

Torque motor data for ERT50 without brake for not Schunk supported controller

Type of motor: ERT50 without brake

Date of creation: 18.11.2020

Description	Symbol	Unit	Value
Data			
Nominal motor torque	F_{nenn}	Nm	7,8
Motor peak torque	$F_{max.}$	Nm	20,1
Motor idle current (eff.)	I_{nenn}	A eff	2,7
Motor peak current (eff.)	$I_{max.}$	A eff	8,54
max. motor speed	$n_{max.}$	U/min	350
Power loss	P	W	64,3
Torque / Force constant	k_{Kraft}	Nm/A	2,90
Motor constant	k_{Motor}	Nm/ $\sqrt{W}$	1,00
BEMF (speed 600 U/min)	$k_{EMK (1000 U/min)}$	V_{eff}	201,8
Thermal time constant	$k_{therm.}$	s	1200
Resistance	$R_{(Phase Phase)}$	Ohm	4,68
Inductance	$L_{(Phase Phase)}$	mH	11,8
Number of pol pairs			14
Mass of motor	m	kg	6,5
rotor moment of inertia		kgm ²	0,00390
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	12,8
Current loop integral action time		ms	1,46
Position loop KV-Factor	kv	1000/min	1
Velocity loop smoothing time const.		us	900
Velocity loop propotional gain	kp	N/(mm/min)	1
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	sin/cos / Hiperface	sin/cos / Hiperface
	Singleturn	Singleturn	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

