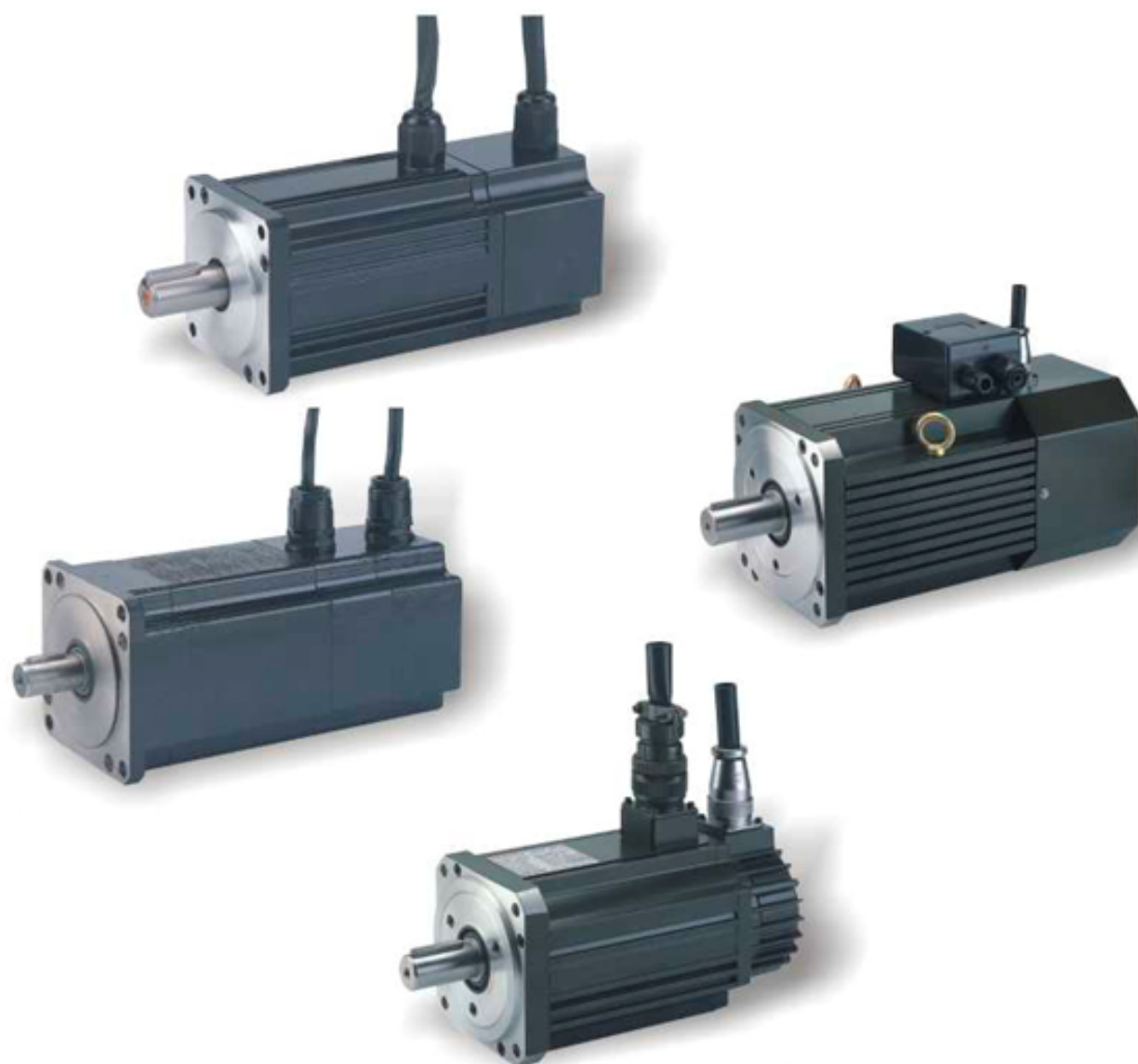


EASY SERVOMOTOR

HIGH PERFORMANCE
ESM SERIES SERVOMOTOR



YOUR BEST CHOICE OF AC SERVO MOTOR

HIGH PERFORMANCE

ESM SERIES SERVOMOTOR



The ESM 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 ESM servomotor is made use of new advanced material such as Neodymium Iron, Boron Magnet, low loss Silicon Steel Sheet, to ensure excellent performances as including of :

