Table 7-10 1FK7060 CT

Technical data	Code	Unit	–5AH71	
Configuration data				
Rated speed	n_N	RPM	4500	
No. of poles	2p		8	
Rated torque (100 K)	$M_{N\ (100\ K)}$	Nm	3.7	
Rated current (100 K)	I_N	A	4.1	
Static torque (60 K)	$M_{0\ (60\ K)}$	Nm	5	
Static torque (100 K)	$M_{0\ (100\ K)}$	Nm	6	
Stall current (60 K)	$I_{0\ (60\ K)}$	A	5.1	
Stall current (100 K)	$I_{0\ (100\ K)}$	A	6.2	
Moment of inertia (with brake)	J_{MotBr}	10^{-4} kgm^2	10.2	
Moment of inertia (without brake)	J_{Mot}	10^{-4} kgm^2	7.95	
Optimum operating point	n_{opt}	RPM	4500	
	P_{opt}	kW	1.74	
Optimum speed	$n_{max\ mech}$	RPM	7200	
Optimum power	$n_{max\ Inv}$	RPM	7200	
Limiting data	M_{max}	Nm	18	
Max. permissible speed (mech.)	I_{max}	A	19.5	
Max. permissible speed (converter)				
Max. torque	k_T	Nm/A	0.95	
Max. current	k_E	V/1000 RPM	60.5	
Physical constants	R_{Str}	Ohm	0.73	
	L_D	mH	7.0	
Torque constant	T_{el}	ms	9.6	
Voltage constant	T_{mech}	ms	1.93	
Winding resistance at 20°C	T_{th}	min	30	
Cyclic inductance	c_t	Nm/rad	42000	
Electrical time constant	m_{MotBr}	kg	8	
Mechanical time constant	m_{Mot}	kg	7	
Thermal time constant				
Shaft torsional stiffness		A	9	
Weight with brake		A	18	
Weight without brake		Nm	16.8	
Recommended motor module 6SL312_-_TE21-0AA_				
Rated current converter	$I_{N\ Inv}$			
Max. current converter	$I_{max\ Inv}$			
Max. torque at $I_{max\ Inv}$	$M_{max\ Inv}$			

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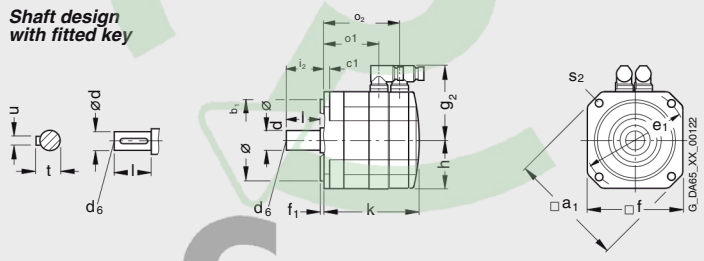
For motor		Dimensions in mm (in)											Resolver					
													without brake			with		
Shaft height	Type	DIN IEC	a_1 P	b_1 N	c_1 LA	e_1 M	f AB	f_1 T	g_2 –	h H	i_2 –	s_2 S	k LB	o_1 –	o_2 –	brake ko_1 LB–	o_2 –
1FK7 Compact, type IM B5, natural cooling, with connector, with/without brake																		
20	1FK7011-5	–		30 (1.18)	7 (0.28)	46 (1.81)	40 (1.57)	2.5 (0.10)	65.5 (2.58)	20 (0.79)	18 (0.71)	4.5 (0.18)	140 (5.51)	89 (3.50)	118 (4.65)	140 (5.51)	89 (3.50)	118 (4.65)
	1FK7015-5	–		30 (1.18)	7 (0.28)	46 (1.81)	40 (1.57)	2.5 (0.10)	65.5 (2.58)	20 (0.79)	18 (0.71)	4.5 (0.18)	165 (6.50)	114 (4.49)	143 (5.63)	165 (6.50)	114 (4.49)	143 (5.63)
28	1FK7022-5	–		40 (1.57)	10 (0.39)	63 (2.48)	55 (2.17)	2.5 (0.10)	75 (2.95)	27.5 (1.08)	20 (0.79)	5.4 (0.21)	153 (6.02)	95 (3.74)	128 (5.04)	175 (6.89)	95 (3.74)	150 (5.91)
36	1FK7032-5		92 (3.62)	60 (2.36)	8 (0.31)	75 (2.95)	72 (2.83)	3 (0.12)	81 (3.19)	36 (1.42)	30 (1.18)	6.5 (0.26)	150 (5.91)	90 (3.54)	125 (4.92)	175 (6.89)	90 (3.54)	149 (5.87)
	1FK7034-5		92 (3.62)	60 (2.36)	8 (0.31)	75 (2.95)	72 (2.83)	3 (0.12)	81 (3.19)	36 (1.42)	30 (1.18)	6.5 (0.26)	175 (6.89)	115 (4.53)	150 (5.91)	200 (7.87)	115 (4.53)	174 (6.85)
48	1FK7040-5		120 (4.72)	80 (3.15)	10 (0.39)	100 (3.94)	96 (3.78)	3 (0.12)	90 (3.54)	48 (1.89)	40 (1.57)	7 (0.28)	134 (5.28)	73 (2.87)	106 (4.17)	163 (6.42)	73 (2.87)	135 (5.31)
	1FK7042-5		120 (4.72)	80 (3.15)	10 (0.39)	100 (3.94)	96 (3.78)	3 (0.12)	90 (3.54)	48 (1.89)	40 (1.57)	7 (0.28)	162 (6.38)	101 (3.98)	134 (5.28)	191 (7.52)	101 (3.98)	163 (6.42)
63	1FK7060-5		155 (6.10)	110 (4.33)	10 (0.39)	130 (5.12)	126 (4.96)	3.5 (0.14)	105 (4.13)	63 (2.48)	50 (1.97)	9 (0.35)	157 (6.18)	94 (3.70)	126 (4.96)	200 (7.87)	94 (3.70)	169 (6.65)
	1FK7063-5		155 (6.10)	110 (4.33)	10 (0.39)	130 (5.12)	126 (4.96)	3.5 (0.14)	105 (4.13)	63 (2.48)	50 (1.97)	9 (0.35)	202 (7.95)	139 (5.47)	171 (6.73)	245 (9.65)	139 (5.47)	214 (8.43)

