

Application Note

AN-ODP- 42

Motor power factor reference table

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• **General:**

The Auto-tune algorithms used in the V2.2 drive firmware requires the motor power factor (cos Φ) from the motor nameplate.

If this information cannot be found on the motor nameplate, the following table indicates typical motor cosΦ values for an industry standard 50Hz motor (Dutchi motor). These values should then be entered into the cosΦ parameter prior to starting Auto-tune. Note that the cosΦ value differs for different numbers of poles.

Power (KW)	Type	Voltage (V)	Base Frequency (Hz)	Rated Speed (RPM)	Poles	Current (A)	Cos Φ	Winding mode
0.18	DM1-80K8	400	50	695	8	0.8	0.61	Y
0.25	DM1-80G8	400	50	690	8	1.1	0.61	Y
0.37	DM1-80K6	400	50	900	6	1.2	0.7	Y
0.37	DM1-90S8	400	50	700	8	1.4	0.61	Y
0.55	DM1-80K4	400	50	1390	4	1.5	0.75	Y
0.55	DM1-80G6	400	50	890	6	1.7	0.72	Y
0.55	DM1-90L8	400	50	690	8	2.1	0.61	Y
0.75	DM1-80K2	400	50	2825	2	1.7	0.83	Y
0.75	DM1-80G4	400	50	1418	4	1.89	0.79	Y
0.75	DM1-90S6	400	50	910	6	2.2	0.72	Y
0.75	DM1-100L8	400	50	705	8	2.3	0.67	Y
0.85	DM1-90L2	400	50	2840	2	4.6	0.85	Y
1.1	DM1-80G2	400	50	2880	2	2.5	0.84	Y
1.1	DM1-90S4	400	50	1390	4	2.7	0.77	Y
1.1	DM1-90L6	400	50	910	6	3	0.73	Y
1.1	DM1-100LX8	400	50	690	8	3.2	0.69	Y
1.5	DM1-90S2	400	50	2840	2	3.3	0.84	Y
1.5	DM1-90L4	400	50	1390	4	3.49	0.79	Y
1.5	DM1-100L6	400	50	920	6	3.8	0.75	Y
1.5	DM1-112M8	400	50	730	8	4.2	0.68	Y
2.2	DM1-100L4	400	50	1420	4	4.83	0.81	Y
2.2	DM1-112M6	400	50	935	6	5.3	0.76	Y
2.2	DM1-132S8	400	50	710	8	5.7	0.71	Y
3	DM1-100L2	400	50	2850	2	6	0.87	Y
3	DM1-100LX4	400	50	1410	4	6.4	0.82	D
3	DM1-132S6	400	50	970	6	7	0.76	D
3	DM1-132M8	400	50	710	8	7.5	0.73	D
4	DM1-112M2	400	50	2885	2	7.3	0.92	D

