

BRUSHLESS SERVOMOTOR SPECIFICATION:

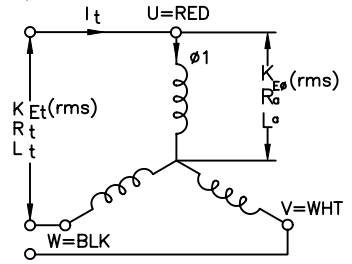
PERMANENT MAGNET 8 POLES, 3 PHASE Y CONNECTED MOTOR		
OPERATING TEMP RANGE: 0 - 40°C		
NON-OPERATING TEMP RANGE: -10 - 85°C		
OPERATING HUMIDITY RANGE W/O CONDENSATION: 85%RH		
WIEGHT: 0.5 KG (1.1 LB)		

* RATED OUTPUT:	P _R	W	100
* RATED TORQUE:	T _R	N-m (lb-in)	0.318(2.81)
* CONTINUOUS STALL TORQUE:	T _S	N-m (lb-in)	0.318(2.81)
PEAK TORQUE:	T _P	N-m (lb-in)	0.95(8.41)
* RATED SPEED:	N _R	r/min	3000
MAXIMUM SPEED:	N MAX	r/min	5000
ROTOR MOMENT OF INERTIA:	J _M	g-cm ² (oz-in-sec ²)	30 (4.25x10 ⁻⁴)
RATED POWER RATING:	Q _R	kW/s	34.5
MECHANICAL TIME CONSTANT:	t _m	ms	80
Φ FRICTION TORQUE:	T _t	N-m(lb-in)MAX	0.02(0.17)
INSULATION CLASS:			B
Φ INSULATION RESISTANCE:		100 MΩ MIN @	500VDC
Φ INSULATION STRENGTH:		AC 1000V	60sec
SHAFT END PLAY:		mm MAX	0.2
MAXIMUM RADIAL SHAFT LOAD:	N (lbf)	6.	78.4 (17)
MAXIMUM THRUST SHAFT LOAD:	N (lbf)		39.2 (8.8)
DIRECTION OF ROTATION:		A→B→C CCW	
SENSOR MISALIGNMENT:	δ	°e MAX	±8 FIG 2

VOLTAGE RATING:	VDC	24
* RATED WINDING CURRENT OF E.D.C.M.:	I _R	A (rms) 7.4
* CONTINUOUS STALL CURRENT OF E.D.C.M.:	I _S	A (rms) 7.0
NOLOAD WINDING CURRENT OF E.D.C.M.:	I _a	A (rms)
PEAK WINDING CURRENT OF E.D.C.M.:	I _P	A (rms)
TORQUE CONSTANT OF E.D.C.M.:	K _t	N-m/A±10% (lb-in/A) 0.046 (0.4)
Φ VOLTAGE CONSTANT OF E.D.C.M.:	K _e	V/rpm ±10% 4.8x10 ⁻³
Φ WINDING RESISTANCE OF E.D.C.M.:	R _a	Ω ±10% 0.46
Φ WINDING INDUCTANCE OF E.D.C.M.:	L _a	mH ±30% 0.64
ELECTRICAL TIME CONSTANT:	t _e	ms 1.4

1. E.D.C.M. LINE PHASE
CURRENT I (rms) = I_t (rms) = I_φ (rms)
VOLTAGE CONSTANT K_E(rms) = √3xK_Et(rms) = 3xK_Eφ(rms)
RESISTANCE R_a = 1.5xR_t = 3xR_φ
INDUCTANCE L_a = 1.5xL_t = 3xL_φ
2. VALUES WITH MARK * MEASURED AT 40°C WITH HEAT SINK, 200 X 200 X 6 thk ALUMINUM.
3. VALUES WITH MARK Φ ARE INSPECTION ITEMS. ALL VALUES ARE MEASURED AT 20 TO 30°C. THE VALUE WITHOUT TOLERANCE IS NOMINAL.
4. TSC P/N: TS4603 N_600 E500

