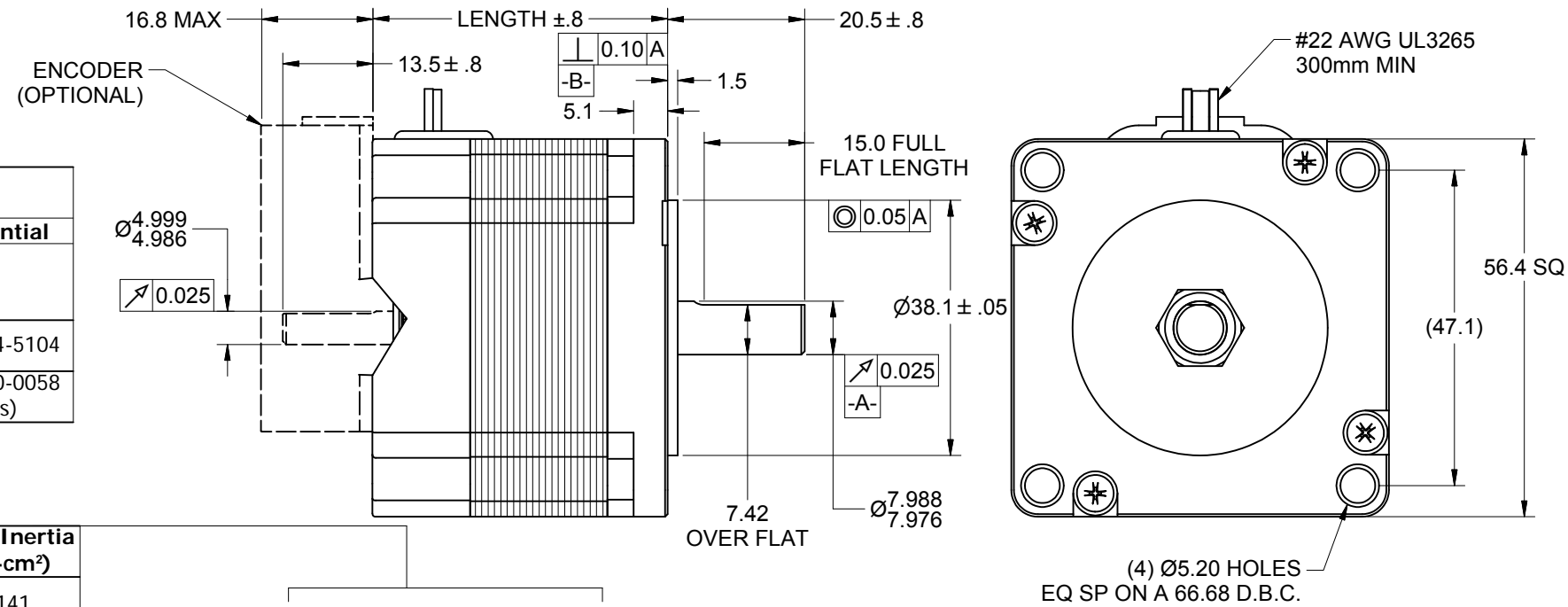


ENCODER WIRING DIAGRAM		
	5-Pin Single Ended	10-Pin Differential
Pin Location		
Connector Housing	N/A	(1) Molex# 15-04-5104
Connector	(1) Molex# 14-56-2052 (includes pins)	(2) Molex# 14-60-0058 (includes pins)



ENCODER ELECTRICAL SUPPLY		
	5-Pin Single Ended	10-Pin Differential
Volts DC	5 ±0.5	5 ±0.5
Current Max	33mA CPR<500, No Load	36mA CPR<500, No Load
	62mA CPR≥500, No Load	65mA CPR≥500, No Load

ENCODER PINOUTS				
Pin	5-Pin Single Ended	10-Pin Differential	10-Pin Differential	
1	Ground	BLACK	Ground	N/C
2	CH Z	GREEN	Ground	GRN/WHT
3	CH A	WHITE	CH Z-	WHT/ORN
4	+5VDC Power	RED	CH Z+	ORN/WHT
5	CH B	BROWN	CH A-	WHT/BLU
6			CH A+	BLU/WHT
7			+5VDC Power	WHT/GRN
8			+5VDC Power	N/C
9			CH B-	WHT/BRN
10			CH B+	BRN/WHT

Stepping Motor Number	Length (mm)	Motor Weight (g)	Rotor Inertia (Kg-cm ²)
TPE23M-54V	44.50	482	0.141
TPE23M-71A			
TPE23M-89V	56.00	680	0.247
TPE23M-117A			
TPE23M-160V	78.50	1049	0.431
TPE23M-208A			

TPE23M-54V21-1110-X

Character	Feedback	Output
X	None	None
B	400 CPR	Differential
D	1000 CPR	Differential
H	400 CPR	Single Ended
K	1000 CPR	Single Ended

ENCODER CABLES		
PART#	5-Pin Single Ended	10-Pin Differential
	44-0000018-002	44-0000018-001