- HIGH POWER DENSITY WITH LOW OVERALL DIMENSIONS
- HIGH OVERLOAD CAPABILITY
- LOW MOMENT OF ROTOR INERTIA, PERFORM VERY HIGH DYNAMIC RESPONSE
- LOW WEIGHT
- SINUSOIDAL B.E.M.F.
- LOW COGGING TORQUE
- HIGH ACCURACY

GENERAL SPECIFICATION :

- INSULATION CLASS OF STATOR WINDING : F
- INSULATION VOLTAGE : 1500Vrms/MIN
- INSULATION RESISTANCE : ABOVE 500VDC 10M Ω
- PROTECTION LEVEL : IP55
- OPERATING AMBIENT ENVIRONMENT : 0~40 $^{\circ}$ C 、 90%RH 、 NON-CONDENSING
- STORAGE AMBIENT ENVIRONMENT : -20 $^{\circ}$ C~60 $^{\circ}$ C 、 90%RH 、 NON-CONDENSING
- VIBRATION CLASS : BELOW 1.8mm/S
- MOUNTING : B5 (FLANGE MOUNTING)
- FEEDBACK SYSTEM : ENCODER
+5V 、 LINE DRIVER 、 2500PPR WITH U.V.W COMMUTATION SIGNALS
- CONNECTOR & CABLE :
FRAME 60 、 85 : FLYING LEADS
FRAME120 : CONNECTOR
FRAME190 : MOTOR (TERMINAL BOX)
ENCODER (CONNECTOR)
- OVER TEMPERATURE PROTECTION : THERMO-SWITCH

OPTIONS :

- BRAKE
- RESOLVER
- IP65 PROTECTION
- OIL SEAL
- SPECIAL Ke 、 Kt
- SPECIAL FLANGE, SHAFT
- CABLE FOR MOTOR 、 ENCODER.....ETC
- CONNECTOR FOR FRAME 60 、 85
- GEARBOX



TECHNICAL - DATA (I)

FRAME NO:	ESM60	ESM85	ESM85	ESM85	ESM85	ESM120	ESM120	ESM120	ESM120	ESM120	ESM120	ESM190	ESM190	ESM190	ESM190	ESM190
	A	A	B	C	D	A	B	C	D	E	F	A	B	C	D	E
RATED POWER (KW)	0.4	0.4	0.6	0.75	1.0	0.75	1.0	1.5	2.2	3.0	4.0	4.5	6	7.5	11	15
RATED TORQUE (NM)	1.274	1.9	2.84	3.53	4.8	3.53	5.3	7.15	10.7	14.7	19.6	29	39	48	71.5	95
PEAK TORQUE (NM)	3.822	5.7	8.52	10.6	14.4	10.6	15.9	21.5	32.1	44.1	58.8	87	117	144	214.5	285
RATED SPEED (RPM)	3000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	1500	1500	1500	1500	1500
MAX SPEED (RPM)	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
RATED CURRENT (A)	2.4	2.5	3.2	4	5.2	3.8	5.4	8	13.2	14.2	16.3	29.5	35	48	66	80
PEAK CURRENT (A)	7.2	7.5	9	12	15.6	11.4	16.2	24	39.6	42.6	48.9	88.5	105	144	198	240
Kt (NM/A)	0.53	0.76	0.89	0.88	0.92	0.93	0.98	0.9	0.81	1.04	1.2	0.98	1.11	1.0	1.08	1.19
Ke Vrms /1000RPM	19.796	45	44	48	48	48	48	49	48	59	69	62	61	60	60	57
WINDING RESISTANT (Ω)	6.8	5.4	3.58	2.5	1.8	4.28	1.6	1.16	0.58	0.67	0.7	0.2	0.13	0.5	0.09	0.1
WINDING INDUCTANCE (mH)	11.8	10	7.6	5.8	4.3	14.5	6.8	5.7	3	3.5	3.58	0.96	0.66	0.1	0.46	0.58
POLE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
ROTOR INERTIA J (Kg-cm²)	0.4	2.44	3.34	4.2	5.1	3.631	5.670	8.205	11.703	15.809	20.806	87	102.7	139.8	177.4	214.5
INSULATION	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
COOLING	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0041	IC 0416	IC 0416	IC 0416	IC 0416	IC 0416
PROTECTION	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55
FEEDBACK SYSTEM ENCODER	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR
OVER TEMPERATURE PROTECTION	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW
WEIGHT (Kg)	2	3	4	5	6	6	8	9.2	11	15	18	28	33	42	50	65

HIGH PERFORMANCE

ESM SERIES SERVOMOTOR

TECHNICAL - DATA (I)

