

# MOTOR DATA @ 230 VAC (SINE)

| MOTOR PARAMETERS                     | UNITS   | VALUE           |
|--------------------------------------|---|-----------------|
| HORSEPOWER                           | HP  | 1.10            |
| KILOWATTS                            | KW RATED  | .85             |
| MAX. OPERATING SPEED                 | N. MAX RPM  | 2000            |
| SPEED @ RATED TORQUE                 | N RATED RPM                                       | 1500            |
| * CONTINUOUS RATED TORQUE @ 1500 RPM | IN-LBS[Nm]  | 36.0[4.0]       |
| * CONTINUOUS STALL TORQUE            | IN-LBS[Nm]  | 39.0[4.4]       |
| CONTINUOUS LINE CURRENT              | AMPS[RSM/φ]                                       | 2.1             |
| PEAK TORQUE                          | IN-LBS[Nm]  | 137.0[15.5]     |
| PEAK CURRENT                         | AMPS[RSM/φ]                                       | 7.9             |
| MAX. THEORETICAL ACCEL.              | RAD/SEC <sup>2</sup>                              | 90,132          |
| TORQUE SENSITIVITY                   | Kt [N-LBS/AMPERE][RAD/φ][Nm/AMP/RS/φ]             | 17.5[1.98]      |
| BACK EMF (LINE TO LINE)              | Vrms/Krpm   | 110.0           |
| D.C. RESISTANCE (P-P)                | OHMS  | 7.7             |
| INDUCTANCE (P-P)                     | MILLIHENRIES                                      | 29.1            |
| ROTOR INERTIA W/BRAKE                | Jm [IN-LBS-SEC <sup>2</sup> ][Kg-M <sup>2</sup> ] | .00152[.000171] |
| STATIC FRICTION                      | Tf [IN-LBS][Nm]                                   | 0.6[0.07]       |

\*25°C AMBIENT WITH A MAXIMUM CASE TEMPERATURE OF 100°C ON MOTOR. MOTOR MOUNTED ON A 10" X 10" X 1/4" ALUMINUM HEATSINK. THERMOSTAT IN STATOR WINDINGS WILL OPEN IF WINDING TEMPERATURE EXCEEDS 155°C. THIS ALLOWS FOR AN APPROXIMATE +10% HEADROOM IN THE CONTINUOUS TORQUE RATING BEFORE THERMOSTAT OPENS.

### MECHANICAL NOTES:

1. AXIAL LOAD: 25 LBS MAX
2. RADIAL LOAD: 40 LBS MAX @ 1" FROM FACE
3. MOTOR SEALED TO IP65.
4. MOTOR WEIGHT: 14.6 LBS. [ 6.6 kg]
5. MOTOR FINISH: BLACK EPOXY
6. MOTOR OUTPUT SHAFT: STAINLESS STEEL
7. MILLIMETERS (INCHES)

### FAILURE BRAKE:

MIN HOLDING TORQUE: 90 FT-LBS  
 INPUT VOLTAGE: 24 VOLTS  
 ENCODER: (290-00073)  
 OIH48-2048P6-L6-5V

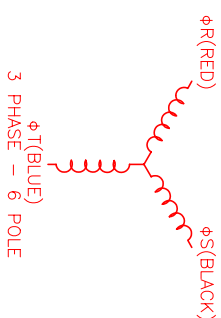
### CONNECTION CHART

ENCODER/THERM CONNECTOR:  
 PTO2E-14-18P(027)  
 (270-00024)

MOTOR/BRAKE CONNECTOR:  
 PTO2E-16-8P(027)  
 (270-00032)

| ENC/THERM WIRE LEADS | WIRE FUNCTION | WIRE COLOR |
|----------------------|---------------|------------|
| PIN T                | GROUND        | BLACK      |
| K                    | +5VDC         | RED        |
| B                    | CH A          | BLUE       |
| C                    | CH A V        | BLUE/BLK   |
| N                    | CH B          | GREEN      |
| P                    | CH B V        | GRN/BLK    |
| M                    | CH Z          | YELLOW     |
| U                    | CH Z V        | YEL/BLK    |
| E                    | CH U          | BROWN      |
| R                    | CH U V        | BRN/BLK    |
| F                    | CH V          | GRAY       |
| S                    | CH V V        | GRAY/BLK   |
| G                    | CH W          | WHITE      |
| H                    | CH W V        | WHT/BLK    |
| D                    | GND/CABLE     | SHLD       |
| A                    | THERM         | BLACK      |
| L                    | THERM         | BLACK      |
| J                    | GND           | GRN/YEL    |

| MOTOR/BRAKE WIRE LEADS | PIN      | WIRE FUNCTION | WIRE COLOR |
|------------------------|----------|---------------|------------|
| A                      | φR       | RED           | RED        |
| B                      | φS       | BLACK         | BLACK      |
| C                      | φT       | BLUE          | BLUE       |
| D                      | PE GND   | GRN/YEL       | GRN/YEL    |
| E                      | BRK SHLD | —             | —          |
| F                      | BRK (+)  | DIODE         | —          |
| G                      | BRK (-)  | 1N4007        | —          |
| H                      | —        | —             | —          |

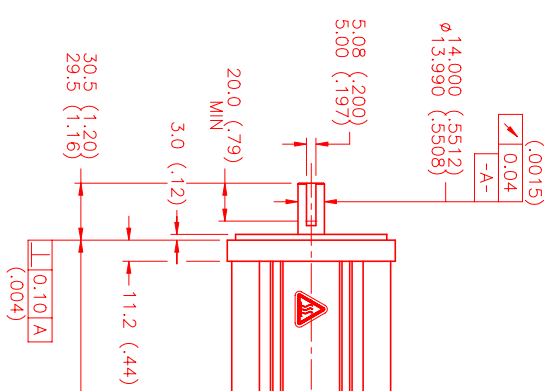
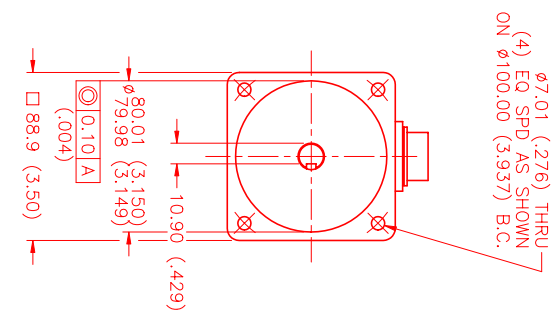


### MOTOR & HALL POSITION CHART

| HALL LEADS  | BROWN                | GRAY                | WHITE                 |
|-------------|----------------------|---------------------|-----------------------|
| MOTOR LEADS | BLACK respect to RED | RED respect to BLUE | BLUE respect to BLACK |

VIEW ON THE OSCILLOSCOPE

\*MOTOR ROTATION CCW (COUNTER CLOCKWISE) (LOOKING AT THE FACE OF THE MOTOR)



PTO2E-16-8P(027) MATING CONNECTOR: PTO6E-16-8S(476)

PTO2E-14-18P(027) MATING CONNECTOR: PTO6E-14-18S(476)

64 (2.5) MAX

| NO.              | PART NUMBER | DESCRIPTION | QTY. |
|------------------|-------------|-------------|------|
| UNLESS SPECIFIED |             |             |      |
| REVISIONS        |             |             |      |
| REV.             | DESCRIPTION | DATE        | APP. |
| PRELIMINARY      |             | 5/7/02      | LIN  |

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| PRELIMINARY      |             | 5/7/02      | LIN  |

**MTS** MTS Systems Corporation  
 Automation Division

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