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PMA *SERIES*

Elaborate Low Inertia, Fast Dynamic Response,
High Performance Servomotor



UP TO 400NM

- ▶ High torque accuracy
- ▶ No cogging torque
- ▶ Compact frame size with high power density
- ▶ Low inertia, Fast dynamic response
- ▶ Delicately finished housing surface

The **PMA** series brushless servomotor with permanent magnet is designed and manufactured for most of industrial applications, which will require high performance, fast dynamic response, good reliability, and free maintenance.

The PMA servomotor is made use of new advanced material such us Neodymium Iron, Boron Magnet, low loss Silicon Steel Sheet, to ensure excellent performances.

APPLICATIONS:

- INJECTION MOLDING MACHINE
- BLOW MOLDING MACHINE
- PRESS PUNCHING MACHINE
- PRESS FEEDER
- ROTARY CUTTER
- TEXTILE
- PRINTING MACHINE
- MACHINE TOOL
- ROBOTIC
- HANDLING SYSTEM
- CUT TO LENGTH
- PACKAGING MACHINE
- FLY SHEAR

OPTIONS:

- BRAKE
- RESOLVER
- IP65 PROTECTION
- OIL SEAL
- SPECIAL K_e 、 K_t
- SPECIAL FLANGE , SHAFT
- EXTENSION CABLE FOR MOTOR , ENCODER
- GEARBOX

GENERAL SPECIFICATION:

- INSULATION CLASS OF STATOR WINDING : F
- INSULATION VOLTAGE : 1500 V_{rms}/MIN
- INSULATION RESISTANCE :
ABOVE 500 VDC 10m Ω
- PROTECTION LEVEL : IP55
- OPERATING AMBIENT ENVIRONMENT :
0~40°C、90%RH、NON-CONDENSING
- STORAGE AMBIENT ENVIRONMENT :
-20~60°C、90%RH、NON-CONDENSING
- VIBRATION CLASS: BELOW 1.8mm/S
- MOUNTING :
PMA5、6、7 : B5
PMA10、13 : B35
- FEEDBACK SYSTEM :ENCODER +5V、
LINE DRIVER、2500PPR WITH U、V、W
COMMUTATION SIGNALS
- TERMINAL BOX & CONNECTOR :
POWER : TERMINAL BOX
FEEDBACK DEVICE : CONNECTOR
- OVER TEMPERATURE PROTECTION :
THERMO-SWITCH
- COOLING :
PMA5、6 : IC410
PMA7、10、13 : IC416

PMA Series Synchronous Low Inertia AC Servomotor

IP54, IC416 Forced Cooling Fan, 8 Pole motor

Motor is based on temperature rising Delta T: 65 degree C (for 400V Drive)

Without cooling fan (except of PMA05 & PMA06), motor power and torque will be decreasing 25%-30%

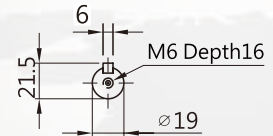
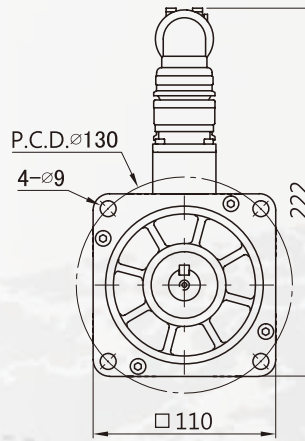
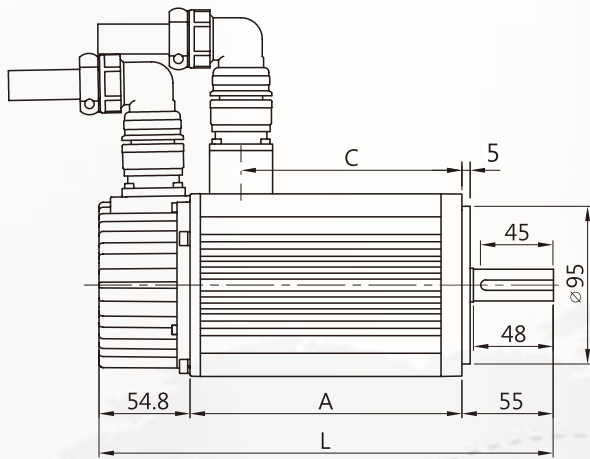
TECHNICAL DATA