		Basic absolute encoder (EnDat) (shaft height 48 and larger), Incremental encoder sin/cos1 V_{pp}						Absolute encoder (EnDat)										
		without brake			with brake			without brake			with							
Shaft height	Type	k LB	o_1 –	o_2 –	k LB	o_1 –	o_2 –	k LB	o_1 –	o_2 –	brake ko_1 LB–	o_2 –	d D	d_6 –	l E	t GA	u F
20	1FK7011-5	155 (6.10)	89 (3.50)	118 (4.64)	155 (6.10)	89 (3.50)	118 (4.64)	155 (6.10)	98 (3.50)	118 (4.64)	155 (6.10)	89 (3.50)	118 (4.64)	8 (0.31)	M3	18 (0.71)	8.8 (0.35)	2 (0.08)
	1FK7015-5	180 (7.08)	114 (4.48)	143 (5.63)	180 (7.08)	114 (4.48)	143 (5.63)	180 (7.08)	114 (4.48)	143 (5.63)	180 (7.08)	114 (4.48)	143 (5.63)	8 (0.31)	M3	18 (0.71)	8.8 (0.35)	2 (0.08)
28	1FK7022-5	178 (7.01)	95 (3.74)	128 (5.04)	200 (7.87)	95 (3.74)	150 (5.91)	178 (7.01)	95 (3.74)	128 (5.04)	200 (7.87)	95 (3.74)	150 (5.91)	9 (0.35)	M3	20 (0.79)	10.2 (0.40)	3 (0.12)
36	1FK7032-5	175 (6.89)	90 (3.54)	125 (4.92)	200 (7.87)	90 (3.54)	149 (5.87)	175 (6.89)	90 (3.54)	125 (4.92)	200 (7.87)	90 (3.54)	149 (5.87)	14 (0.55)	M5	30 (1.18)	16 (0.63)	5 (0.20)
	1FK7034-5	200 (7.87)	115 (4.53)	150 (5.91)	225 (8.86)	115 (4.53)	174 (6.85)	200 (7.87)	115 (4.53)	150 (5.91)	225 (8.86)	115 (4.53)	174 (6.85)	14 (0.55)	M5	30 (1.18)	16 (0.63)	5 (0.20)
48	1FK7040-5	155 (6.10)	73 (2.87)	106 (4.17)	184 (7.24)	73 (2.87)	135 (5.31)	163 (6.42)	73 (2.87)	106 (4.17)	192 (7.56)	73 (2.87)	135 (5.31)	19 (0.75)	M6	40 (1.57)	21.5 (0.85)	6 (0.24)
	1FK7042-5	182 (7.17)	101 (3.98)	134 (5.28)	211 (8.31)	101 (3.98)	163 (6.42)	191 (7.52)	101 (3.98)	134 (5.28)	220 (8.66)	101 (3.98)	163 (6.42)	19 (0.75)	M6	40 (1.57)	21.5 (0.85)	6 (0.24)
63	1FK7060-5	180 (7.09)	94 (3.70)	126 (4.96)	223 (8.78)	94 (3.70)	169 (6.65)	188 (7.40)	94 (3.70)	126 (4.96)	231 (9.09)	94 (3.70)	169 (6.65)	24 (0.94)	M8	50 (1.97)	27 (1.06)	8 (0.31)
	1FK7063-5	225 (8.86)	139 (5.47)	171 (6.73)	268 (10.55)	139 (5.47)	214 (8.43)	233 (9.17)	139 (5.47)	171 (6.73)	276 (10.87)	139 (5.47)	214 (8.43)	24 (0.94)	M8	50 (1.97)	27 (1.06)	8 (0.31)

1FK701 . –5
1FK702 . –5
1FK703 . –5
1FK704 . –5
1FK706 . –5

Shaft design with fitted key



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