

Table 7-34 1FK7015

Technical data	Code	Unit	-5AK21	
Configuration data				
Rated speed	n_N	RPM	6000	
No. of poles	2p		8	
Rated torque (100 K)	M_N (100 K)	Nm	0.16 0.5	
Rated current (100 K)	I_N	A	0.29	
Static torque (60 K)	M_0 (60 K)	Nm	0.35 0.7	
Static torque (100 K)	M_0 (100 K)	Nm	0.85	
Stall current (60 K)	I_0 (60 K)	A	0.102	
Stall current (100 K)	I_0 (100 K)	A	0.083	
Moment of inertia (with brake)	J_{MotBr}	10^{-4} kgm ²		
Moment of inertia (without brake)	J_{Mot}	10^{-4} kgm ²	5000	
	n_{opt}	RPM	0.12	
Optimum operating point	P_{opt}	kW	8000	
Optimum speed	$n_{max\ mech}$	RPM	8000	
Optimum power	$n_{max\ Inv}$	RPM	1	
Limiting data	M_{max}	RPM	2.4	
Max. permissible speed (mech.)	I_{max}	Nm		
Max. permissible speed (converter)		A	0.42	
Max. torque	k_T	Nm/A	28	
Max. current	k_E	V/1000 RPM	13.6	
Physical constants	R_{Str}	Ohm	26	
Torque constant	L_D	mH	1.9	
Voltage constant	T_{el}	ms	1.9	
Winding resistance at 20°C	T_{mech}	ms	16 1300	
Cyclic inductance	T_{th}	min	1.2	
Electrical time constant	C_t	Nm/rad	1.2	
Mechanical time constant	m_{MotBr}	kg	0.9	
Thermal time constant	m_{Mot}	kg	1.8 0.75	
Shaft torsional stiffness		A		
Weight with brake		A		
Weight without brake		Nm		
Recommended power module 6SL3210-1SB11-0UA0				
Rated current converter	$I_{N\ Inv}$			
Max. current converter	$I_{max\ Inv}$			
Max. torque at $I_{max\ Inv}$	$M_{max\ Inv}$			

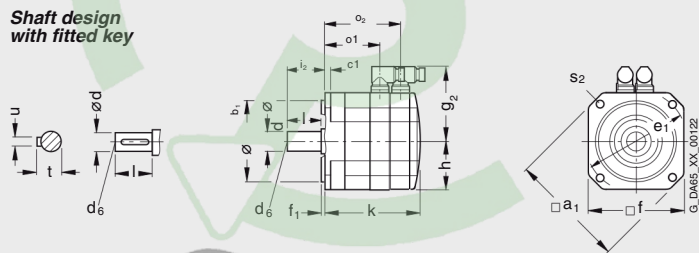
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For motor														Resolver					
Dimensions in mm (in)														Resolver					
For motor														Resolver					
Dimensions in mm (in)														Resolver					
Sh he _i	Shaft height	Type	DIN IEC	a ₁ P	b ₁ N	c ₁ LA	e ₁ M	f AB	f ₁ T	g ₂ —	h H	i ₂ —	s ₂ S	k LB	o ₁ —	o ₂ —	with brake ko ₁ LB—	o ₂ —	
20	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)		
28	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)		
36	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)		
48	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)		
63	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)					
Sh he _i	Shaft height	Type	k LB	o ₁ —	o ₂ —	k LB	o ₁ —	o ₂ —	k LB	o ₁ —	o ₂ —	with 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)	
28	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)	
36	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)	
48	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)	
63	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																			

1FK701 .-5
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1FK703 .-5
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1FK706 .-5

Shaft design
with fitted key



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