

TG-55

(1.6 ~ 8.8W) LONG-LIFE, INNER ROTOR, COMPACT 3-PHASE BRUSHLESS MOTOR.

Motor Driver Circuit for TG-55

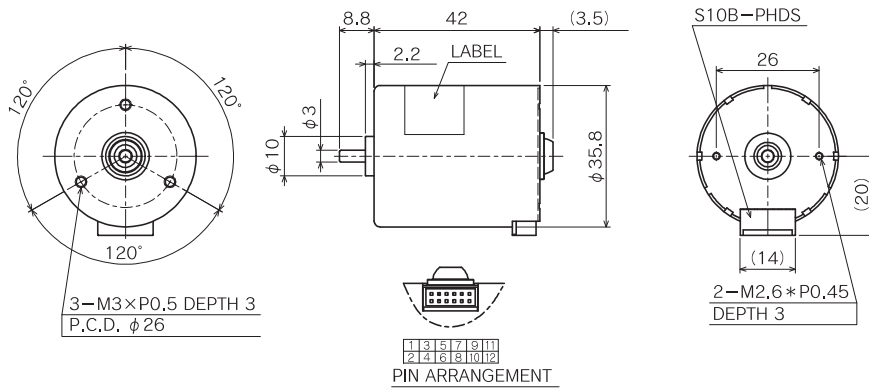


TCP-S27A-55N

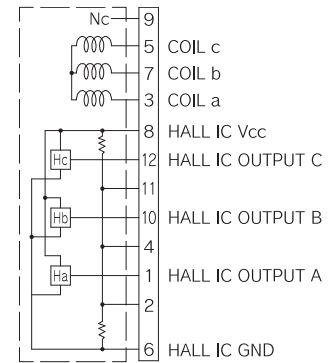
Single motor specification

TYPE	RATED VOLTAGE (V)	NO-LOAD SPEED (r/min)	NO-LOAD CURRENT (mA)	TORQUE		RATED SPEED (r/min)	RATED CURRENT (mA)	DIRECTION OF ROTATION	WEIGHT (g)
				(mN · m)	(gf · cm)				
TG-55L	24	3900	85	19.6	200	2650	420	BOTH DIRECTIONS	160
TG-55L	12	1830	65	19.6	200	700	420	BOTH DIRECTIONS	160
TG-55M	24	6700	140	14.7	150	5450	570	BOTH DIRECTIONS	160
TG-55M	12	3240	115	14.7	150	2150	560	BOTH DIRECTIONS	160
TG-55N	24	8400	170	9.8	100	7350	540	BOTH DIRECTIONS	160
TG-55N	12	4090	140	9.8	100	3120	510	BOTH DIRECTIONS	160