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4	DM1-112M4	400	50	1430	4	8.4	0.82	D
4	DM1-100LY4	400	50	1400	4	8.38	0.85	Y
4	DM1- 132M6	400	50	960	6	9.3	0.76	D
4	DM1-160M8	400	50	720	8	9.8	0.73	D
5.5	DM1-132S2	400	50	2910	2	10.5	0.88	D
5.5	DM1-132S4	400	50	1453	4	10.8	0.85	D
5.5	DM1-132MX6	400	50	975	6	12.3	0.77	D
5.5	DM1-160MX8	400	50	720	8	12.9	0.74	D
7.5	DM1-132SX2	400	50	2905	2	14.2	0.88	D
7.5	DM1-132M4	400	50	1445	4	14.8	0.86	D
7.5	DM1-160M6	400	50	970	6	16.1	0.78	D
7.5	DM1-160L8	400	50	720	8	16.9	0.75	D
9	DM1-132M2	400	50	2870	2	16.9	0.88	D
9	DM1-132MX4	400	50	1435	4	17.8	0.84	D
11	DM1-160M2	400	50	2935	2	20.3	0.89	D
11	DM1-132MX2	400	50	2895	2	20.8	0.88	D
11	DM1-160M4	400	50	1460	4	20.9	0.86	D
11	DM1-132 MY4	400	50	1435	4	21.8	0.84	D
11	DM1-160L6	400	50	970	6	23.3	0.78	D
11	DM1-180L8	400	50	720	8	23.9	0.76	D
11	DM1-200L10	400	50	570	10	24.6	0.75	D
15	DM1-160MX2	400	50	2935	2	26.8	0.9	D
15	DM1-160L4	400	50	1460	4	28.1	0.86	D
15	DM1-180L6	400	50	975	6	30	0.81	D
15	DM1- 200L8	400	50	730	8	32.4	0.76	D
18.5	DM1-160L2	400	50	2935	2	32.2	0.9	D
18.5	DM1-180M4	400	50	1467	4	33.2	0.89	D
18.5	DM1 200L6	400	50	975	6	36.6	0.81	D
18.5	DM1-225S8	400	50	730	8	39	0.76	D
22	DM1-180M2	400	50	2945	2	39	0.9	D
22	DM1-160LX2	400	50	2935	2	39	0.9	D
22	DM1-180L4	400	50	1465	4	39.4	0.89	D
22	DM1-200LX6	400	50	975	6	42.5	0.83	D
22	DM1-225M8	400	50	730	8	45	0.78	D
30	DM1-200L2	400	50	2950	2	52.1	0.91	D
30	DM1-200L4	400	50	1465	4	53.8	0.88	D
30	DM1-225M6	400	50	980	6	56.3	0.84	D
30	DM1-250M8	400	50	735	8	60	0.79	D
30	DM1-280S10	400	50	585	10	67.8	0.71	D
37	DM1-200LX2	400	50	2950	2	64.5	0.9	D
37	DM1-225S4	400	50	1475	4	66	0.88	D
37	DM1- 250M6	400	50	980	6	67.5	0.86	D
37	DM1-280S8	400	50	735	8	73.9	0.79	D
45	DM1-225M2	400	50	2960	2	78.1	0.9	D
45	DM1-200LY2	400	50	2950	2	78.5	0.9	D
45	DM1-225M4	400	50	1475	4	78.9	0.89	D
45	DM1-280S6	400	50	980	6	81.7	0.86	D
45	DM1-280M8	400	50	738	8	89.4	0.79	D

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55	DM1-250M2	400	50	2965	2	94.8	0.9	D
55	DM1-250M4	400	50	1480	4	95.9	0.89	D
55	DM1-280M6	400	50	985	6	100	0.86	D
55	DM1-315S8	400	50	740	8	106	0.81	D
75	DM1-280S2	400	50	2965	2	129	0.9	D
75	DM1-250MX2	400	50	2965	2	127	0.91	D
75	DM1-280S4	400	50	1485	4	130	0.87	D
75	DM1-250MX4	400	50	1473	4	132	0.88	D
75	DM1-315S6	400	50	985	6	135	0.86	D
75	DM1-315M8	400	50	745	8	144	0.81	D
90	DM1-280M2	400	50	2965	2	152	0.91	D
90	DM1-280M4	400	50	1484	4	152	0.87	D
90	DM1-315M6	400	50	990	6	161	0.86	D
90	DM1-315L8	400	50	740	8	170	0.82	D
110	DM1-315S2	400	50	2975	2	186	0.91	D
110	DM1-315S4	400	50	1485	4	191	0.88	D
110	DM1-280MX4	400	50	1484	4	192	0.88	D
110	DM1-315L6	400	50	990	6	196	0.86	D
110	DM1-315LX8	400	50	740	8	206	0.82	D
132	DM1-315M2	400	50	2975	2	222	0.91	D
132	DM1-315M4	400	50	1485	4	229	0.88	D
132	DM1-315LX6	400	50	990	6	233	0.87	D
160	DM1-315L2	400	50	2975	2	266	0.92	D
160	DM1-315L4	400	50	1485	4	173	0.89	D
200	DM1-315LX2	400	50	2975	2	331	0.92	D
200	DM1-315LX4	400	50	1485	4	342	0.89	D