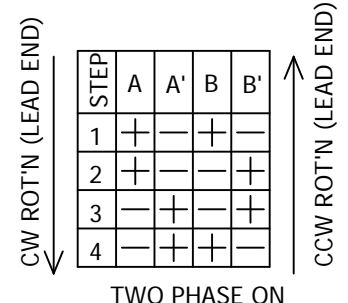
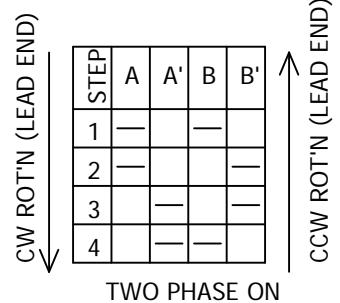
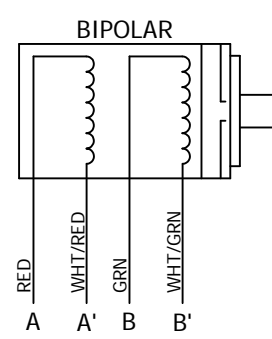
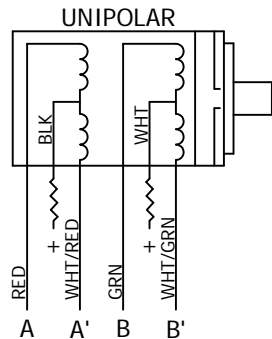
Metric Windings	Holding Torque (N-cm)	Unipolar(V)/Bipolar(A)	Rated Voltage (Vdc)	Rated Current (Amp)	Phase Resistance (Ohm)	Phase Inductance (mH)
54V21	54 V	2.10	3.00	0.70	1.10	
54V30	54 V	3.00	2.00	1.50	2.40	
54V59	54 V	5.90	1.00	5.90	9.60	
71A10	71 A	5.90	1.00	5.90	19.20	
71A20	71 A	3.00	2.00	1.50	4.80	
71A30	71 A	2.10	3.00	0.70	2.10	
89V28	89 V	2.80	3.00	0.92	2.10	
89V38	89 V	3.80	2.00	1.90	4.60	
89V78	89 V	7.80	1.00	7.80	18.40	
117A10	117 A	7.80	1.00	7.80	37.00	
117A20	117 A	3.80	2.00	1.90	9.20	
117A30	117 A	2.80	3.00	0.92	4.10	
160V36	160 V	3.60	3.00	1.20	3.20	
160V54	160 V	5.40	2.00	2.70	7.10	
160V106	160 V	10.60	1.00	10.60	28.50	
208A10	208 A	10.60	1.00	10.60	57.00	
208A20	208 A	5.40	2.00	2.70	14.20	
208A30	208 A	3.60	3.00	1.20	6.40	

Character	Step Angle
1	1.8°

Character	Motor Termination
0	Flying Leads
1	Connector

Character	Front Shaft Feature
0	Round
1	Flat

Character	Rear Shaft
0	None
1	Flat



6 LEAD CONNECTOR
AMP# 3-640428-6

4 LEAD CONNECTOR
AMP# 3-640428-4

UNIPOLAR, V

6 LEAD CONNECTOR PINOUT CHART

PIN NO.	LEAD COLOR
1	RED
2	BLACK
3	WHT/RED
4	GREEN
5	WHITE
6	WHT/GRN

BIPOLAR, A

4 LEAD CONNECTOR PINOUT CHART

PIN NO.	LEAD COLOR
1	RED
2	WHT/RED
3	GREEN
4	WHT/GRN

MOTOR TERMINATION OPTION

- NOTES:
- MAX LOAD AT 12.7mm FROM DATUM SURFACE -B- TO BE 71N RADIAL AND 111N THRUST.
 - BLACK ELECTROPHORETIC COATING, STATOR CORE ONLY.
 - NAMEPLATE INFORMATION TO INCLUDE: ELECTROCRAFT TRADEMARK LOGOS, MOTOR PART NUMBER, AMPS, VOLTS, DATE CODE AND COUNTRY OF ORIGIN.

01	ECN14-030 (ZH) 14-000854 (OH)	NEW ISSUE RELEASE	3/29/2014	DC
REV	ECO NO.	DESCRIPTION OF CHANGE	DATE	APRV BY
REVISION HISTORY				
THIS DRAWING AND OR SPECIFICATION IS THE PROPERTY OF ELECTROCRAFT INC. AND IT'S SUBSIDIARIES AND IS ISSUED IN STRICT CONFIDENCE AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR THE MANUFACTURE OR RESALE OF APPARATUS WITHOUT PRIOR WRITTEN PERMISSION		UNLESS OTHERWISE SPECIFIED DO NOT SCALE DRAWING DIMENSION UNITS: INCHES [mm] BREAK ALL EDGES: .015 [0.38] FILLET & RADII: .015 [0.38] DEFAULT TOLERANCES .XX DECIMAL: ±.01 [0.25] .XXX DECIMAL: ±.005 [0.13] ALL ANGLES: ±1°	MATERIAL FINISH SEE NOTE 2 CUSTOMER CUSTOMER P/N REV	THIRD ANGLE PROJECTION
REFERENCE DRAWING			ROHS YES	SHEET 1 OF 1
DWG NO.			STEPPER OUTLINE	
TPE23M-ROTARY				