Motor Type	Rated Power (Pn)	Rated Speed (nN)	Rated Torque (Mn)	Peak Torque (Mpk)	Max. Speed (nN)	Rated Current (I)	Peak Current (Ipk)	Ke(cold) (V/1000 rpm)	Kt (cold)	Rotor Inertia (J)	Weight (m)
	Kw	rpm	Nm	Nm	rpm	A	A	V	Nm/A	Kgcm ²	Kg
PMA-052-30	0.6	3000	2	5	7000	1.1	2.8	100	1.7	3.4	4.2
PMA-054-30	1.3	3000	4	10	7000	2.2	5.5	100	1.7	6.6	5.2
PMA-055-30	1.6	3000	5	12.5	7000	2.8	7.0	100	1.7	8.3	5.8
PMA-056-20	1.3	2000	6	12	7000	2.2	4.4	150	2.5	10.1	6.4
PMA-056-30	1.9	3000	6	12	7000	3	6.0	100	1.7	10.1	
PMA-064-25	1.0	2500	4	10	7000	1.8	4.5	120	2	8.5	7.4
PMA-065-20	1.0	2000	5	12.5	7000	1.8	4.5	150	2.5	10.6	7.9
PMA-065-25	1.3	2500	5	12.5	7000	2.4	6.0	120	2	10.6	
PMA-066-25	1.6	2500	6	15	7000	2.8	7.0	120	2	12.6	8.6
PMA-068-20	1.6	2000	7.5	18.8	7000	3	7.5	150	2.5	15.8	9.5
PMA-068-25	2.0	2500	7.5	18.8	7000	3.7	9.3	120	2	15.8	
PMA-068-30	2.4	3000	7.5	18.8	7000	4.4	11.0	100	1.7	15.8	
PMA-0610-15	1.6	1500	10	25	7000	2.8	7.0	200	3.3	21.4	11.1
PMA-0610-25	2.6	2500	10	25	7000	4.8	12.0	120	2	21.4	
PAM-0615-15	2.4	1500	15	38	7000	4.2	10.6	200	3.3	32.4	14.3
PAM-0615-25	3.9	2500	15	38	7000	7	17.7	120	2	32.4	
PMA-072-10	1.7	1000	16	42.1	7000	2.9	7.6	300	5.4	7	21
PMA-072-15	2.5	1500	16	42.1	7000	4.3	11.3	200	3.6	7	
PMA-072-20	3.4	2000	16	42.1	7000	5.7	15.0	150	2.7	7	
PMA-072-30	5.0	3000	16	42.1	7000	8.6	22.6	100	1.8	7	
PMA-074-10	2.5	1000	24	64.8	7000	4.3	11.6	300	5.4	13	24
PMA-074-15	3.8	1500	24	64.8	7000	6.5	17.6	200	3.6	13	
PMA-074-20	5.0	2000	24	64.8	7000	8.7	23.5	150	2.7	13	
PMA-074-30	7.5	3000	24	64.8	7000	13	35.1	100	1.8	13	
PMA-076-10	3.4	1000	32	86.4	7000	5.9	15.9	300	5.4	18	27
PMA-076-15	5.0	1500	32	86.4	7000	8.8	23.8	200	3.6	18	
PMA-076-20	6.7	2000	32	86.4	7000	11.7	31.6	150	2.7	18	
PMA-076-30	10.1	3000	32	86.4	7000	17.6	47.5	100	1.8	18	
PMA-078-10	4.2	1000	40	108	7000	7.5	20.3	300	5.4	24	30
PMA-078-15	6.3	1500	40	108	7000	11.2	30.2	200	3.6	24	
PMA-078-20	8.4	2000	40	108	7000	14.9	40.2	150	2.7	24	
PMA-078-30	12.6	3000	40	108	7000	22.4	60.5	100	1.8	24	
PMA-102-10	4.7	1000	45	121.5	4000	9	24.3	300	5	60	35
PMA-102-15	7.1	1500	45	121.5	4000	13.5	36.5	200	3.6	60	
PMA-102-20	9.4	2000	45	121.5	4000	18	48.6	150	2.5	60	
PMA-102-30	14.1	3000	45	121.5	4000	27	72.9	100	1.7	60	
PMA-103-10	5.4	1000	52	140.9	4000	10.5	28.5	300	5	75	45
PMA-103-15	8.2	1500	52	140.9	4000	15.8	42.8	200	3.6	75	
PMA-103-20	10.9	2000	52	140.9	4000	21	56.9	150	2.5	75	
PMA-103-30	16.3	3000	52	140.9	4000	31.5	85.4	100	1.7	75	
PMA-104-10	7.4	1000	71	192.4	4000	14	37.9	300	5	89	55
PMA-104-15	11.2	1500	71	192.4	4000	21.0	56.9	200	3.6	89	
PMA-104-20	14.9	2000	71	192.4	4000	28	75.9	150	2.5	89	
PMA-104-30	22.3	3000	71	192.4	4000	42	113.8	100	1.7	89	

