

Linear motor data SLD 14 for not Schunk supported controllers

Type of motor: SLD 14

Date of creation: 16.01.2026

Description	Symbol	Unit	Value
Daten			
Nominal motor force	F _{nenn}	N	495
Motor peak force	F _{max.}	N	1200
Motor idle current (rms)	I _{nenn}	A _{eff}	6,7
Motor peak current (rms)	I _{max.}	A _{eff}	24
Max. velocity	V _{max.}	m/s	5
Power loss	P	W	18
Force constant	k _{Force}	N/A	74
Motor constant	k _{Motor}	N/√W	116,7
BEMF (velocity 1 m/s)	k _{EMK}	Vs/m	150
Thermal time constant	k _{therm.}	s	1020
Resistance	R _{phase / phase}	Ohm	1,90
Inductance	Lu-v, Lv-w, LW-u	mH	18,00
Number of pole pairs per distance		mm	28
Mass primary part	m _{Prim.}	kg	9,2
Mass Rail	m _{Sek.}	kg/m	13
Max. intermediate circuit voltage	U _{DC}	V	900
Max. coil temperature	T _{max.}	°C	105
Type of temperature sensor			PT1000

Control parameters

Current loop propotional gain		V/A	10
Current loop integral action time		ms	4,1
Position loop KV-Factor	kv	1000/min	1
Velocity loop smoothing time const.		us	900
Velocity loop propotional gain	kp	N/(mm/min)	0,03
Velocity loop integral action time	TN	ms	5

Encoder Feedback

Type	magnetic	magnetic absolut	optical	magnetic absolut
Sensor designation	LE100	TTK 70	LIC411	MSA111C-DQ
Tape measure	MB100	MBA 111	LIC4005	MBA 111
Manufactur	SIKO	Sick Stegmann	Heidenhain	SIKO
Grating period	1000 µm	1000 µm	--	1000 µm
Supply voltage	5 V	7V- 12V	3,6V - 14V	10V- 30V
Waveform	sin/cos	sin/cos / Hiperface	EnDat 2.2	DRIVE-CLiQ
Reference mark	periodisch	--	--	--
Reference mark pitch	20 mm	--	--	--
Signal amplitude	1 Vpp	1 Vpp	--	--
Feedback revolution	1 mm	1 mm	10 nm	1µm

Motor connection

Connector		Pin
TE connectivity	U	thick 1
Typ: BEWC110MR11000207000	V	thick 4
	W	thick 3
	GND	thick 2
	PT1000	thin C
		thin D

Thermal motor protection

	Sensor 1	
Type	PT1000	
Characteristic	Datasheet	

Measurement system

	LE100	TTK 70	LIC 411	MSA111C-DQ
	Sub D pin	Sub D pin	Stecker [6]	Stecker [5]
Signal	Pin	Pin		
0V Sense	15			
Ref - / EncData-	10	8	4	
Ref + / EncData+	9	7	3	
/B (COS-)	6	6		4
B(COS+)	5	5		5
A(SIN+)	2	2		8
/A(SIN-)	3	3		7
Clock+			7	
GND (0V)	4	4	5	3
Clock-			6	
Ucc	12	11	8	1
N.C.				2
GND (Schirm)				
N.C.				10