Single motor outline

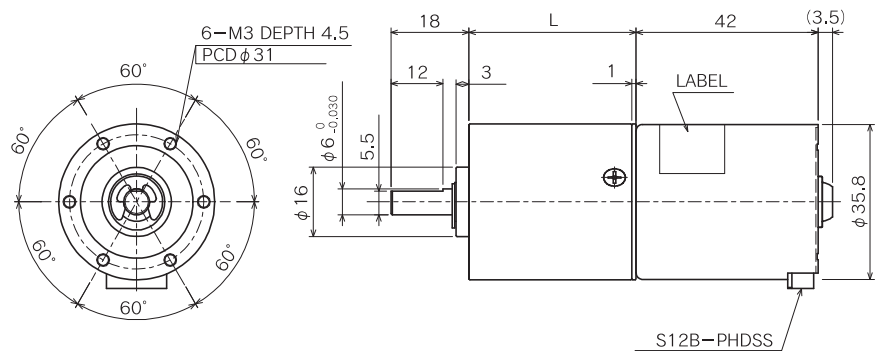


Motor Internal Connection Diagram



SU

TG-55L
TG-55M
TG-55N



Allowable torque-speed characteristics

SU

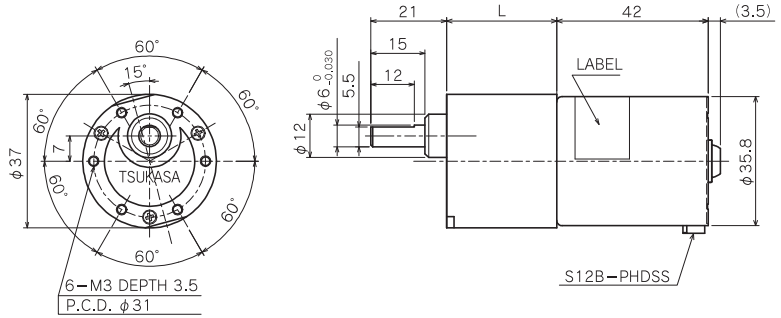
MODEL	GEAR RATIO	1	1	1	1	1	1	1	1	1	1	1	1	1	
TG-55L-SU (24V)	SPEED (r/min)	672	479	188	135	101	49.1	36.5	31.0	25.2	17.2	13.6	10.5	8.0	6.1
	TORQUE (mN·m)	58.8	88.2	196	294	392	686	980	980	980	980	980	980	980	980
	TORQUE (kgf·cm)	0.6	0.9	2	3	4	7	10	10	10	10	10	10	10	10
TG-55L-SU (12V)	SPEED (r/min)	154	92.8	44.7	28.1	21.1	10.0	7.2	8.7	8.3	6.1	5.2	4.2	3.3	2.5
	TORQUE (mN·m)	58.8	88.2	196	294	392	686	980	980	980	980	980	980	980	980
	TORQUE (kgf·cm)	0.6	0.9	2	3	4	7	10	10	10	10	10	10	10	10
TG-55M-SU (24V)	SPEED (r/min)	1357	1045	375	290	212	105	77.3	58.1	46.2	31.2	24.4	18.7	14.2	10.8
	TORQUE (mN·m)	49	58.8	166.6	196	294	490	735	980	980	980	980	980	980	980
	TORQUE (kgf·cm)	0.5	0.6	1.7	2	3	5	7.5	10	10	10	10	10	10	10
TG-55M-SU (12V)	SPEED (r/min)	485	387	134	109	76.8	38.4	27.7	20.9	17.9	12.6	10.3	8.1	6.2	4.8
	TORQUE (mN·m)	49	58.8	166.6	196	294	490	735	980	980	980	980	980	980	980
	TORQUE (kgf·cm)	0.5	0.6	1.7	2	3	5	7.5	10	10	10	10	10	10	10
TG-55N-SU (24V)	SPEED (r/min)	1862	1397	508	381	285	140	104	78.6	58.6	39.0	30.5	23.3	17.7	13.5
	TORQUE (mN·m)	29.4	39.2	107.8	147	196	343	490	637	882	980	980	980	980	980
	TORQUE (kgf·cm)	0.3	0.4	1.1	1.5	2	3.5	5	6.5	9	10	10	10	10	10
TG-55N-SU (12V)	SPEED (r/min)	730	549	197	147	110	53.9	40.1	30.5	22.5	15.3	12.6	9.9	7.7	5.9
	TORQUE (mN·m)	29.4	39.2	107.8	147	196	343	490	637	882	980	980	980	980	980
	TORQUE (kgf·cm)	0.3	0.4	1.1	1.5	2	3.5	5	6.5	9	10	10	10	10	10

SU

GEAR RATIO	L (mm)	STAGE	TORQUE		WEIGHT
			(mN·m)	(kgf·cm)	(g)
1/3.6 ~ 1/4.8	23.5	1	294	3	120
1/13.2 ~ 1/23.5	31.6	2	588	6	160
1/47.9 ~ 1/114	38.6	3	980	10	195
1/174 ~ 1/552	45.7	4	980	10	235

SM

TG-55L
TG-55M
TG-55N



Allowable torque-speed characteristics SM

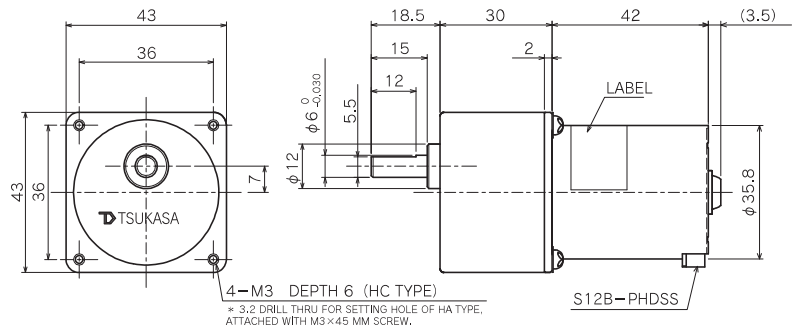
MODEL	GEAR RATIO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		5	10	15	18	25	30	36	50	60	75	100	120	150	200	250	300	500	750	1000	1	1
TG-55L-SM (24V)	SPEED (r/min)	522	307	180	160	126	109	84.6	65.2	55.9	46.0	35.4	27.5	22.7	17.6	14.3	12.0	7.4	5.0	3.8		
	TORQUE (mN·m)	78.4	98	196	196	196	196	294	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.8	1	2	2	2	2	3	3	3	3	3	6	6	6	6	6	6	6	6	6	6
TG-55L-SM (12V)	SPEED (r/min)	140	111	52.0	52.7	47.4	42.9	30.3	25.7	22.9	19.4	15.4	11.0	9.5	7.6	6.3	5.4	3.3	2.3	1.7		
	TORQUE (mN·m)	78.4	98	196	196	196	196	294	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.8	1	2	2	2	2	3	3	3	3	3	6	6	6	6	6	6	6	6	6	6
TG-55M-SM (24V)	SPEED (r/min)	1071	556	358	299	227	194	154	116	99.1	80.9	61.9	49.0	40.1	30.8	24.9	21.0	12.8	8.6	6.5		
	TORQUE (mN·m)	58.8	98	156.8	186.2	196	196	294	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.6	1	1.6	1.9	2	2	3	3	3	3	3	6	6	6	6	6	6	6	6	6	6
TG-55M-SM (12V)	SPEED (r/min)	424	230	142	119	95.7	84.1	63.1	50.5	43.9	36.5	28.5	21.4	18.0	14.1	11.5	9.8	6.0	4.1	3.1		
	TORQUE (mN·m)	58.8	98	156.8	186.2	196	196	294	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.6	1	1.6	1.9	2	2	3	3	3	3	3	6	6	6	6	6	6	6	6	6	6
TG-55N-SM (24V)	SPEED (r/min)	1443	722	486	401	289	243	204	146	124	101	77.6	61.3	50.2	38.5	31.3	26.3	16.0	10.8	8.1		
	TORQUE (mN·m)	39.2	78.4	98	127.4	176.4	196	196	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.4	0.8	1	1.3	1.8	2	2	3	3	3	3	6	6	6	6	6	6	6	6	6	6
TG-55N-SM (12V)	SPEED (r/min)	614	307	209	170	123	105	80.9	62.8	54.7	45.7	35.7	26.7	22.4	17.6	14.5	12.3	7.6	5.2	3.9		
	TORQUE (mN·m)	39.2	78.4	98	127.4	176.4	196	196	294	294	294	294	588	588	588	588	588	588	588	588	588	588
	TORQUE (kgf·cm)	0.4	0.8	1	1.3	1.8	2	2	3	3	3	3	6	6	6	6	6	6	6	6	6	6

