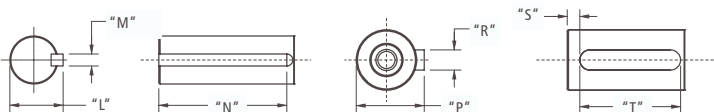


MOUNTING CODE	"C"	"D"	"E"	"F"	"H"	"J"	"K"	"L"	"M"	"N"
AC	4.80 [0.189]	40 $\frac{+0.011}{-0.005}$ [1.5748 $\frac{+0.004}{-0.002}$] j6	63 [2.480]	74 [2.913]	D M3 DIN 332	9 $\frac{+0.010}{+0.001}$ [0.3543 $\frac{+0.004}{+0.000}$] k6	20.0 [0.79]	-	-	-
AN	4.80 [0.189]	40 $\frac{+0.011}{-0.005}$ [1.5748 $\frac{+0.004}{-0.002}$] j6	63 [2.480]	74 [2.913]	D M3 DIN 332	9 $\frac{+0.010}{+0.001}$ [0.3543 $\frac{+0.004}{+0.000}$] k6	20.0 [0.79]	-	-	-
BN	5.10 [0.201]	38.10 $\frac{0}{-0.05}$ [1.500 $\frac{+0.000}{-0.002}$] h6	66.68 [2.625]	-	-	9.525 $\frac{+0.013}{-0.013}$ [0.3750 $\frac{+0.000}{-0.005}$]	31.75 ± 0.79 [1.250 ± 0.031]	-	-	-
CK	5.80 [0.228]	50 $\frac{0}{-0.016}$ [1.9685 $\frac{+0.000}{-0.006}$] h6	70 [2.756]	-	-	14 $\frac{+0.011}{-0.011}$ [0.5512 $\frac{+0.000}{-0.004}$] h6	30.0 [1.181]	16 $\frac{0}{-0.13}$ [0.630 $\frac{+0.000}{-0.005}$]	5 $\frac{0}{-0.03}$ [0.197 $\frac{+0.000}{-0.001}$] N9	20 $\frac{0}{-0.02}$ [0.787 $\frac{+0.000}{-0.008}$]
DC	5.80 [0.228]	40 $\frac{+0.011}{-0.005}$ [1.5748 $\frac{+0.004}{-0.002}$] j6	65 [2.559]	-	D M3 DIN 332	9 $\frac{+0.010}{+0.001}$ [0.3543 $\frac{+0.004}{+0.000}$] k6	20.0 [0.79]	-	-	-
DN	5.80 [0.228]	40 $\frac{+0.011}{-0.005}$ [1.5748 $\frac{+0.004}{-0.002}$] j6	65 [2.559]	-	D M3 DIN 332	9 $\frac{+0.010}{+0.001}$ [0.3543 $\frac{+0.004}{+0.000}$] k6	20.0 [0.79]	-	-	-
EN	5.10 [0.201]	38.10 $\frac{0}{-0.05}$ [1.500 $\frac{+0.000}{-0.002}$] h6	66.68 [2.625]	-	-	9.525 $\frac{+0.013}{-0.013}$ [0.3750 $\frac{+0.000}{-0.005}$]	20.57 ± 0.25 [0.810 ± 0.010]	-	-	-

MOUNTING CODE	"P"	"R"	"S"	"T"	"U"	"V"	"W"
AC	10.2 $\frac{0}{-0.13}$ [0.402 $\frac{+0.000}{-0.005}$]	3 $\frac{0}{-0.025}$ [0.1181 $\frac{+0.000}{-0.010}$]	3.00 [0.118]	12 $\frac{0}{-0.20}$ [0.472 $\frac{+0.000}{-0.008}$]	0.030 [0.0011]	0.060 [0.0023]	0.060 [0.0023]
AN	-	-	-	-	0.030 [0.0011]	0.060 [0.0023]	0.060 [0.0023]
BN	-	-	-	-	0.051 [0.0020]	0.10 [0.004]	0.10 [0.004]
CK	-	-	-	-	0.035 [0.0013]	0.080 [0.0031]	0.080 [0.0031]
DC	10.2 $\frac{0}{-0.13}$ [0.402 $\frac{+0.000}{-0.005}$]	3 $\frac{0}{-0.025}$ [0.1181 $\frac{+0.000}{-0.010}$]	3.00 [0.118]	12 $\frac{0}{-0.20}$ [0.472 $\frac{+0.000}{-0.008}$]	0.030 [0.0011]	0.060 [0.0023]	0.060 [0.0023]
DN	-	-	-	-	0.030 [0.0011]	0.060 [0.0023]	0.060 [0.0023]
EN	-	-	-	-	0.051 [0.0020]	0.10 [0.004]	0.10 [0.004]

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Dimensions are in mm [inches].
 Product designed in metric.
 English conversions provided for reference only.

