Datasheet for torque direct drive ERS210 and servo drive Indradrive Cs
Type of motor: ERS210

Date of creation: 15.03.2019

	Descriptiom	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**	**1,7**	
	Nominal motor torque	F_{nenn}	Nm	10	with temperature increase of 65 K inside motor
	Power loss	P_{vdauer}	W	106,6	with temperature increase of 65 K inside motor
S-0-0109	**Motor peak current (eff.)**	**I_{max}**	**A**	5,7	
	Motor peak torque	F_{max}	Nm	27	
S-0-0092	**Bipolar force limit value**	**auf I_d bezogen**	**%**	**335,3**	
P-0-0109	**Force peak limit**	**auf I_d bezogen**	**%**	**335,3**	
P-0-0051	**Torque/Force constant**	**k_t**	**Nm/A**	6	
	Motor constant	K_m	Nm/√W	1	
	Thermal resistance	Rth	K/W	0,61	temperature increase (65 K) / Plconst
S-0-0113	**max. motor speed**	**$U_{i\,max}$**		**1000**	
	Max. frequency	f_{max}	Hz	1	
P-0-0018	**Number of pol pairs**	**PPZ**		**16**	
	Type of circuit			Y	
	Max. intermediate circuit voltage	U_{nenn}	V	560	
	Inductance	$L_{u-v}, L_{v-w}, L_{w-u}$	mH	52	
P-0-4016	**Motor series inductance**		**mH**	**26**	
P-0-4017	**Motor shunt inductance**		**mH**	**26**	
P-0-4048	**Winding resistance by 25°C**	**$R_{u-v}, R_{v-w}, R_{w-u}$**	**Ohm**	20,1	
	Winding resistance by 90°C	$R_{u-v}, R_{v-w}, R_{w-u}$	Ohm	25,2	
	Electrical time constant		ms	2,6	
	Type of temperature sensor			KTY	
S-0-0201	**Motor warning temperature**		**°C**	**90**	
S-0-0204	**Motor shutdown temperature**		**°C**	**95**	
	Insulation class			F	
Mechanical data					
	Mass of motor		kg	7,8	
Control parameters without mass moment of intertia					
S-0-0106	**Current loop propotional gain**		**V/A**	**30**	
S-0-0107	**Current loop integral action time**		**ms**	**1,1**	
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**		**0,5**	
S-0-0101	**Velocity loop integral action time**	**TN**		**16**	
Parameter of position					
S-0-0277	**Position feedback 1 type**			**1001 b**	
S-0-0278	**Maximum travel range**		**mm**	**4000**	

Encoder Feedback

Motor	ERS	MRDS	ERD	ERI
Sensor designation	**LE100**	**Encoder Kit R**	**SKM36**	**SKS90**
Manufactor	SIKO	Numerik	Sick	Sick
Supply voltage	5 V	5V	7-12V	7-12V
Waveform	sin/cos	sin/cos	sin/cos / Hiperface	sin/cos / Hiperface
Reference mark	1	1	--	--
Signal amplitude	1 Vss	1 Vss	1 Vss	1Vss
Feedback revolution	**160**	**2048**	**128**	**64**

Motor connection

Connector	Connector		Contact
Interconnectron	U		thick 1
Typ: LEAB08AN	V		thick 4
	W		thick 3
	Erde		thick 2
PTC			thin C
	PTC		thin D

Encoder Feedback

	ERS	MRDS	ERD	ERI
	Sub D pin	Sub D pin	Sub D pin	Sub D pin
Signal	Pin	Pin	Pin	Pin
0V Sense				
Ref - / EncData-	6	6	6	6
Ref + / EncData+	5	5	5	5
/B (COS-)	4	4	3	3
B(COS+)	3	3	4	4
A(SIN+)	1	1	2	2
/A(SIN-)	2	2	1	1
N.C.				
GND (0V)	7	7	7	7
N.C.				
Ucc	8	8	8	8
N.C.				
GND (Schirm)				
N.C.				
ID	direct	direct	357798	