FRAME NO:	ESM120	ESM120	ESM120	ESM120	ESM120	ESM190	ESM190	ESM190	ESM190	ESM190
	B	C	D	E	F	A	B	C	D	E
RATED POWER (KW)	1.0	1.5	2.2	3.0	4.0	4.5	6	7.5	11	15
RATED TORQUE (NM)	5.3	7.15	10.7	14.7	19.6	29	39	48	71.5	95
PEAK TORQUE (NM)	15.9	21.45	32.1	44.1	58.8	87	117	144	214.5	285
RATED SPEED (RPM)	2000	2000	2000	2000	2000	1500	1500	1500	1500	1500
MAX SPEED (RPM)	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
RATED CURRENT (A)	3.5	5	7.6	8.2	9.2	17	20	24	38	57
PEAK CURRENT (A)	10.5	15	22.8	24.6	45	51	60	72	114	171
Kt (NM/A)	1.51	1.43	1.4	1.8	2.13	1.7	1.95	2.0	1.88	1.67
Ke Vrms /1000RPM	79	80	84	120	131	109	108	119	104	98
WINDING RESISTANT (Ω)	4.93	3.4	1.87	1.98	2.26	0.59	0.43	0.41	0.28	0.18
WINDING INDUCTANCE (mH)	20.2	14	9.4	11.7	12.2	3.4	2.1	2.2	1.6	0.99
POLE	8	8	8	8	8	8	8	8	8	8
ROTOR J INERTIA (Kg-cm²)	5.670	8.205	11.7	15.8	20.8	87	102.7	139.8	177.4	214.5
INSULATION	F	F	F	F	F	F	F	F	F	F
COOLING	IC 416	IC 416	IC 416	IC 416	IC 416	IC 416	IC 416	IC 416	IC 416	IC 416
PROTECTION	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55	IP55
FEEDBACK SYSTEM ENCODER	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR	2500 PPR
OVER TEMPERATURE PROTECTION	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW	TH-SW
WEIGHT (Kg)	8	9.2	12.2	15	18	28	33	42	50	65