TECHNICAL DATA

Motor Type	Rated Power (Pn)	Rated Speed (nN)	Rated Torque (Mn)	Peak Torque (Mpk)	Max. Speed (nN)	Rated Current (I)	Peak Current (Ipk)	Ke(cold) (V/1000 rpm)	Kt (cold)	Rotor Inertia (J)	Weight (m)
	Kw	rpm	Nm	Nm	rpm	A	A	V	Nm/A	Kgcm ²	Kg
PMA-105-10	9.2	1000	88	237.1	4000	17.5	47.2	300	5	105	65
PMA-105-15	13.8	1500	88	237.1	4000	26.3	70.9	200	3.6	105	
PAM-105-20	18.4	2000	88	237.1	4000	35	94.3	150	2.5	105	
PMA-105-30	27.6	3000	88	237.1	4000	52.5	141.5	100	1.7	105	
PMA-106-10	10.9	1000	104	280.8	4000	20.8	56.2	300	5	120	75
PMA-106-15	16.3	1500	104	280.8	4000	31.2	84.2	200	3.6	120	
PMA-106-20	21.8	2000	104	280.8	4000	41.6	112.3	150	2.5	120	
PMA-106-30	32.7	3000	104	280.8	4000	62.4	168.5	100	1.7	120	
PMA-108-10	13.0	1000	124	335	4000	23.5	63.5	300	5	150	95
PMA-108-15	19.5	1500	124	335	4000	37.0	100.0	200	3.6	150	
PMA-108-20	26.0	2000	124	335	4000	47	127.0	150	2.5	150	
PMA-108-30	39.0	3000	124	335	4000	75	202.6	100	1.7	150	
PMA-109-10	14.9	1000	142	383.4	4000	28.4	76.7	300	5	165	105
PMA-109-15	22.3	1500	142	383.4	4000	42.6	115.0	200	3.6	165	
PMA-109-20	29.7	2000	142	383.4	4000	56.8	153.4	150	2.5	165	
PMA-109-30	44.6	3000	142	383.4	4000	85.2	230.0	100	1.7	165	
PMA-132-10	11.0	1000	105	210	4000	21	42.0	300	5	220	113
PMA-132-15	16.5	1500	105	210	4000	31.5	63.0	200	3.6	220	
PMA-132-20	22.0	2000	105	210	4000	42	84.0	150	2.5	220	
PMA-132-30	33.0	3000	105	210	4000	63	126.0	100	1.7	220	
PMA-133-10	16.0	1000	153	306	4000	31	62.0	300	5	290	133
PMA-133-15	24.0	1500	153	306	4000	46.5	93.0	200	3.6	290	
PMA-133-20	32.0	2000	153	306	4000	61	122.0	150	2.5	290	
PMA-133-30	48.1	3000	153	306	4000	91.5	183.0	100	1.7	290	
PAM-134-10	22.5	1000	215	430	4000	43	86.0	300	5	360	153
PMA-134-15	33.8	1500	215	430	4000	64.5	129.0	200	3.6	360	
PMA-134-20	45.0	2000	215	430	4000	86	172.0	150	2.5	360	
PMA-134-30	67.5	3000	215	430	4000	129	258.0	100	1.7	360	
PMA-135-10	27.5	1000	263	526	4000	52.6	105.2	300	5	430	173
PMA-135-15	41.3	1500	263	526	4000	78.9	157.8	200	3.6	430	
PMA-135-20	55.1	2000	263	526	4000	105.2	210.4	150	2.5	430	
PMA-135-30	82.6	3000	263	526	4000	157.8	315.6	100	1.7	430	
PMA-136-10	31.7	1000	303	605.4	4000	60.4	120.7	300	5	500	193
PMA-136-15	47.6	1500	303	605.4	4000	90.6	181.0	200	3.6	500	
PMA-136-20	63.5	2000	303	605.4	4000	120.8	241.4	150	2.5	500	
PMA-136-30	95.2	3000	303	605.4	4000	181.2	362.0	100	1.7	500	
PMA-137-10	37.2	1000	355	709.4	4000	71	141.9	300	5	570	213
PMA-137-15	55.8	1500	355	709.4	4000	106.5	212.8	200	3.6	570	
PMA-137-20	74.4	2000	355	709.4	4000	142	283.8	150	2.5	570	
PMA-137-30	111.5	3000	355	709.4	4000	213	425.6	100	1.7	570	
PMA-138-10	40.6	1000	388	775.4	4000	77.5	154.9	300	5	630	233
PMA-138-15	60.9	1500	388	775.4	4000	116.3	232.4	200	3.6	630	
PMA-138-20	81.3	2000	388	775.4	4000	155	309.8	150	2.5	630	
PMA-138-30	121.9	3000	388	775.4	4000	232.5	464.6	100	1.7	630	

