

Torque motor data for ERT300 with brake for not Schunk supported controller

Type of motor: ERT300 with brake

Date of creation: 18.11.2020

Description	Symbol	Unit	Value
Data			
Nominal motor torque	F _{nenn}	Nm	31
Motor peak torque	F _{max.}	Nm	76
Motor idle current (eff.)	I _{nenn}	A eff	4,2
Motor peak current (eff.)	I _{max.}	A eff	14
max. motor speed	n _{max.}	U/min	150
Power loss	P	W	121,9
Torque / Force constant	k _{Kraft}	Nm/A	7,30
Motor constant	k _{Motor}	Nm/√W	2,80
BEMF (speed 600 U/min)	k _{EMK (1000 U/min)}	Veff	507,5
Thermal time constant	k _{therm.}	s	1200
Resistance	R _(Phase Phase)	Ohm	3,75
Inductance	L _(Phase Phase)	mH	32
Number of pol pairs			21
Mass of motor	m	kg	19,5
rotor moment of inertia		kgm ²	0,05529
Maximum DC link voltage	U _{max.}	V _{DC}	900
Max. coil temperature	T _{max.}	°C	90
Type of temperature sensor			PT1000

Control parameters

Current loop propotional gain		V/A	39,9
Current loop integral action time		ms	4,07
Position loop KV-Factor	kv	1000/min	1
Velocity loop smoothing time const.		us	900
Velocity loop propotional gain	kp	N/(mm/min)	1,5
Velocity loop integral action time	TN	ms	5

Encoder Feedback

Motor	ERT12	ERT50	ERT300
Sensor designation	MSACERT12	MSACERT50	MSACERT300
Manufactor	Siko	SIKO	SIKO
Supply voltage	44172 V	7-12	7-12
Waveform	sin/cos / Hiperface Singleturn	sin/cos / Hiperface Singleturn	sin/cos / Hiperface Singleturn
Signal amplitude	1	1	1
travel range	+/-180°	+/-180°	+/-180°
Feedback revolution	158	224	396

Motor connection

Connector	Anschluss	Stecker
Interconnectron Typ: LEAB08AN	U	gross 1
	V	gross 4
	W	gross 3
	Erde	gross 2
3*switch and PT1000 in a row	Schalter 105°C	klein C
	PT1000	klein D
Electric brake		klein A
		klein B

Motor feedback

		ERT12	ERT50	ERT300
Signal		Pin	Pin	Pin
EncData-		6	6	6
EncData+		5	5	5
/B (COS-)		3	3	3
B(COS+)		4	4	4
A(SIN+)		2	2	2
/A(SIN-)		1	1	1
GND (0V)		7	7	7
Ucc		8	8	8

