MOTOR SPECIFICATION (TENTATIVE)

MOTOR MODEL S60D120A-XXXX

CUSTOMER MODEL

1. SCOPE

THIS SPECIFICATION COVERS THE GENERAL REQUIREMENTS FOR THE STEP MOTOR S60D120A-XXXX THAT CONSISTS OF UNIPOLAR WINDING STATOR AND HYBRID MAGNET ROTOR

2. ELECTRICAL CHARACTERISTICS

ITEM	SPECIFICATION	DESCRIPTION
DUTY	CONTINUOUS	
DRIVE VOLTAGE	24 V D.C	
RATED CURRENT	2.0 A (PHASE)	
STEP ANGLE	1.8°(DEG) FULL STEP	
NUMBER OF PHASE	2PHASE UNIPOLAR 2PHASE EXCITING	
INSULATION CLASS(UL)	UL CLASS B (COIL)	
WINDING RESISTANCE	1.1Ω±10%	25°C
WINDING INDUCTANCE	1.1mH±20%	NOTE)1
HOLDING TORQUE	0.57N·m(5.8kgf·cm) MIN.	NOTE)2
DETENT TORQUE	260mN·m(2.7Kgf·cm) REF.	
MAX STARTING PULSE RATE	1400PPS MIN.	NOTE)3
POSITIONAL ACCURACY	±0.09°(DEG) MAX.	NOTE)4
DIELECTRIC STRENGTH	500V A.C 1MINUTE NO ABNORMAL	NOTE)5
INSULATION RESISTANCE	100 MΩ MIN.	NOTE)6
TEMPERATURE RISE	80 K (80 DEG) MAX.	NOTE)7

3. MECHANICAL CHARACTERISTICS

ITEM	SPECIFICATION	DESCRIPTION
MECHANICAL DEMENSION	ACCORDING TO SPECIFICATION Y-20-1224-0(PAGE3/3)	
SHAFT MATERIAL	SUS303	
BEARING	SINGLE ROW BALL BEARING	
END BELL MATERIAL	ALUMINUM ALLOY	
MASS	APPROXIMATELY 800g	
ROTOR INERTIA	135g·cm² (135×10⁻³ g·cm·s²) APPROXIMATELY 135g·cm² (135×10⁻³ g·cm·s²)	

4. ADDITIONAL

ITEM	SPECIFICATION	DESCRIPTION
DIRECTION OF ROTATION	PHASE SEQUENCE TO PRODUCE CLOCKWISE ROTATION VIEWED FROM MOUNTING END IS AS TABLE 1	
TYPE OF LEAD WIRE	UL 3266 CSA AWG 22	
COLOR OF LEAD WIRE	ACCORDING TO TABLE 2	
LIFE	5000 HOURS MIN.	NOTE)8
MATERIALS OF MOTOR CONTAIN TEN SUBSTANCES Pb Cr(VI+) Cd Hg PBB PBDE DEHP BBP DBP AND DIBP THOSE CONTENTS COMPLY WITH THE RoHS INSTRUCTION.		

ITEM	SPECIFICATION	DESCRIPTION
OPERATION AMBIENT TEMPERATURE	0°C～+50°C	
OPERATION AMBIENT HUMIDITY	20%RH ～ 90%RH	NOTE)9
STORAGE AMBIENT TEMPERATURE	0°C～+50°C	
STORAGE AMBIENT HUMIDITY	15%RH ～ 95%RH	NOTE)9

CAUTION AND RECOMMENDATION	PLEASE DON'T HOLD MOTOR BY LEAD WIRES NO OUTSIDE FORCE ON THE EXIT OF LEAD WIRES
	PLEASE DON'T PLUG OR UNPLUG THE MOTOR CONNECTOR WHILE POWER ON
	PLEASE DON'T DROP HURL AND DUMP MOTOR AGAINST HARD MATERIAL MALFUNCTION MAY NOT BE OBSERVED AT EARLY STAGE AFTER SUCH SHOCK BUT IT MAY BE FOUND LATER THIS TYPE OF MISHANDLING VOIDS OUR WARRANTY
	THE FUNCTION OR PERFORMANCE SHALL BE EVALUATED BY INSTALLING MOTOR TO APPLICATION THAT SHOULD BE CHECKED AT BUYER'S SIDE
	PLEASE DON'T REUSE DISASSEMBLED MOTOR
	OUR CORPORATION WILL NOT BE RESPONSIBLE FOR ANY PATENT DISPUTE OR PROBLEM CAUSED BY ACTUAL APPLICATIONS

SKY

MATERIAL	----						S60D120A-XXXX
FINISH	----	--	'20-12-24	----	00 First version	Hu Jinping	
		SYM	DATE	REVISION NO.	REVISIONS	BY	NOTE

DRAWN	DESIGNED	CHECKED	CHECKED	SCALE	--	TITLE	MOTR SPECIFICATION	THIRD ANGLI PROJECTION
Dongguan Kaifull '20-12-24 Xu Yuanhao	Dongguan Kaifull '20-12-24 Xu Yuanhao					DWG.NO.	Y-20-1224-0	
						SHEET	1/3	