PMA05

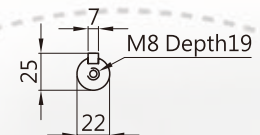
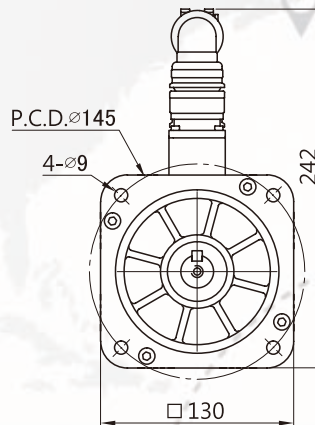
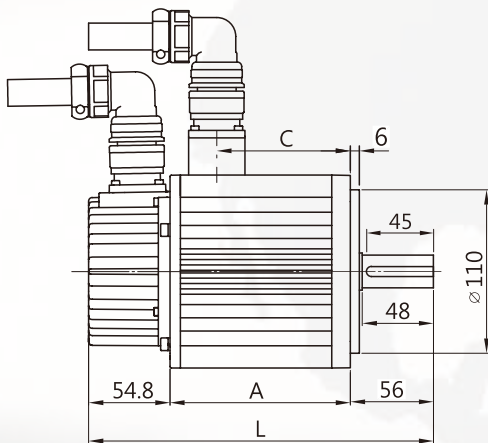


