal Time Constant*	up to 63% max. coiltemp.	τ _{th}	s	75	75	75	75	75	75	
	Temperature Cut-off / Sensor				PTC 1kΩ / KTY 83-122						
Mechanical	Coil Unit Weight	ex. cables	W	kg	0.6	0.6	0.9	0.9	1.6	2.3	
	Coil Unit Length	ex. cables	L	mm	93	93	143	143	241	336	
	Motor Attraction Force	rms @ 0 A	F _a	N	300	300	500	500	900	1300	
	Magnet Pitch NN		τ	mm	24	24	24	24	24	24	
	Cable Mass		m	kg/m	0.18	0.18	0.18	0.18	0.18	0.18	
	Cable Type (Power FLEX)	length 3 m	d	mm (AWG)	8.3 (≥18)						
	Cable Type (Sensor)	length 3 m	d	mm (AWG)	4.3 (26)						
	Cable Life (Power FLEX)***	minimum			5,000,000 cycles						
	Bending Radius Static	minimum			4x cable diameter						
	Bending Radius Dynamic	minimum			10x cable diameter						



TM3 on 144mm magnet plate shown

Approvals



See page 28 for Analog hall

FLEX Cable

The TM series comes standard with a 3m long FLEX power cable.

Magnet plate dimensions

Le (mm)	96	144	384
M5 bolts	4	6	16
Mass (kg/m)	2.1		

Magnet plates can be butted together.

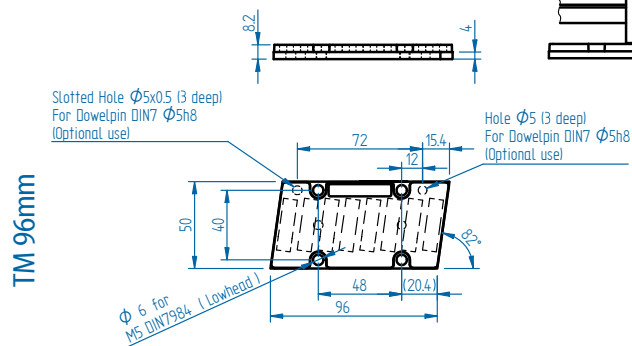
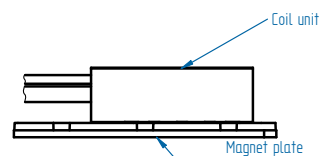
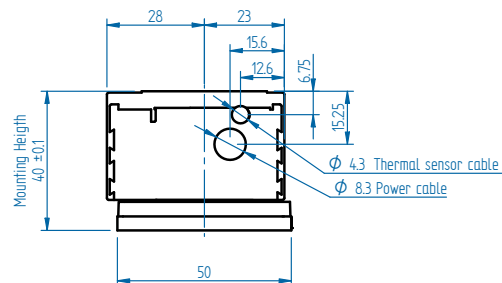
All specifications ±10%

* These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool.

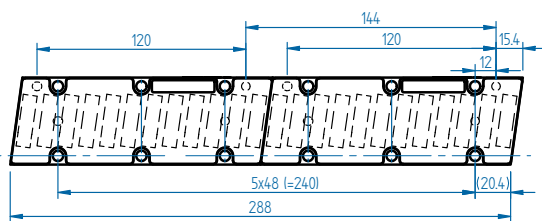
** Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

*** Depending on Bending Radius, Velocity and Acceleration.

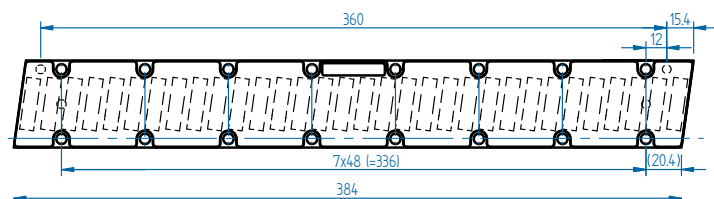
MAGNET PLATES



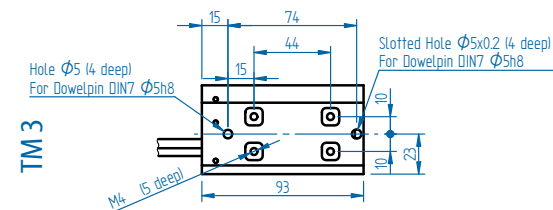
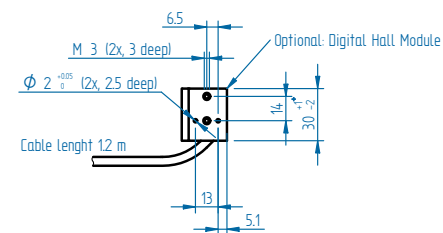
2x TM 144mm



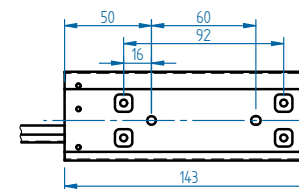
TM 384mm



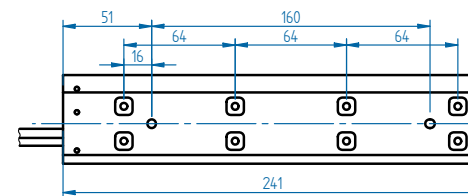
COIL UNITS



TM 6



TM 12



TM 18