ESM60



ESM85



ESM120

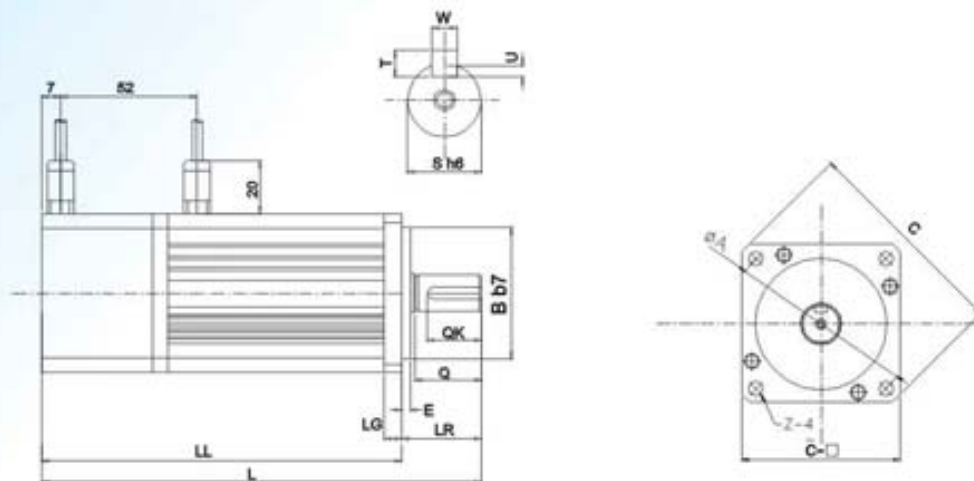


ESM190



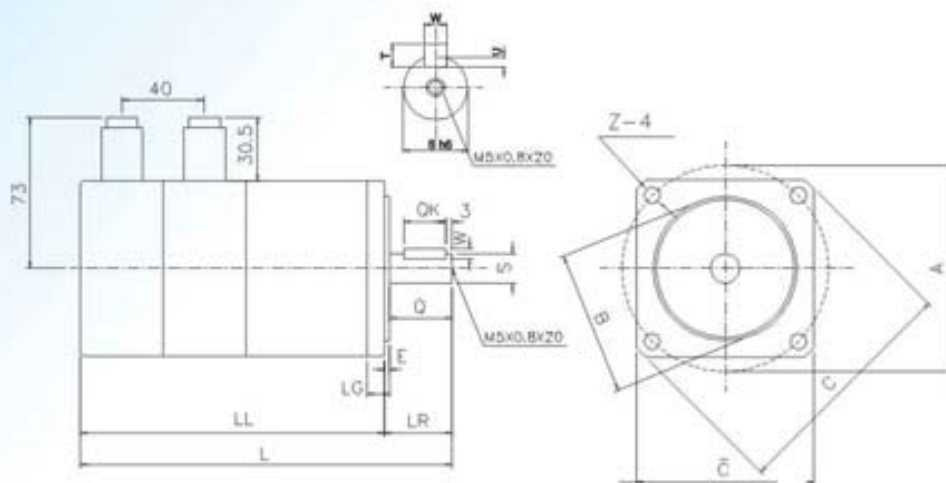
DIMENSION DRAWING

ESM60



FRAME	L	LL	LG	E	LR	A	C	C-□	B	Q	QK	S	T	U	W	Z
ESM60A	155	125	7.5	3	30	70	81	60	50	25	20	14	5	3	5	4.5

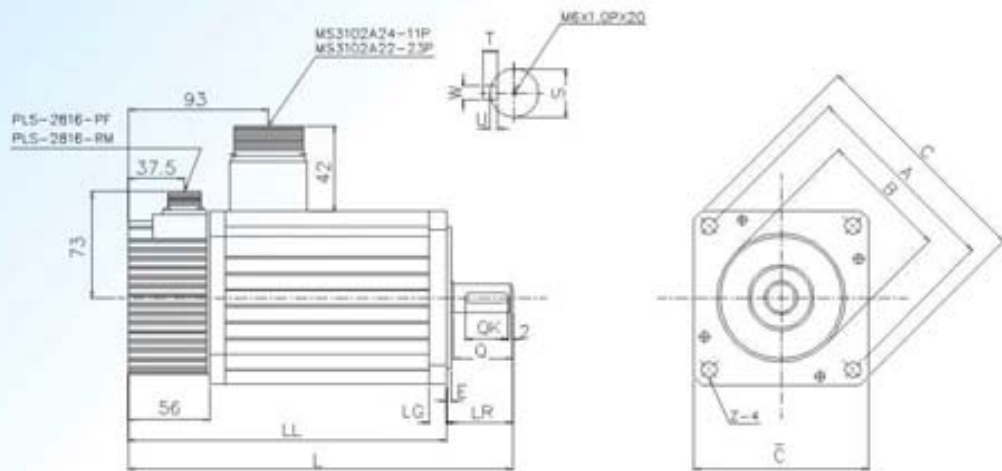
ESM85



FRAME	L	LL	LG	E	LR	B	C	A	C	Q	QK	S	W	U	T	Z
ESM85A	172.5	145	11	2.5	33.5	70	113	100	85	30	20	14	5	2.5	5	7
ESM85B	192.5	165	11	2.5	33.5	70	113	100	85	30	20	16	5	2.5	5	7
ESM85C	212.5	185	11	2.5	33.5	70	113	100	85	30	20	16	5	2.5	5	7
ESM85D	232.5	205	11	2.5	33.5	70	113	100	85	30	20	16	5	2.5	5	7