SHAFT TOLERANCE: ± 0.005

SPIGOT TOLERANCE: $\begin{matrix} +0 \\ -0.04 \end{matrix}$

	A	C	L
PMA-052	108.8	78	218.6
PMA-054	143.8	113	253.6
PMA-055	163.8	133	273.6
PMA-056	178.8	148	288.6

PMA06

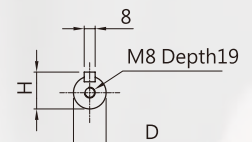
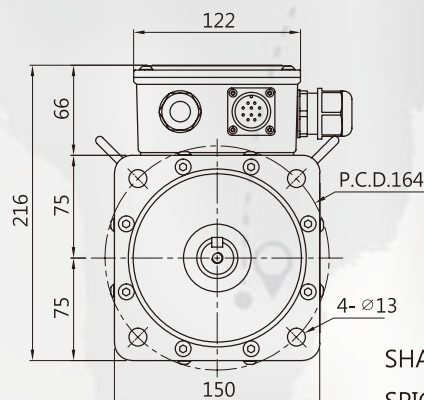
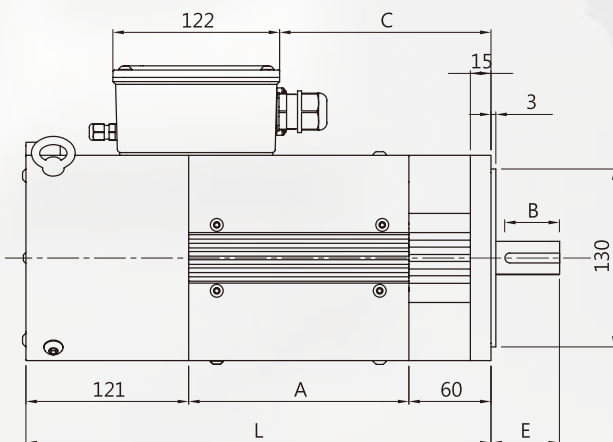


SHAFT TOLERANCE: ± 0.005

SPIGOT TOLERANCE: $\begin{matrix} +0 \\ -0.04 \end{matrix}$

	A	C	L
PMA-064	111.5	80	222.3
PMA-065	121.5	90	232.3
PMA-066	131.5	100	242.3
PMA-068	146.5	115	257.3
PMA-0610	166.5	135	277.3
PMA-0615	216.5	185	327.3

PMA07

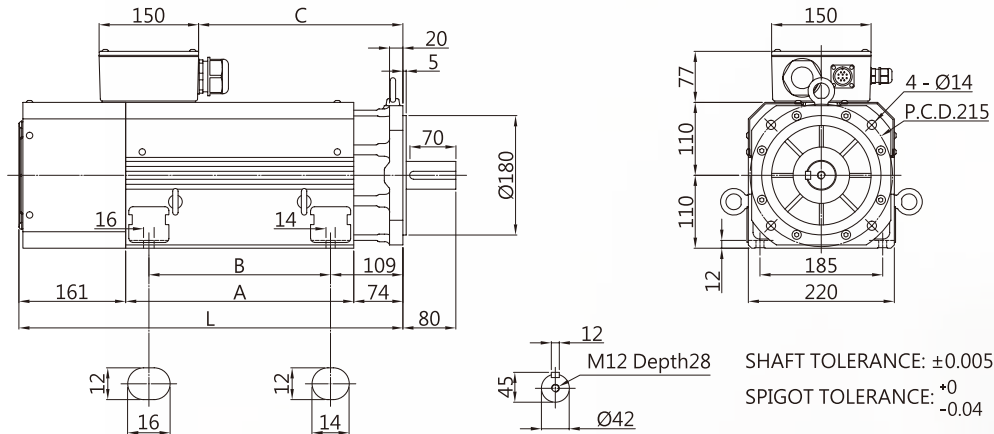


SHAFT TOLERANCE: ± 0.005

SPIGOT TOLERANCE: $\begin{matrix} +0 \\ -0.04 \end{matrix}$

	A	B	C	D	E	H	L
PMA-072	109	40	103	Ø24	50	27	290
PMA-074	161	40	155	Ø24	50	27	342
PMA-076	213	50	207	Ø28	60	31	394
PMA-078	265	50	259	Ø28	60	31	446

