

ETEL

IRONLESS LINEAR MOTOR

ILF+03-030

		Winding codes	KA	KA	NA	NA
	MOTOR PERFORMANCE	UNIT	FREE AIR COOLING	FORCED AIR COOLING	FREE AIR COOLING	FORCED AIR COOLING
Fp	Peak force	N	98.9	98.9	94.4	94.4
Fc	Continuous force	N	21.5	31.9	20.7	30.7
Fs	Standstill force	N	16.2	23.8	15.6	22.9
lp	Peak current	Arms	3.52	3.52	7.37	7.37
lc	Continuous current	Arms	0.745	1.10	1.58	2.33
ls	Standstill current	Arms	0.560	0.823	1.18	1.74
vs	Rated low speed	mm/s	1.0	4.0	1.1	4.1
Pc	Power dissipation @ Ic	W	26.6	56.4	26.4	55.8
Fd	Max. detent force (average to peak)	N	0.0	0.0	0.0	0.0
Fa	Attraction force	N	0.00	0.00	0.00	0.00

	MOTOR SETTING	UNIT				
Kt	Force constant	N/Arms	29.5	29.5	13.4	13.4
Ku	Back EMF constant (*)	Vrms/(m/s)	17.9	17.9	8.17	8.17
Km	Motor constant	N/√W	5.04	5.04	4.87	4.87
R20	Electrical resistance at 20°C (*)	Ohm	22.8	22.8	5.06	5.06
L	Electrical inductance (*)	mH	12.3	12.3	2.55	2.55
тth	Thermal time constant	s	314	79.7	303	78.5
Rth	Thermal resistance	K/W	4.11	1.90	4.14	1.92
2тр	Magnetic period	mm	32	32	32	32
mw	Magnetic way mass	kg/m	8.16	8.16	8.16	8.16
mm	Motor mass	kg	0.0995	0.169	0.0959	0.165

	MOTOR ENVIRONMENT	UNIT				
Udc	Nominal DC bus voltage	VDC	600	600	600	600
Ss	Stator exchange surface	m²	0.03	0.03	0.03	0.03
x	Assumed stroke	m	0.18	0.18	0.18	0.18
θamb	Ambient temperature	°C	20	20	20	20
θтах	Maximum coil temperature	°C	130	130	130	130
θа	Inlet air temperature	°C	N/A	20	N/A	20
qa	Minimum air flow	l/min	N/A	33	N/A	33
Δра	Minimum inlet air gauge pressure	bar	N/A	0.3	N/A	0.3
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Notes:

(*) terminal to terminal.

Hypotheses and tolerances are in ETEL Integration Manual.

Any use of the motor beyond speed/force limit could lead to hazardous voltage and serious injuries. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the motor is used in an improper way. Caution:



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