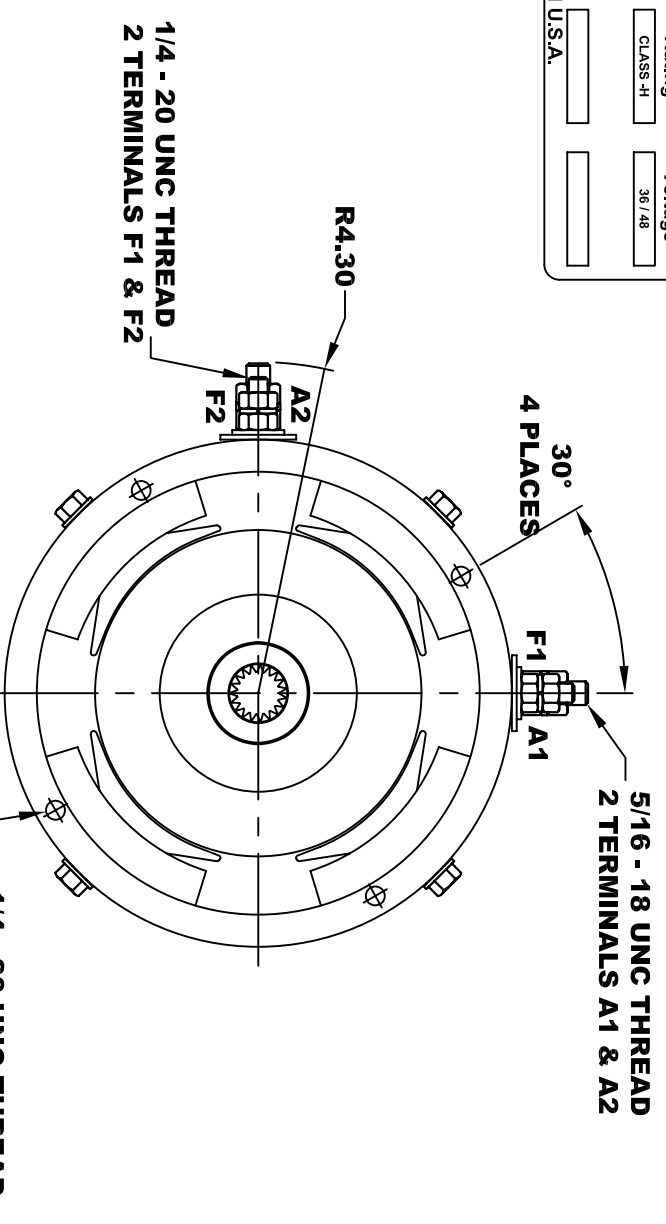
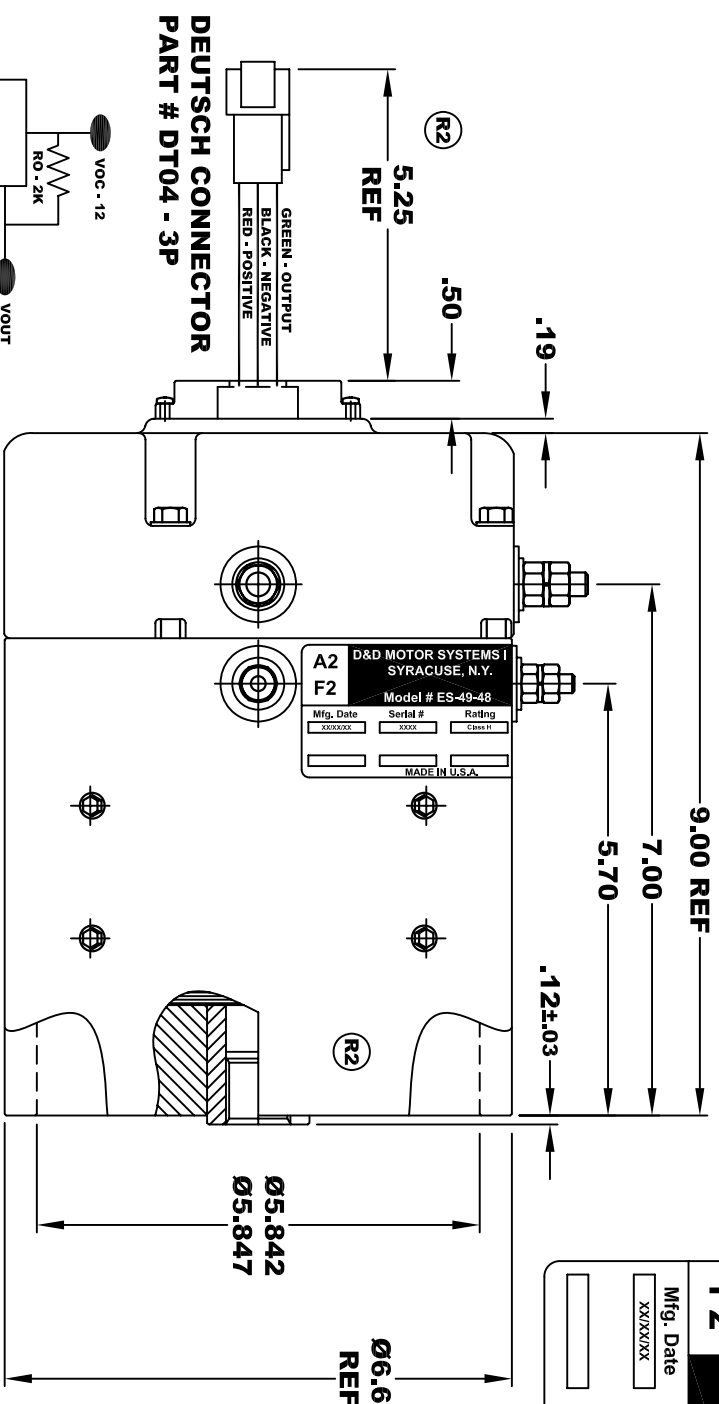
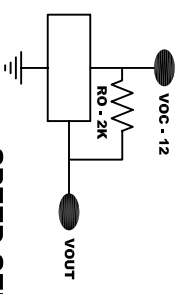