SM

GEAR RATIO	L (mm)	STAGE	TORQUE		WEIGHT (g)
			(mN·m)	(kgf·cm)	
1/5 ~ 1/10	23	2	98	1	100
1/12.5 ~ 1/30	25.5	3	196	2	105
1/36 ~ 1/100	28	4	294	3	110
1/120 ~ 1/300	30.5	5	588	6	115
1/360 ~ 1/1000	33	6	588	6	120

AP

TG-55L
TG-55M
TG-55N



Allowable torque-speed characteristics AP

MODEL	GEAR RATIO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		6	8	13	16	20	27	32	43	53	67	81	89	108	133	166	205	254	313	384	470	570
TG-55L-AP (24V)	SPEED (r/min)	444	361	207	183	147	107	86.5	65.2	54.3	42.3	35.3	33.1	28.7	24.3							
	TORQUE (mN·m)	98	98	196	196	245	343	441	539	637	833	980	980	980	980							
	TORQUE (kgf·cm)	1	1	2	2	2.5	3.5	4.5	5.5	6.5	8.5	10	10	10	10							
TG-55L-AP (12V)	SPEED (r/min)	124	125	59	60.1	48.1	34.4	26.7	20.6	17.4	13.3	11.3	11.2	10.5	9.5							
	TORQUE (mN·m)	98	98	196	196	245	343	441	539	637	833	980	980	980	980							
	TORQUE (kgf·cm)	1	1	2	2	2.5	3.5	4.5	5.5	6.5	8.5	10	10	10	10							
TG-55M-AP (24V)	SPEED (r/min)	914	660	412	342	285	205	166	124	102	80.8	66.9	60.6	52	43.4							
	TORQUE (mN·m)	68.6	98	156.8	186.2	196	294	392	490	588	735	882	980	980	980							
	TORQUE (kgf·cm)	0.7	1	1.6	1.9	2	3	4	5	6	7.5	9	10	10	10							
TG-55M-AP (12V)	SPEED (r/min)	372	266	163	136	118	82.9	65.4	49	40.6	32.2	26.7	24.2	21.6	18.7							
	TORQUE (mN·m)	68.6	98	156.8	186.2	196	294	392	490	588	735	882	980	980	980							
	TORQUE (kgf·cm)	0.7	1	1.6	1.9	2	3	4	5	6	7.5	9	10	10	10							
TG-55N-AP (24V)	SPEED (r/min)	1210	878	560	458	370	274	225	169	138	109	89.8	81.8	67.4	54.3							
	TORQUE (mN·m)	49	68.6	98	127.4	176.4	196	245	294	392	490	588	637	784	980							
	TORQUE (kgf·cm)	0.5	0.7	1	1.3	1.8	2	2.5	3	4	5	6	6.5	8	10							
TG-55N-AP (12V)	SPEED (r/min)	518	375	241	194	157	118	96.6	73.1	58.7	46.4	38.4	35.1	28.8	23.2							
	TORQUE (mN·m)	49	68.6	98	127.4	176.4	196	245	294	392	490	588	637	784	980							
	TORQUE (kgf·cm)	0.5	0.7	1	1.3	1.8	2	2.5	3	4	5	6	6.5	8	10							

AP

GEAR RATIO	STAGE	TORQUE		WEIGHT (g)
		(mN·m)	(kgf·cm)	
1/6 ~ 1/8	2	98	1	205
1/13 ~ 1/16	3	196	2	220
1/20	3	245	2.5	220
1/27	3	343	3.5	220
1/32	3	441	4.5	220
1/43	4	539	5.5	235
1/53	4	637	6.5	235
1/67	4	833	8.5	235
1/81 ~ 1/133	4	980	10	235