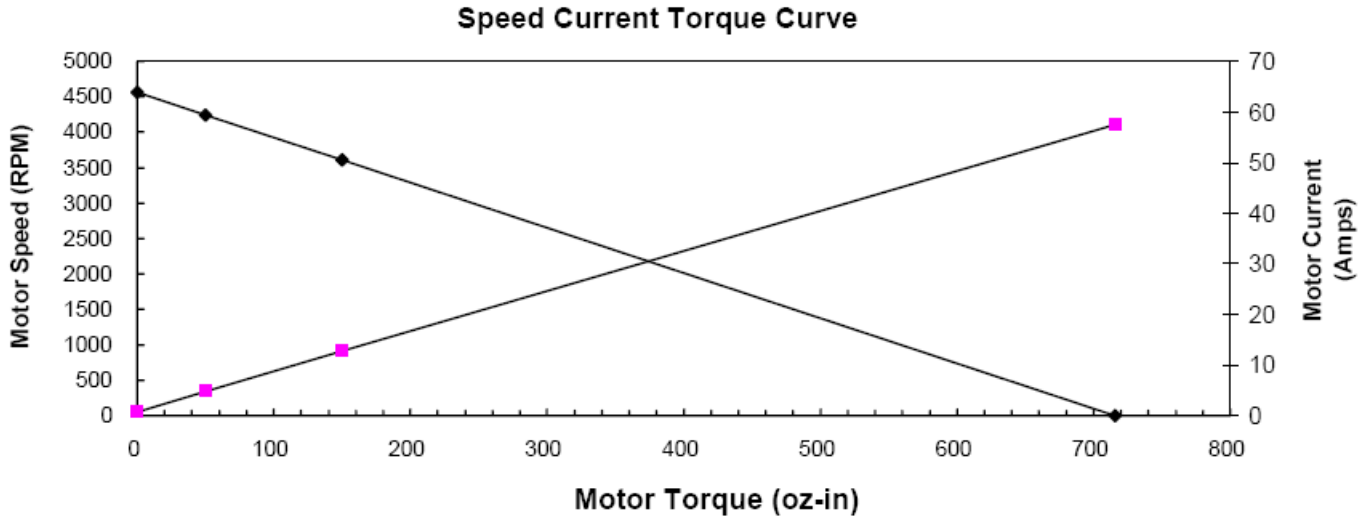
BRUSHED MOTOR SPECIFICATIONS

Product No.: 82BDS147-209-xxx Customer:

By: **ZHJ** Date: 2014-04-08 (updated 2014-06-13)

This is a calculation data sheet

SPECS	Series	Frame	Stack Code	Winding	Part No	Options	Gear Ratio
MODEL #	**2P**	**82**	**08**	**C2**	**XXX**		
V input =	***42***	*Vdc*			Input Voltage	90% Efficiency	
Ke =	***9.20***	*V/krpm*			Voltage Constant		
Kt =	12.4	*Oz-in/A*		0.09Nm/A	Torque Constant		
Rt =	***0.73***	Ohms(@20° C)			Terminal Resistance + Amplifier		
Io=	*0.79*	*Amps*			No load current		
RPM nl =	4565	*RPM*			No Load RPM		
T 1 =	***50***	*Oz-in*		0.35 Nm	Torque-1	0.0 Nm	
I 1 =	4.81	*Amps*			Current @ Torque=T1		
RPM 1 =	4246	*RPM*			RPM @ T-1	#DIV/0! RPM	
P1=	157	*W*			Power Out		
T 2 =	***150*** *Oz-in*	1.06 Nm			Torque-2	0.0 Nm	
I 2 =	**12.8** *Amps*				Current @ Torque=T2		
RPM 2=	**3609** *RPM*				RPM @ T-2	#DIV/0! RPM	
T st =	716 *Oz-in*	5.05 Nm			Stall Torque (@ E in)		
I samp =	57.5 *Amps*				Stall Current		
R th =	***3.1*** *°C/W*				Thermal Resistance		
T rise@T1 =	139 *°C*				Temperature Rise (above ambient)		
T w@T1 =	47 *°C*				Winding Temperature Rise (above ambient)		