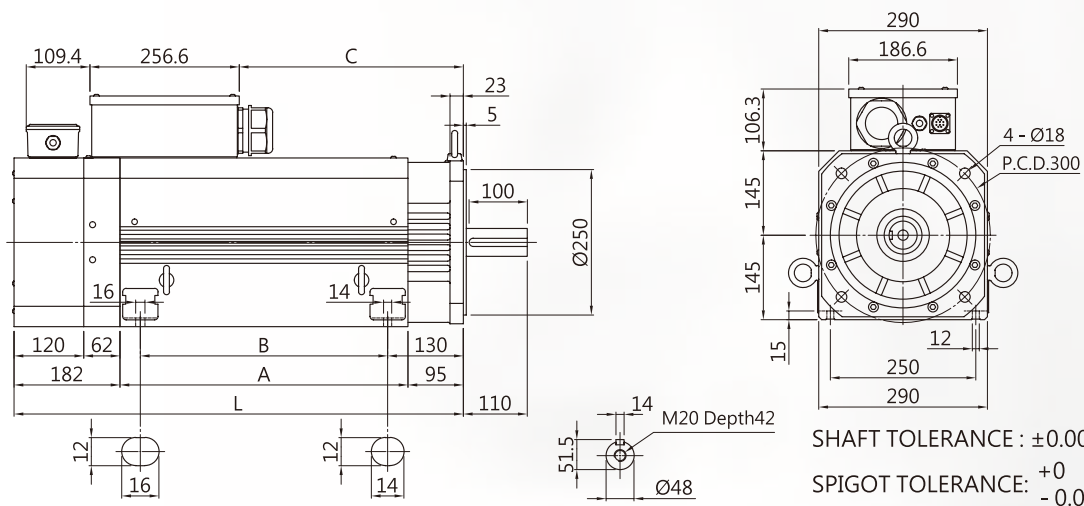
PMA10



SHAFT TOLERANCE: ± 0.005
 SPIGOT TOLERANCE: $\begin{matrix} +0 \\ -0.04 \end{matrix}$

	A	B	C	L
PMA-102	200	130	164	435
PMA-103	236	166	200	471
PMA-104	272	202	236	507
PMA-105	308	238	272	543
PMA-106	344	274	308	579
PMA-108	416	346	380	651
PMA-109	452	382	416	687

PMA13

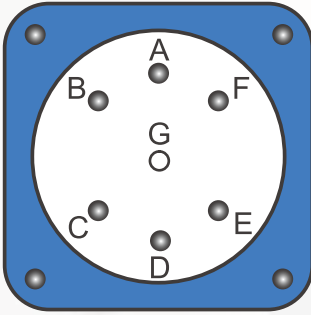


SHAFT TOLERANCE : ± 0.005
 SPIGOT TOLERANCE: $\begin{matrix} +0 \\ -0.04 \end{matrix}$

	A	B	C	L
PMA-132	280	210	170	557
PMA-133	335	265	225	612
PMA-134	390	320	280	667
PMA-135	440	370	330	717
PMA-136	495	425	385	772
PMA-137	545	475	435	822
PMA-138	600	530	490	877

