FMI STQP PUMP DRIVE MODULE

MOTOR POWER HARNESS
(8X) 22AWG X 12” LONG

OPTICAL SENSOR HARNESS
(5X) 26 AWG X 24” LG

NOTE: DIMENSIONS ARE IN INCHES [MILLIMETERS]
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.XX = ±.02 [.51]
.XXX = ±.010 [.254]
### MOTOR VALUE DATA, ALL VALUES TYPICAL AT 40°C UNLESS OTHERWISE NOTED

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>BI-POLAR 4-LEAD SERIES</th>
<th>BI-POLAR 4-LEAD PARALLEL</th>
<th>UNIPOLAR 6-LEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC RATED CONT. CURRENT/PHASE</td>
<td>AMPS</td>
<td>1.75</td>
<td>3.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Ke VOLTAGE CONSTANT/PHASE ± 10%</td>
<td>Vpk/RAD/SEC</td>
<td>0.412</td>
<td>0.206</td>
<td>0.206</td>
</tr>
<tr>
<td>Rp RESISTANCE: 25°C ±10%</td>
<td>OHMS</td>
<td>2.22</td>
<td>56</td>
<td>1.11</td>
</tr>
<tr>
<td>Lp PHASE INDUCTANCE ±20%</td>
<td>mH</td>
<td>9.2</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Th HOLDING TORQUE (2-PHASE ON)</td>
<td>OZ_IN (Nm)</td>
<td>116 (0.82)</td>
<td>116 (0.82)</td>
<td>82 (0.58)</td>
</tr>
<tr>
<td>Tr LOW SPEED RUNNING TORQUE</td>
<td>OZ_IN (Nm)</td>
<td>89 (0.63)</td>
<td>89 (0.63)</td>
<td>63 (0.44)</td>
</tr>
<tr>
<td>Td DETENT TORQUE</td>
<td>OZ_IN (Nm)</td>
<td>4.0 (0.028)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jm MOTOR INERTIA</td>
<td>OZ-IN-SEC (KG-M²10⁻⁴)</td>
<td>0.0017</td>
<td>(0.012)</td>
<td></td>
</tr>
<tr>
<td>RTH THERMAL RES, WINDINGS TO AMBIENT</td>
<td>DEGREES C PER WATT</td>
<td>5.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEP ANGLE</td>
<td>DEGREES OF ROTATION</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*RECOMMENDED HOOK UP FOR BEST PERFORMANCE.*

### DRIVER CONNECTION

#### DRIVER CONNECTION (3)

- **BIPOLAR FULL STEP PHASE SEQUENCING**
  - **STEP**: A A B B
  - **CCW**: + - - +
  - **CW**: - - + -

#### DRIVER CONNECTION (3)

- **UNIPOLAR FULL STEP PHASE SEQUENCING**
  - **STEP**: A B C D
  - **CCW**: + = POSITIVE CURRENT FLOW
  - **CW**: - = NEGATIVE FLOW
  - **GND**: O = OFF OR OPEN
  - **GND**: G = GROUND

### NOTES:
1. WITH RATED CURRENT APPLIED.
2. WINDINGS AT 130°C MOTOR UNMOUNTED IN STILL AIR AT 40°C (AMBIENT).
3. SMALL SIGNAL INDUCTANCE AS MEASURED AT WITH IMPEDANCE BRIDGE @ 1 KHZ, 1 AMP.
4. SUGGESTED MATING CONNECTOR AMP# 641653-8 OR EQUIVALENT.
5. INDICATED DIRECTION WHEN VIEWED FROM MOTOR DRIVE SHAFT END.
6. OPERATING TEMPERATURE -20°C TO +40°C.

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**FMI P/N 300615 - 23 FRAME STEP MOTOR**

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