FIGURE 1



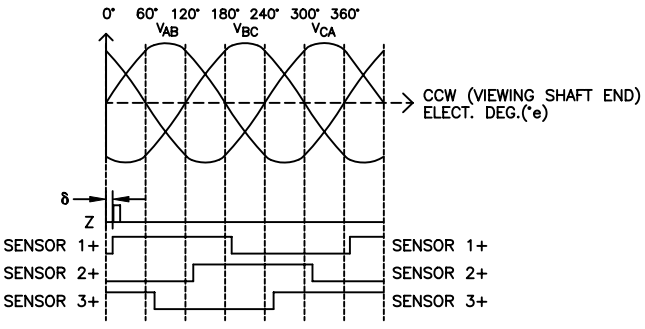
5. ALL VALUES WITHOUT BRAKE OR OIL SEAL.
6. ALLOWABLE RADIAL LOAD 20MM FROM FRONT FLANGE.
7. MOTOR SEALED TO IP65, EXCEPT FOR FRONT SHAFT.
8. THIS MOTOR TO BE MANUFACTURED IN COMPLIANCE WITH EU DIRECTIVE "ROHS 2002/95/EC".
9. MOTOR LABEL TO INCLUDE "ROHS" COMPLIANT.

<p>METRIC</p> <p>THIRD ANGLE PROJECTION</p>		ITEM NO.	QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION
		PARTS LIST				
FINISH:		TOLERANCES		CONTRACT NO.		<p>APPLIED MOTION PRODUCTS, INC.</p> <p>Alpha2 Electrical Spec.</p>
FINAL		DECIMALS: X.XX = ±.10 X.X = ±.20		NEMA or METRIC		
NEXT ASSY		ANGLES: MACH. = .5° CHAM. = ±5°		APPROVALS		
USED ON		MACH. = .5° CHAM. = ±5°		DATE		
APPLICATION				DRAWN R. BARRICK 10/15/08		100-24-40/17
				CHECKED R. Barrick 10/15/08		REV B
				APPROVED		SCALE: 1:1
				APPROVED		SHEET 1 OF 2

FIGURE 2-1

PHASE SEQUENCE (SINE WAVE)

- (1) MOTOR BACK E.M.F. WAVE FORM AT CW VIEWING MOTOR SHAFT (MECH. DEG)=2x(ELECT.DEG)/(POLES)
- (2) ENCODER OUTPUT



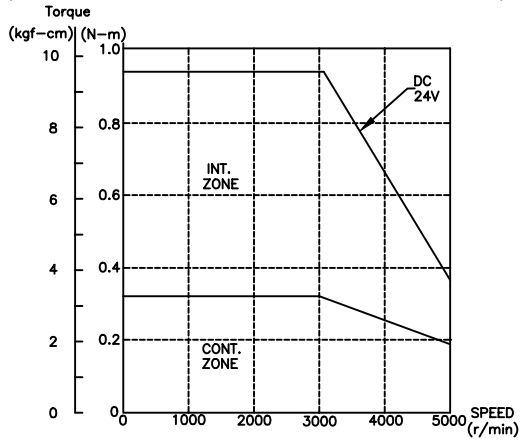
MOTOR SHAFT CAN BE LOCKED AT "0" BY APPLYING THE RATED CURRENT + TO TERMINAL "B" AND - TO TERMINAL "A".

Φ ENCODER: MODEL No: TS5212 N377, RESOLUTION 2000 LINES/REV.
BRAKE: IF FITTED

Φ RATED VOLTAGE	—	DCV±10%	24
Φ STATIC FRICTION TORQUE	T _s	N-m MIN (kgf-cm)	0.32 (3.25)
INPUT POWER	—	W	5 @ 20°C
ARMATURE RELEASE TIME	t _{ar}	ms MAX	(20)
ARMATURE PULL IN TIME	t _a	ms MAX	(40)

FIGURE 3

N-T CURVE
DC BUS VOLTAGE (LINE TO LINE) DC 24V.
(OUTPUT TORQUE MAY DEPEND ON DRIVING CIRCUIT.)



THIS SPEC NOT COMPLETE WITHOUT MECHANICAL ENVELOPE DWG (SEE BELOW)

N0100-103-A-XXX
N0100-153-A-XXX
M0100-103-3-XXX
M0100-153-3-XXX

TOLERANCES		THIRD ANGLE PROJECTION		<p>APPLIED MOTION PRODUCTS, INC.</p> <p>Alpha 2 Electrical Spec.</p>
DECIMALS: MM (INCH) X.XXX = ±0.01 (.005) X.XX = ±0.10 (.010) X.X = ±0.20 (.020)		APPROVALS		
ANGLES: MACH. = ±.5° CHAM. = ±5°		DATE		
COMPUTER DATA BASE DRAWING		DRAWN R. BARRICK 10/15/08		
		CHECKED R. Barrick 10/15/08		B
		APPROVED		DWG NO. 100-24-40/17
				REV B
				SCALE: FULL
				SHEET 2 OF 2