<b>D&amp;D MOTOR SYSTEMS INC.</b>			
SYRACUSE N.Y.			
<b>A2</b>	<b>Model # ES-49-48</b>		<b>A1</b>
<b>F2</b>	Mfg. Date	Serial #	Rating
	xxxx/xx	xxxx	CLASS -H
			36 / 48
			MADE IN U.S.A.



**TORQUE SPECIFICATION FOR POWER CABLE SECURING TOP NUTS**  
 5/16-18 UNC (A1 / A2) - 110 IN / LBS MAX  
 1/4-20 UNC (F1 / F2) - 50 IN / LBS MAX

**DEUTSCH CONNECTOR**  
**PART # DT04 - 3P**

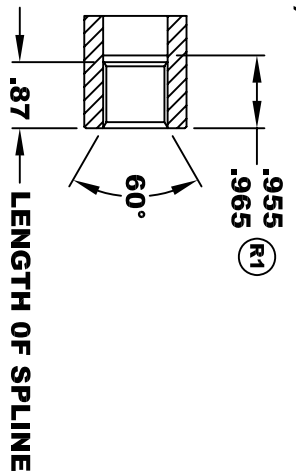


**SPEED SENSOR ELECTRICAL SPECIFICATION:**

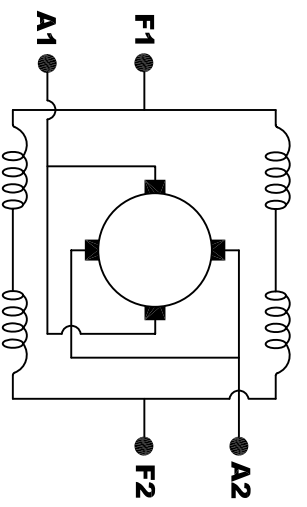
- 4.5V TO 24V OPERATING VOLTAGE
- 20°C TO 85°C OPERATING TEMPERATURE
- CURRENT SINKING UP TO 25mA
- AN EXTERNAL OUTPUT PULL UP RESISTOR IS REQUIRED
- SENSOR IS DESIGNED TO OPERATE WITH 4 N/S POLEPAIRS
- THE OPERATIONAL DISTANCE BETWEEN THE MAGNET AND THE HOUSING, INCLUDING ANY RUNOUT SHOULD NOT EXCEED .030 INCHES

**INTERNAL INVOLUTE SPLINE SPECIFICATION**  
**CLASS 5 FILLET ROOT SIDE FIT (PER A.N.S.I. B92.1)**

NO. OF TEETH	19
SPLINE PITCH	24 / 48
PRESSURE ANGLE	45°
BASE Ø	.5597 REF
PITCH Ø	.7916 REF
MAJOR Ø	.850 - .859
FORM Ø	.835
MINOR Ø	.767 - .772
CIRCULAR SPACE WIDTH	.0764
EFFECTIVE SPACE WIDTH	.0738
MAX. DIMENSION BETWEEN TWO PINS	.6714
PIN Ø	.0800
SPLINE HARDNESS TO BE R/C	26-34



**MOTOR WEIGHT: 46 LBS**  
**CLASS "H" INSULATION**  
**PERFORMANCE SPEC: 48**



**ELECTRICAL WIRING DIAGRAM**

**MOTOR WIRING CONNECTIONS:**  
**CW ROTATION DRIVE END**  
**CONNECT A1 & F1 TO ONE BATTERY TERMINAL**  
**CONNECT A2 & F2 TO OTHER BATTERY TERMINAL**  
**CCW ROTATION DRIVE END**  
**SWITCH F1 & F2 CONNECTIONS**

THIS PRINT IS THE PROPERTY OF D&D MOTOR SYSTEMS INC.  
 DO NOT SCALE  
 WORK TO DIMENSIONS  
 TOLERANCES UNLESS OTHERWISE SPECIFIED ARE AS FOLLOWS  
 .XX ± .01  
 .XXX ± .005  
 .XX ROUGH CASTING ± .03  
 HOLES ± .001 / +.006  
 ANGLES 0°30"

**D & D MOTOR SYSTEMS INC**  
**MOTOR OUTLINE**

SIZE	DRAWN DATE	RELEASE DATE	DWG NO. / PART NO.	REV
B	3-18-04		ES-49-48	R2
SCALE	STF	DRAWN BY	MJG	REV DATE
				12-8-09