5. NOTE

1.	MEASURED AT 1kHz 1Vrms
2.	MEASURED AT RATED CURRENT AND 2PHASE EXCITING
3.	MEASURED AT NO LOAD
4.	EXCLUDING HYSTERESIS 2PHASE EXCITING
5.	THERE SHOULD BE NO BREAK DOWN AT 50Hz&60Hz APPLIED FOR 1MINUTE BETWEEN MOTOR FRAME AND LEAD WIRES AND THE CUT OFF CURRENT IS 3mA MAX.
6.	APPLY 500V D.C BETWEEN MOTOR FRAME AND LEAD WIRES
7.	WITH TEST CIRCUIT OF FIG.1 MEASURED BY RESISTANCE METHOD WHEN MOTOR IS OPERATED AT 2PHASE EXCITING 2.0A/PHASE(PEAK)1400PPS NO LOAD WITH ALUMINIUM HEAT SINK160×160×t6
8.	WITH TEST CIRCUIT OF FIG.1 2PHASE EXCITING I=2.0A/PHASE(PEAK) AT 1400PPS BEARING TEMPERATURE MUST BE 80°C MAX. TO DO LIFE TEST AFTER LIFE TEST IT SHOULD CONFORMS THE ELECTRICAL SPECIFICATION UNDER OPERATION AMBIENT
9.	NO CONDENSATION

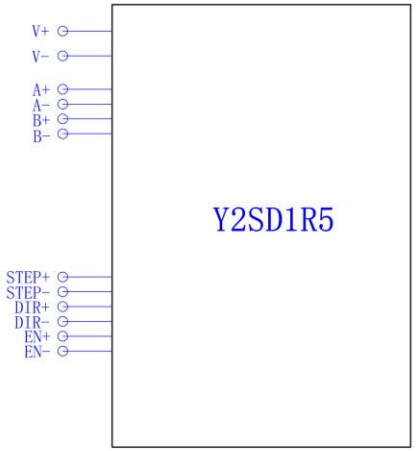
【TABLE1】 PHASE SEQUENCE （2 PHASE EXCITING)

STEP	A	B	$\overline{A}$	$\overline{B}$
1	+	+	−	−
2	−	+	+	−
3	−	−	+	+
4	+	−	−	+
5	+	+	−	−

【TABLE2】 COLOR OF LEAD WIRES

PHASE	A	B	$\overline{A}$	$\overline{B}$	ACOM	BCOM
COLOR	BLACK	RED	GREEN	BLUE	YELLOW	WHITE

FIG1. TEST DRIVE CIRCUIT



I=2.0A/PHASE(PEAK) ADJUSTED

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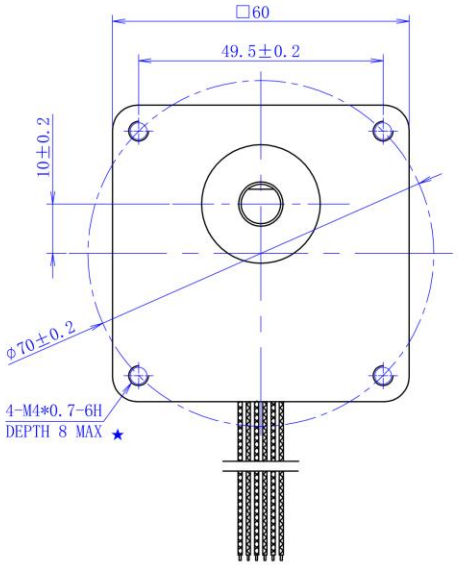
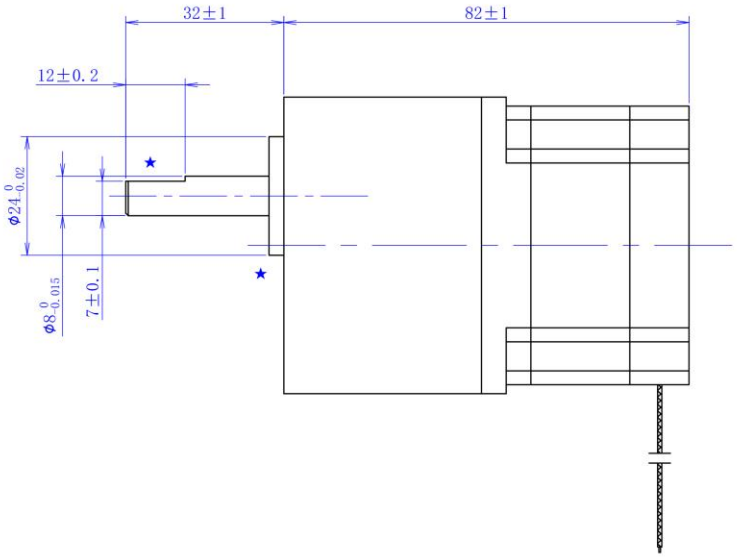
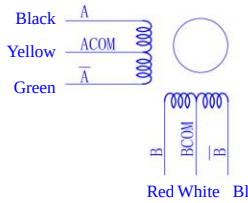
						SHEET	2/3	





Reduction ratio	Permissible torque	Back clearance	Transmission efficiency	Weight
3.6	1N.M	0.5°-1°	50%-80%	About 120g
7.2	2N.M	0.5°-1°	50%-80%	About 120g
9	2.5N.M	0.5°-1°	50%-80%	About 120g
10	2.7N.M	0.5°-1°	50%-80%	About 120g
18	3N.M	0.5°-1°	50%-80%	About 120g
36	4N.M	0.5°-1°	50%-80%	About 120g
50	4N.M	0.5°-1°	50%-80%	About 120g
100	4N.M	0.5°-1°	50%-80%	About 120g

[WIRING DIAGRAM]



SKY

PORTIONS MARKED BY ★ ARE USED BY CUSTOMER (MOUNTING·POWER TRANSMISSION·POWER SUPPLY)

TOLERANCES (EXCEPT AS NOTES)	±0.3

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							SHEET	3/3