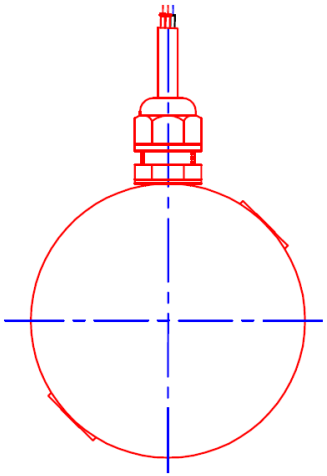
Calculation data

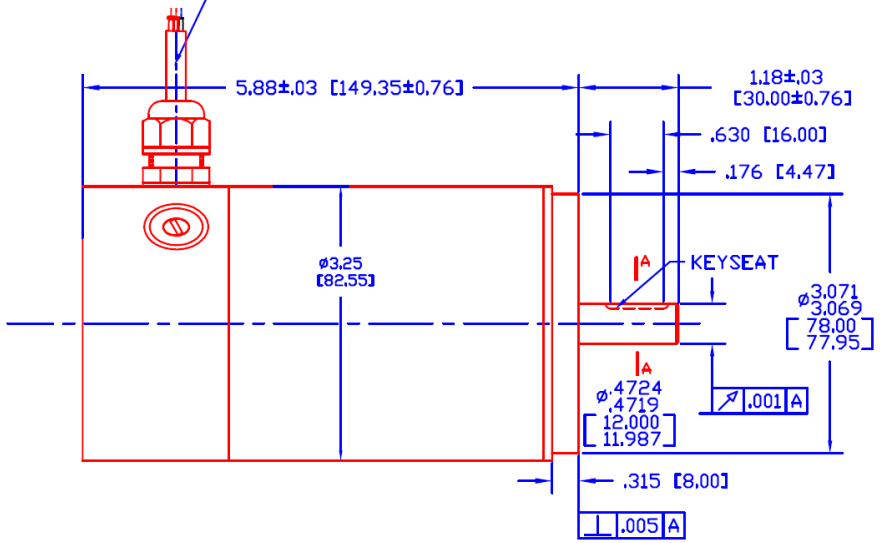
Voltage	Torque	RPM	Amp	Efficiency	Watts Out
42	0	4565	0.8	0.00%	0
42	50	4246	4.8	77.80%	157
42	150	3609	12.8	74.20%	400
42	716	0	57.5	0.00%	0

REVISIONS			
REV	DESCRIPTION	APPROVED	DATE
A	PROTOTYPE	QIAO	2014/06/12

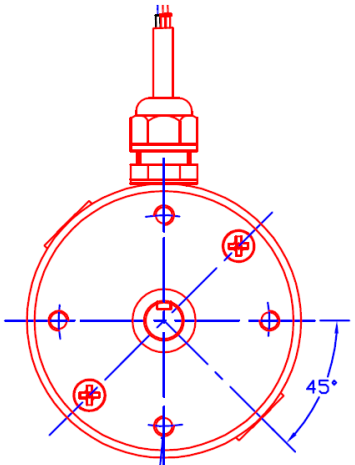
DRAFT 2014/06/13

MOTOR LEADS CABLE 3×1.0mm² AWG
44"±1"[1118mm±25.4mm] LENGTH
COLOR FUNCTION
RED MOTOR (+)
BLACK MOTOR (−)
WHITE DRAIN
TRIP BACK INSULATION .3"±.1[76mm±2.5mm]



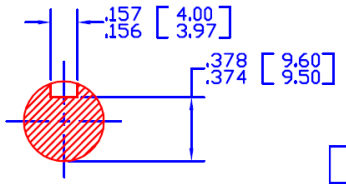


DIRECTION
OF ROTATION



M6X10mm DEEP (4)
HOLES 90° APART
ON A ø2.500 [63.50] B.C.

A-A



MOTOR SPECIFICATIONS:
TORQUE CONSTANT (Kt) = 12.4 ±10% OZ-IN/AMP
VOLTAGE CONSTANT (Ke) = 9.2 ±10% VOLTS/KRPM

NOTE: MOTOR ROTATION IS CLOCKWISE WHEN VIEWED FROM OUTPUT SHAFT WITH POSITIVE VOLTAGE APPLIED TO RED LEAD.

UNLESS OTHERWISE SPECIFIED TOLERANCES		
DECIMALS	INCH	MM
.0	±.020	±0.50
.00	±.010	±0.25
.000	±.005	±0.13
ANGLES	± ½°	± ½°
BREAK ALL SHARP EDGES		
PROJECTION		

Motion Control Products Ltd.
Tel.: 01202 599922

TITLE: MOTOR ASSEMBLY

SIZE: D | DWG. NO.: 82BDS147-209-040 | REV: A

USED ON

SCALE: 1 : 1 | SHEET 1 OF 2

APPROVALS	DATE
DRAWN QIAO	2014/06/12
CHECKED	
APPROVED	