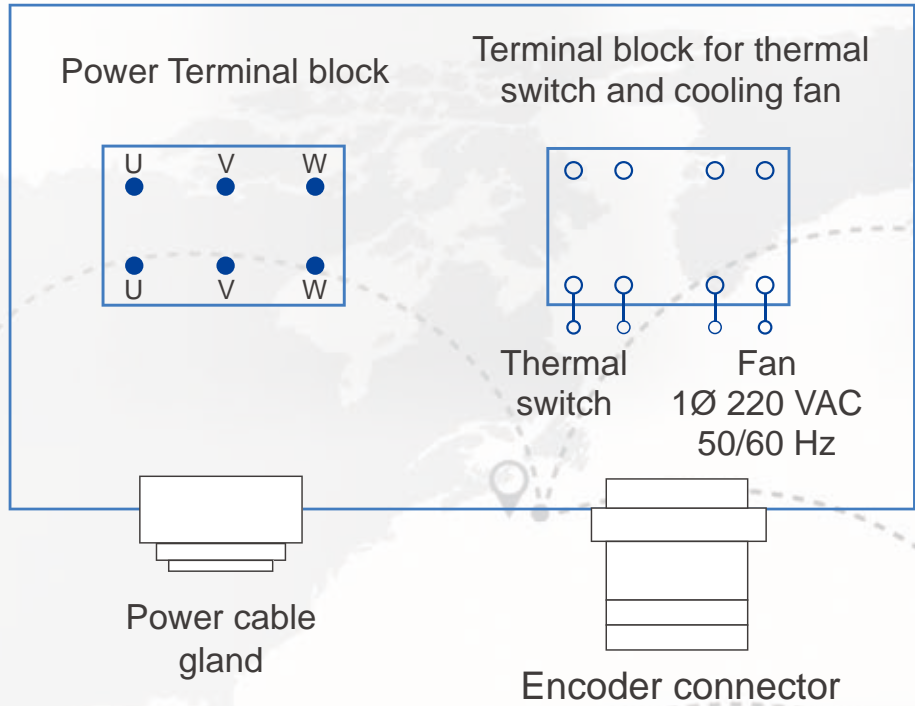
CONNECTION

Power

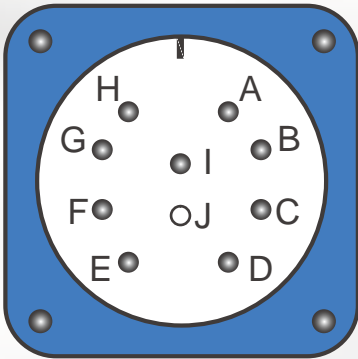


A	U
B	V
C	W
D	
E	Thermal Protection
F	
G	

Power Terminal block

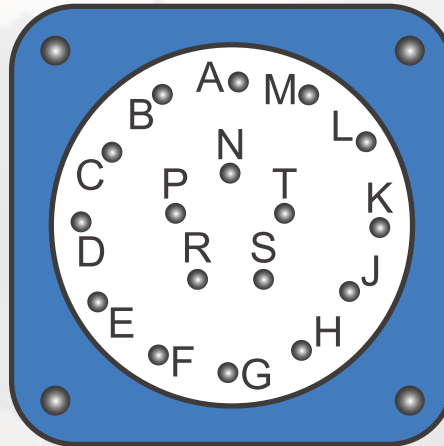


RESOLVER



SECONDARY			
A	S1	RED	
B	S2	YEL	
C	S3	BLK	
D	S4	BLU	
PRIMARY			
H	R1	RED/WHT	AC 7V
I	R2	YEL/WHT	

ENCODER CONNECTION



A	A	G	U	N	
B	\bar{A}	H	\bar{U}	P	
C	B	J	V	R	GND
D	\bar{B}	K	\bar{V}	S	+5V
E	Z	L	W	T	
F	\bar{Z}	M	\bar{W}		

INQUIRY-FORM

RATED TORQUE	NM	PEAK TORQUE	NM
RATED SPEED	RPM	MAX SPEED	RPM
RATED OUTPUT POWER	KW	PEAK OUTPUT POWER	KW
Ke:	Vrms/1000RPM	Kt:	NM/A
		Protection: IP _____	
FEEDBACK SYSTEM	<input type="checkbox"/> WITHOUT <input type="checkbox"/> ENCODER <input type="checkbox"/> RESOLVER		
Descriptions of Encoder or Resolver:			
BRAKE	<input type="checkbox"/> WITH <input type="checkbox"/> WITHOUT	VOLTAGE OF BRAKE: _____ V, <input type="checkbox"/> AC <input type="checkbox"/> DC	
ENCODER CONNECTION	<input type="checkbox"/> FLYING LEADS <input type="checkbox"/> CONNECTOR LENGTH OF CABLE _____ mm		
MOTOR CONNECTION	<input type="checkbox"/> FLYING LEADS <input type="checkbox"/> CONNECTOR <input type="checkbox"/> TERMINAL BOX LENGTH OF CABLE _____ mm		
BRAKE CONNECTOR	<input type="checkbox"/> FLYING LEADS <input type="checkbox"/> CONNECTOR LENGTH OF CABLE _____ mm		
GEARBOX	RATIO: _____ , BACKLASH: _____		
COOLING: <input type="checkbox"/> SELF-COOLED <input type="checkbox"/> FORCED AIR COOLING; VOLTAGE OF FAN MOTOR: _____			
SPECIAL DIMENSION:			
		A: _____	S: _____
		B: _____	T: _____
		Z: _____	U: _____
		Q: _____	W: _____
		QK: _____	
		E: _____	
		LR: _____	



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