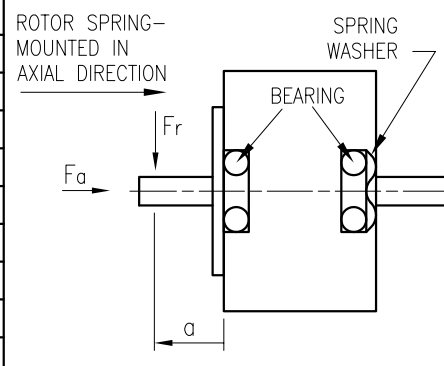


| SPECIFICATION | CONNECTION | UNIPOLAR OR BIPOLAR-1 WINDING | BIPOLAR | |
|--|------------|----------------------------------|--------------|--------------|
| | | | SERIAL | PARALLEL |
| VOLTAGE (VDC) | | 1.5 | 2.23 | 1.11 |
| AMPS/PHASE | | 4.5 | 3.18 | 6.36 |
| RESISTANCE/PHASE (Ohms)@25°C | | 0.35±15% | 0.7±15% | 0.18±15% |
| INDUCTANCE/PHASE (mH) @1KHz | | 1.1±20% | 4.4±20% | 1.1±20% |
| HOLDING TORQUE (Nm) [lb-in] | | 1.3 [11.51] | 1.84 [16.28] | 1.84 [16.28] |
| DETENT TORQUE (Nm) [lb-in] | | 0.039 [0.345] | | |
| STEP ANGLE (°) | | 1.8 | | |
| STEP ACCURACY (NON-ACCUM) | | ±5% | | |
| ROTOR INERTIA (Kg-m ²) [lb-in ²] | | 5.6x10 ⁻⁵ [0.191] | | |
| WEIGHT (Kg) [lb] | | 1.4 [3.087] | | |
| TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED) | | | | |
| AMBIENT TEMPERATURE -10°C~ 50°C [14°F ~ 122°F] | | | | |
| INSULATION RESISTANCE 100 MOhm (UNDER NORMAL TEMPERATURE AND HUMIDITY) | | | | |
| INSULATION CLASS B 130° [260°F] | | | | |
| DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASING) | | | | |
| AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION) | | | | |

PERMISSIBLE RADIAL+AXIAL FORCE

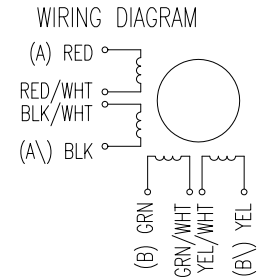


| | AXIAL-FORCE Fa (N) | | | |
|---------------------|--------------------|--------|-----|-----|
| | 5 | 10 | 15 | 20 |
| DISTANCE a (mm) | 5 | 10 | 15 | 20 |
| RADIAL-FORCE Fr (N) | Fa=25 | | | |
| | 228 | 169 | 139 | 100 |
| SHAFT PLAY (mm) | AXIAL | RADIAL | | |
| | 0.075 | 0.025 | | |
| AT LOAD MAX: (N) | 10 | 5.0 | | |

| UNIPOLAR | TYPE OF CONNECTION (EXTERN) | | | MOTOR | |
|----------|-----------------------------|-------------------|----------|---------|---------|
| | 1WINDING | BIPOLAR SERIAL | PARALLEL | LEADS | WINDING |
| A | A | A | A | RED | A |
| COM | | | | RED/WHT | |
| A\ | | A\ | A\ | BLK/WHT | A\ |
| B | B | B | B | BLK | B |
| COM | | | | GRN | |
| B\ | | B\ | B\ | GRN/WHT | B\ |
| | | | | YEL/WHT | |
| | | | | YEL | |

FULL STEP 2 PHASE-Ex.,
WHEN FACING MOUNTING END (X)

| STEP | AXIAL | | | | RADIAL |
|------|-------|---|----|----|---------------|
| | A | B | A\ | B\ | |
| 1 | + | + | - | - | CCW ↑ ↓ CW |
| 2 | - | + | + | - | |
| 3 | - | - | + | + | |
| 4 | + | - | - | + | |



| | | | | | | | | | |
|-----|-------------|------|------|-------------|------------|-----------|-------------|----------|-----------------------|
| | | | | NANOTEC: | SCALE FREE | APVD | <i>S.K.</i> | 20.07.06 | STEPPING MOTOR |
| | | | | SH8618S4508 | X ±0.5 | CHKD | | | |
| REV | DESCRIPTION | DATE | APVD | | 1PL ±0.2 | DRN | <i>J.W.</i> | 17.07.06 | |
| | | | | | 2PL ±0.1 | SIGNATURE | | DATE | SH8618S4508 |
| | | | | | ANGLE ±30' | | | | |