

Datasheet for torque direct drive ERT12 with brake and servo drive Indradrive Cs
Type of motor: ERT12 with brake

Date of creation:

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Antriebe			
Description	Symbol	Unit	comment

Electrical data

S-0-0141	Type of axis				
P-0-4014	Type of motor	Torque motor		0200h	
P-0-0512	Temperature sensor			3	
	PWM frequency		kHz	4	
S-0-0111	Motor idle current (eff.)	I_d	A	0,96	
	Nominal motor torque	F_{nenn}	Nm	1,4	with temperature increase of 65 K inside motor
	Power loss	P_{vdauer}	W	27,5	with temperature increase of 65 K inside motor
S-0-0109	Motor peak current (eff.)	I_{max}	A	3,27	
	Motor peak torque	F_{max}	Nm	4,17	
S-0-0092	Bipolar torque limit value	auf I_d bezogen	%	340,6	
P-0-0109	torque peak limit	auf I_d bezogen	%	340,6	
P-0-0051	Torque/Force constant	k_t	Nm/A	1,5	
	Motor constant	K_m	Nm/√W	0,30	
	BEMF (speed 600 U/min)	K_e (Phase-Phase)	Veff	102	
	Thermal resistance	R_{th}	K/W	2,36	temperature increase (65 K) / Plconst
S-0-0113	max. motor speed	U_{max}	U/min	600	
P-0-0018	Number of pol pairs	PPZ		14	
	Type of circuit			Y	
	Maximum DC link voltage	U_{max}	V _{DC}	900	
	Inductance	$L_{u-w}, L_{v-w}, L_{w-u}$	mH	14,6	
P-0-4016	Motor series inductance		mH	7,3	
P-0-4017	Motor shunt inductance		mH	7,3	
P-0-4048	Winding resistance by 25 °C	$R_{u-v}, R_{v-w}, R_{w-u}$	Ohm	16,6	
	Winding resistance by 90 °C	$R_{u-v}, R_{v-w}, R_{w-u}$	Ohm	20,8	
	Electrical time constant		ms	0,9	
	Type of temperature sensor			PT1000	
S-0-0201	Motor warning temperature		°C	85	
S-0-0204	Motor shutdown temperature		°C	90	
	Insulation class			A	

Mechanical data

	Mass of motor		kg	2,7	
	rotor moment of inertia		kgm ²	0,00070	

Control parameters without mass moment of inertia

S-0-0106	Current loop propotional gain		V/A	14,6	
S-0-0107	Current loop integral action time		ms	0,57	
S-0-0104	Position loop KV-Factor	kv		1	
P-0-0004	Velocity loop smoothing time const.			900	
S-0-0100	Velocity loop propotional gain	kp		0,8	
S-0-0101	Velocity loop integral action time	TN		5	

Parameter of position

S-0-0277	Position feedback 1 type			1001 b	
S-0-0278	Maximum travel range		grad	±180	

Encoder Feedback

	Motor		ERT12	ERT50	ERT300	
	Sensor designation		MSACERT12	MSACERT50	MSACERT300	
	Manufactor		SIKO	SIKO	SIKO	
	Supply voltage	V	7-12	7-12	7-12	
	Waveform		sin/cos / Hiperface	sin/cos / Hiperface	sin/cos / Hiperface	
	Reference mark		--	--	--	
	Signal amplitude	Vss	1	1	1	
S-0-0116 / S-0-0602.1.3	Feedback revolution		158	224	396	

Motor connection

Connector	Connector	Contact
Interconnectron	U	thick 1
Typ: LEAB08AN	V	thick 4
	W	thick 3
	Erde	thick 2
Electric brake		thin A
		thin B
3*switch and PT1000 in a row	switch 105 °C ;	thin C
	PT1000	thin D

Pinning Encoder system

Encoder system		ERT12	ERT50	ERT300	
		pin	pin	pin	
Pinning					
M12 8 poles	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	