X MAX. (W/ RESOLVER)	Y MAX. (W/ SFD OR ENCODER)	Z MAX. (W/ BRAKE)	MODEL
86.2 [3.39]	95.4 [3.76]	129.5 [5.10]	AKM21
105.2 [4.14]	114.4 [4.50]	148.5 [5.85]	AKM22
124.2 [4.89]	133.4 [5.25]	167.5 [6.59]	AKM23
143.2 [5.64]	152.4 [6.00]	186.5 [7.34]	AKM24

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AKM2x - Up to 640 VDC

See system data beginning on page 8 for typical torque/speed performance.

PARAMETER	Tol	SYMBOL	UNITS	AKM21			AKM22			AKM23			AKM24			
				C	E	G	C	E	G	C	D	F	C	D	F	
Max Rated DC Bus Voltage	Max	V _{bus}	V _{dc}	320	160	75	640	320	160	640	640	320	640	640	320	
Continuous Torque (Stall) for DT winding = 100°C ①②⑦⑧⑨	Nom	T _{cs}	N-m lb-in	0.48 4.2	0.50 4.4	0.50 4.4	0.84 7.4	0.87 7.7	0.88 7.8	1.13 10.0	1.16 10.3	1.18 10.4	1.38 12.2	1.41 12.5	1.42 12.6	
Continuous Current (Stall) for DT winding = 100°C ①②⑦⑧⑨	Nom	I _{cs}	A _{rms}	1.58	3.11	4.87	1.39	2.73	4.82	1.41	2.19	4.31	1.42	2.21	3.89	
Continuous Torque (Stall) for DT winding = 60°C ②	Nom	T _{cs}	N-m lb-in	0.38 3.4	0.40 3.5	0.40 3.5	0.67 5.9	0.70 6.2	0.70 6.2	0.90 8.0	0.92 8.2	0.94 8.4	1.10 9.8	1.13 10.0	1.14 10.1	
Max Mechanical Speed ⑤	Nom	N _{max}	rpm	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	
Peak Torque ①②	Nom	T _p	N-m lb-in	1.47 13.0	1.49 13.2	1.51 13.4	2.73 24.2	2.76 24.4	2.79 24.7	3.77 33.4	3.84 34.0	3.88 34.3	4.73 41.9	4.76 42.1	4.82 42.7	
Peak Current	Nom	I _p	A _{rms}	6.3	12.4	19.5	5.6	10.9	19.3	5.6	8.8	17.2	5.7	8.8	15.6	
75VDC	Rated Torque (speed) ①②⑦⑧⑨	T _{rtd}	N-m lb-in	- -	0.48 4.2	0.46 4.1	- -	0.85 7.5	0.83 7.4	- -	- -	1.15 10.2	- -	- -	1.39 12.3	
	Rated Speed	N _{rtd}	rpm	-	2000	4000	-	1000	2500	-	-	1500	-	-	1000	
	Rated Power (speed) ①②⑦⑧⑨	P _{rtd}	kW Hp	- -	0.10 0.13	0.19 0.26	- -	0.09 0.12	0.22 0.29	- -	- -	0.18 0.24	- -	- -	0.15 0.20	
160VDC	Rated Torque (speed) ①②⑦⑧⑨	T _{rtd}	N-m lb-in	0.46 4.0	0.41 3.7	-	0.83 7.3	0.81 7.1	0.74 6.5	1.11 9.8	1.12 9.9	1.07 9.5	-	1.36 12.0	1.33 11.8	
	Rated Speed	N _{rtd}	rpm	2500	7000	-	1000	3500	7000	1000	1500	4500	-	1500	3000	
	Rated Power (speed) ①②⑦⑧⑨	P _{rtd}	kW Hp	0.12 0.16	0.30 0.41	-	0.09 0.12	0.30 0.40	0.54 0.72	0.12 0.16	0.18 0.24	0.50 0.68	-	0.21 0.29	0.42 0.56	
320VDC	Rated Torque (speed) ①②⑦⑧⑨	T _{rtd}	N-m lb-in	0.39 3.4	-	-	0.78 6.9	.70 6.2	-	1.08 9.6	1.03 9.1	0.94 8.3	1.32 11.7	1.29 11.4	1.12 9.9	
	Rated Speed	N _{rtd}	rpm	8000	-	-	3500	8000	-	2500	5000	8000	2000	4000	8000	
	Rated Power (speed) ①②⑦⑧⑨	P _{rtd}	kW Hp	0.32 0.43	-	-	0.29 0.38	0.59 0.79	-	0.28 0.38	0.54 0.72	0.79 1.06	0.28 0.37	0.54 0.72	0.94 1.26	