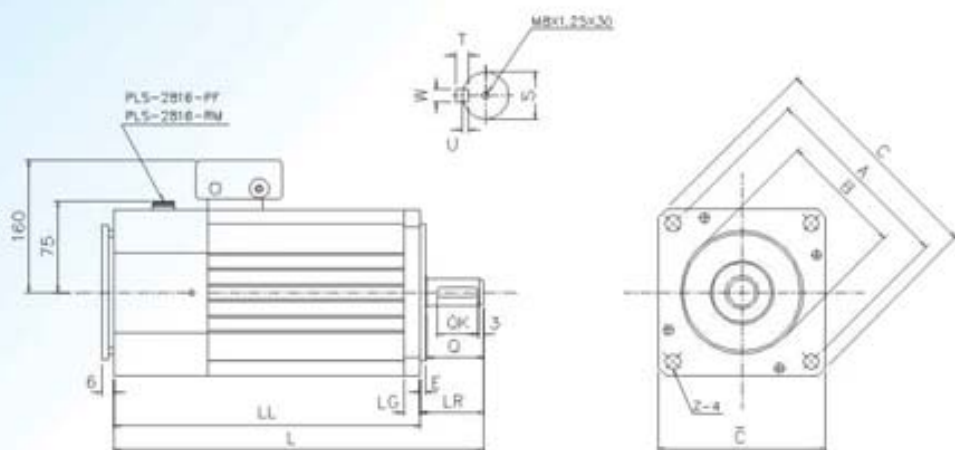
DIMENSION DRAWING

ESM120



FRAME	L	LL	LG	E	LR	B	C	A	C	Q	QK	S	W	U	T	Z
ESM120A	242	186	19	5	56	110	163	145	120	50	40	19	5	2.5	5	9
ESM120B	262	206	19	5	56	110	163	145	120	50	40	22	7	3.5	7	9
ESM120C	287	231	19	5	56	110	163	145	120	50	40	24	7	3.5	7	9
ESM120D	322	266	19	5	56	110	163	145	120	50	40	24	7	3.5	7	9
ESM120E	372	316	19	5	56	110	163	145	120	50	40	28	8	4	8	9
ESM120F	422	366	19	5	56	110	163	145	120	50	40	28	8	4	8	9

ESM190



FRAME	L	LL	LG	E	LR	B	C	A	C	Q	QK	S	W	U	T	Z
ESM190A	459	380	23	5	79	180	250	215	190	76	60	28	8	4	8	13
ESM190B	479	400	23	5	79	180	250	215	190	76	60	38	10	4	8	13
ESM190C	529	450	23	5	79	180	250	215	190	76	60	38	10	4	8	13
ESM190D	579	500	23	5	79	180	250	215	190	76	60	42	12	5	10	13
ESM190E	629	550	23	5	79	180	250	215	190	76	60	42	12	5	10	13



CONNECTION

ESM60 ESM85

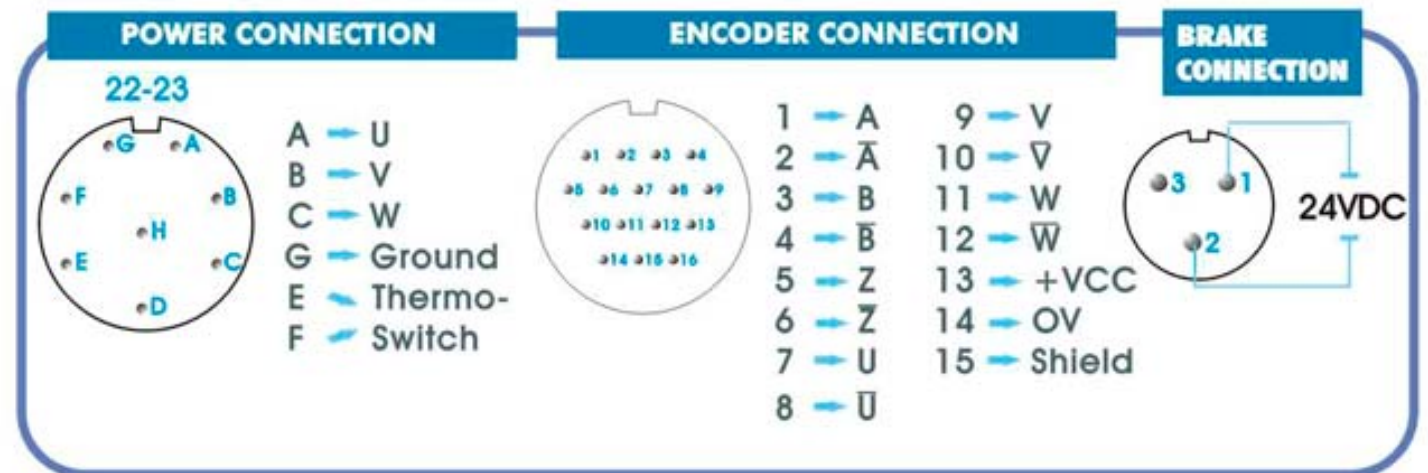
WITH FLYING LEADS

	MOTOR			THERMO-SWITCH		BRAKE	
Cable Color	RED	WHITE	BLACK	YELLOW	YELLOW	BLACK	BLACK
Description	U	V	W	H1	H2	B1	B2

ESM60 , ESM85 ENCODER															
Cable Color	RED	PINK	OLIVE	BLUE	YELLOW	ORANGE	BEIGE	BROWN	GREEN	GRAY	LIGHT BLUE	VIOLET	WHITE	BLACK	SHIELD
Description	A	\bar{A}	B	\bar{B}	Z	\bar{Z}	U	\bar{U}	V	\bar{V}	W	\bar{W}	+5V	0V	SHIELD

