

**MOTOR DATA @ 110 VAC (SINE)**

| MOTOR PARAMETERS                     | UNITS  | VALUE               |
|--------------------------------------|--|---------------------|
| HORSEPOWER                           | HP   | 0.46                |
| KILOWATTS                            | KW   | 0.35                |
| MAX. OPERATING SPEED                 | N. MAX RPM   | 2600                |
| SPEED @ RATED TORQUE                 | N RATED RPM  | 2000                |
| * CONTINUOUS RATED TORQUE @ 2000 RPM | IN-LBS [Nm]  | 14.5 [1.6]          |
| * CONTINUOUS STALL TORQUE            | IN-LBS [Nm]  | 16.0 [1.8]          |
| CONTINUOUS LINE CURRENT              | AMPS (RMS/φ)                                       | 2.8                 |
| PEAK TORQUE                          | IN-LBS [Nm]  | 48.0 [5.4]          |
| PEAK CURRENT                         | AMPS (RMS/φ)                                       | 7.8                 |
| MAX. THEORETICAL ACCEL.              | RAD/SEC <sup>2</sup>                               | 78,049              |
| TORQUE SENSITIVITY                   | Kt [N-LBS/AMP (RMS/φ)] [Nm/AMP (RMS/φ)]            | 5.91/.67            |
| BACK EMF (LINE TO LINE)              | Vrms/Krpm  | 37.6                |
| D.C. RESISTANCE (P-P)                | OHMS   | 3.8                 |
| INDUCTANCE (P-P)                     | MILLIHENRIES                                       | 10.4                |
| ROTOR INERTIA                        | Jm [IN-LBS-SEC <sup>2</sup> ] [Kg-M <sup>2</sup> ] | .000615 [0.0000693] |
| STATIC FRICTION                      | Tf [IN-LBS] [Nm]                                   | .4 [0.05]           |

\*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:**

- AXIAL LOAD: 25 LBS MAX
- RADIAL LOAD: 40 LBS MAX @ 1" FROM FACE
- MOTOR SEALED TO IP65.
- MOTOR WEIGHT: 6.6 LBS. [ 3.0 Kg ]
- MOTOR FINISH: BLACK EPOXY
- MOTOR OUTPUT SHAFT: STAINLESS STEEL
- MOTOR INCHES (MILLIMETERS)

**ENCODER: (290-000664)**  
OH48-1000P6-L6-SV

**CONNECTION CHART**

MOTOR CONNECTOR:  
PT02E-14-5P(027)  
(270-00026)

| MOTOR WIRE | WIRE LEADS          |
|------------|---------------------|
| PIN        | WIRE FUNCTION COLOR |
| A          | φR RED              |
| B          | φS BLACK            |
| C          | φT BLUE             |
| D          | PE GND GRN/YEL      |
| E          | -                   |

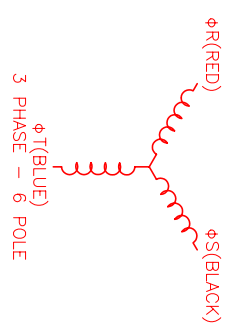
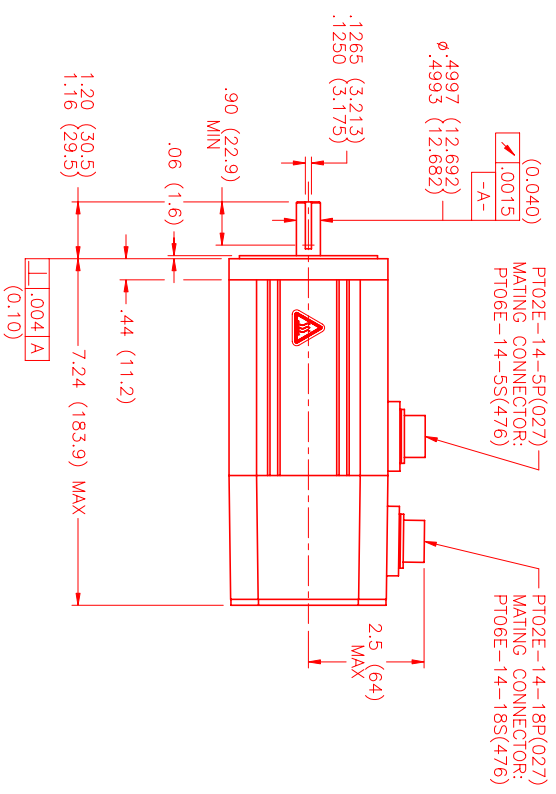
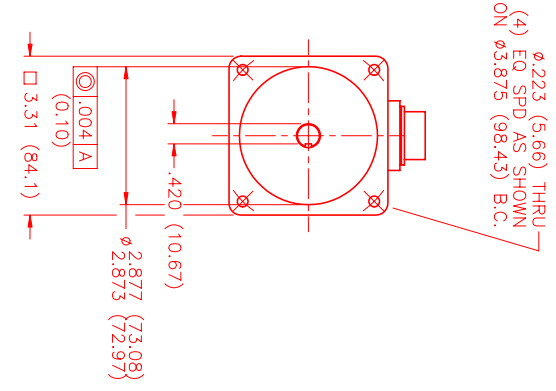
ENCODER/THERM CONNECTOR:  
PT02E-14-18P(027)  
(270-00024)

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

**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 | AAV                  | AAA                 | AAA                   |

MOTOR ROTATION CCW (COUNTER CLOCKWISE)  
(LOOKING AT THE FACE OF THE MOTOR)  
WAVE REPRESENTING STATOR OUTPUT  
WAVE REPRESENTING HALL SENSOR



| NO.          | PART NUMBER | DESCRIPTION                                 | QTY.                     |
|--------------|-------------|---|--------------------------|
| 1            | MTS         | MTS Systems Corporation Automation Division |                          |
| DATE:        | 3/22/02     | TITLE:                                      | "A"/SINE/110/ENG/TT/CONN |
| DESIGNED BY: | AJS         | CHECKED BY:                                 |                          |
| APPROVED BY: |             | DRAWING NUMBER:                             | MPM891ASF6JM1N           |
| SCALE:       | 1/2:1       |   |                          |