560VDC	Rated Torque (speed) ①②⑦⑧⑨	T _{rtd}	N-m lb-in	-	-	-	0.68 6.0	-	-	0.99 8.8	0.92 8.1	-	1.25 11.1	1.11 9.8	-	
	Rated Speed	N _{rtd}	rpm	-	-	-	8000	-	-	5500	8000	-	4500	8000	-	
	Rated Power (speed) ①②⑦⑧⑨	P _{rtd}	kW Hp	-	-	-	0.57 0.76	-	-	0.57 0.76	0.77 1.03	-	0.59 0.79	0.93 1.25	-	
640VDC	Rated Torque (speed) ①②⑦⑧⑨	T _{rtd}	N-m lb-in	-	-	-	0.68 6.0	-	-	0.95 8.4	0.92 8.1	-	1.22 10.8	1.11 9.8	-	
	Rated Speed	N _{rtd}	rpm	-	-	-	8000	-	-	7000	8000	-	5500	8000	-	
	Rated Power (speed) ①②⑦⑧⑨	P _{rtd}	kW Hp	-	-	-	0.57 0.76	-	-	0.70 0.93	0.77 1.03	-	0.70 0.94	0.93 1.25	-	
Torque Constant ①	±10%	K _t	N-m/A _{rms} lb-in/A _{rms}	0.30 2.7	0.16 1.4	0.10 0.9	0.61 5.4	0.32 2.8	0.18 1.6	0.80 7.1	0.52 4.6	0.27 2.4	0.97 8.6	0.63 5.6	0.36 3.2	
Back EMF constant ⑥	±10%	K _e	V/k _r rpm	19.5	10.2	6.6	39	20.4	11.7	51.8	33.8	17.6	62.4	40.8	23.4	
Resistance (line-line) ⑥	±10%	R _m	Ω	13.0	3.42	1.44	19.4	5.09	1.69	20.3	8.36	2.23	20.4	8.4	2.77	
Inductance (line-line)		L	mH	19	5.2	2.18	35.5	9.7	3.19	40.7	17.3	4.68	43.8	18.7	6.16	
Inertia (includes Resolver feedback) ⑩		J _m	kgcm ² lb-in-s ²		0.11 9.5E-05			0.16 1.4E-04			0.22 1.9E-04			0.27 2.4E-04		
Optional Brake Inertia (additional)		J _m	kg-cm ² lb-in-s ²		0.012 1.1E-05			0.012 1.1E-05			0.012 1.1E-05			0.012 1.1E-05		
Weight		W	kg lb		0.82 1.8			1.1 2.4			1.38 3.0			1.66 3.7		
Static Friction ⑩⑨		T _f	N-m lb-in		0.002 0.02			0.005 0.04			0.007 0.06			0.01 0.09		
Viscous Damping ⑩		K _{dv}	N-m/k _r rpm lb-in/k _r rpm		0.0046 0.04			0.0055 0.05			0.0065 0.06			0.0074 0.07		
Thermal Time Constant		TCT	minutes		8			9			10			11		
Thermal Resistance		R _{thw-a}	°C/W		1.48			1.28			1.19			1.17		
Pole Pairs					3			3			3			3		
Heatsink Size					10"x10"x1/4" Aluminum Plate			10"x10"x1/4" Aluminum Plate			10"x10"x1/4" Aluminum Plate			10"x10"x1/4" Aluminum Plate		

Notes:

- Motor winding temperature rise, ΔT=100°C, at 40°C ambient.
- All data referenced to sinusoidal commutation.
- Add parking brake if applicable for total inertia.
- Motor with standard heatsink.
- May be limited at some values of V_{bus}.
- Measured at 25°C.

- Brake motor option reduces continuous torque ratings by:
AKM21 = 0.00 AKM22 = 0.01 N-m
AKM23 = 0.02 N-m AKM24 = 0.05 N-m
- Commutating encoder/SFD option:
no continuous torque reduction.

- Brake plus commutating encoder/SFD motor option reduces continuous torque ratings by:
AKM21 = 0.00 AKM22 = 0.02 N-m
AKM23 = 0.05 N-m AKM24 = 0.12 N-m
- For motors with optional shaft seal, reduce torque shown by 0.047 N-m (0.41lb-in), and increase T_f by the same amount.

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