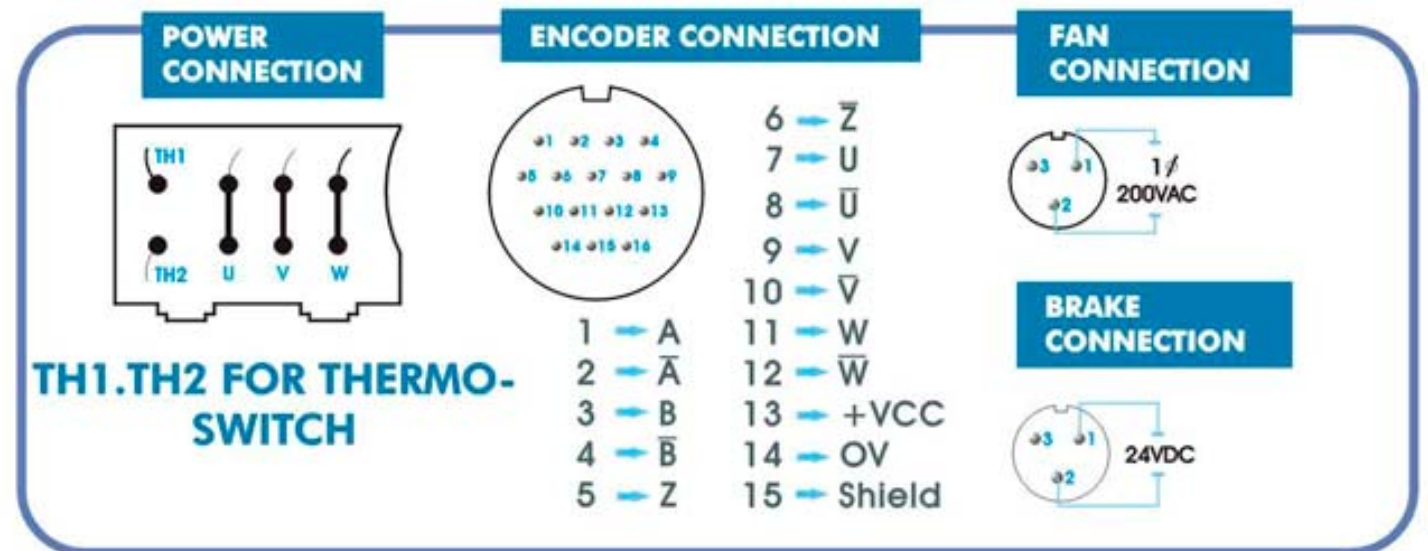
ESM120

WITH CONNECTOR



ESM190

WITH TERMINAL BOX AND CONNECTOR



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 WITHOUT ENCODER RESOLVER

Descriptions of Encoder or Resolver:

BRAKE WITH WITHOUT **VOLTAGE OF BRAKE:** _____ V, AC DC

ENCODER CONNECTION FLYING LEADS, CONNECTOR, LENGTH OF CABLE _____ mm

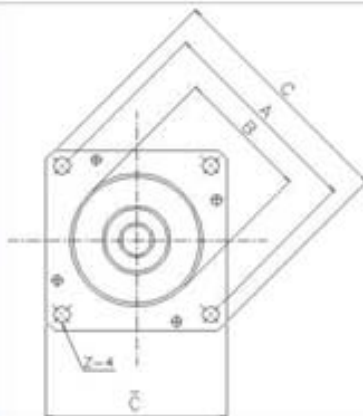
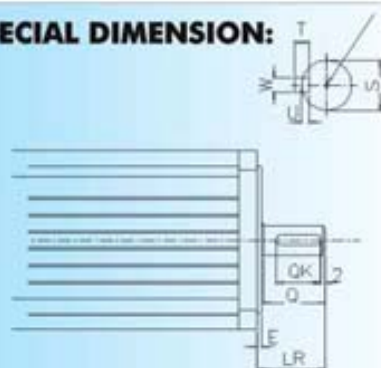
MOTOR CONNECTION FLYING LEADS CONNECTOR TERMINAL BOX
LENGTH OF CABLE _____ mm

BRAKE CONNECTOR FLYING LEADS, CONNECTOR, LENGTH OF CABLE _____ mm

GEARBOX RATIO: _____ , BACKLASH: _____

COOLING: SELF-COOLED, FORCED AIR COOLING; VOLTAGE OF FAN MOTOR: _____

SPECIAL DIMENSION:



A: _____ S: _____
B: _____ T: _____
Z: _____ U: _____
Q: _____ W: _____
QK: _____
E: _____
LR: _____



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