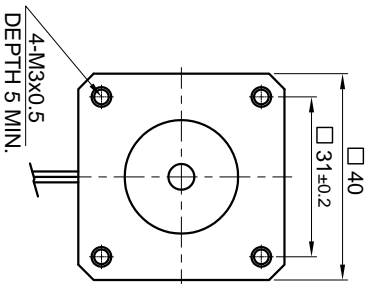
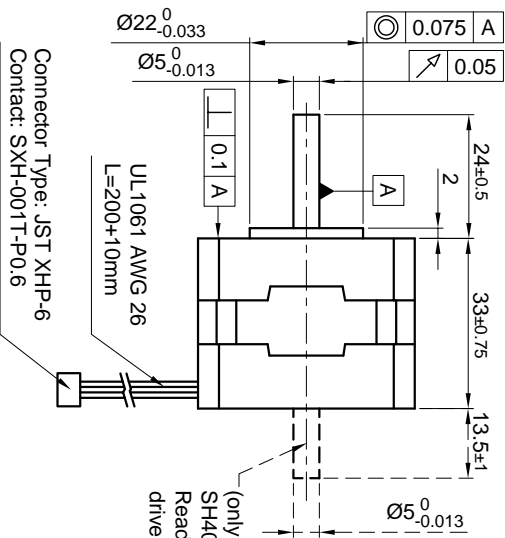


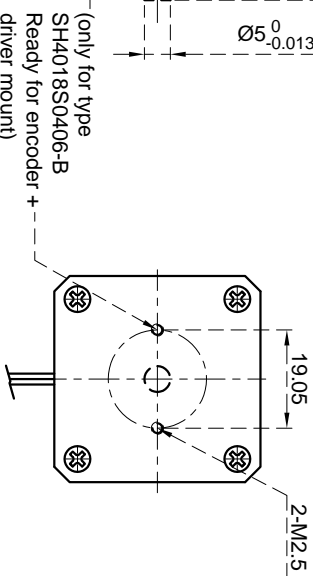
Front view and mounting



Side view

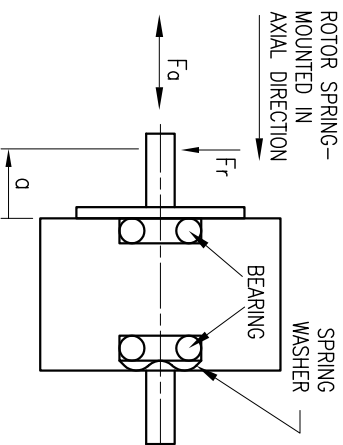


Rear view



| CONNECTION | UNIPOLAR OR BIPOLAR-1 WINDING | BIPOLAR SERIAL |
|--|-------------------------------|---|
| SPECIFICATION | | |
| VOLTAGE (VDC) | 12 | 17 |
| AMPS/PHASE | 0.4 | 0.28 |
| RESISTANCE/PHASE (Ohms)@25°C | 30±15% | 60±15% |
| INDUCTANCE/PHASE (mH) @1KHz | 20±20% | 80±20% |
| HOLDING TORQUE (Nm) [lb-in] | 0.10 [0.885] | 0.141 [1.248] |
| DETENT TORQUE (Nm) [lb-in] | | 3.0x10 ⁻³ [0.0266] |
| STEP ANGLE (°) | | 1.8 |
| STEP ACCURACY (NON-ACCUM) | | ±5% |
| ROTOR INERTIA (Kg-m ²) [lb-in ²] | | 1.9x10 ⁻⁶ [6.49x10 ⁻³] |
| WEIGHT (Kg) [lb] | | 0.2 [0.441] |
| TEMPERATURE RISE: MAX.80°C (MOTOR STANDSTILL; FOR 2 PHASE ENERGIZED) | | |
| AMBIENT TEMPERATURE -10°~ 50°C [14°F ~ 122°F] | | |
| INSULATION RESISTANCE 100 Mohm (UNDER NORMAL TEMPERATURE AND HUMIDITY) | | |
| INSULATION CLASS B 130° [266°F] | | |
| DIELECTRIC STRENGTH 500VAC FOR 1 MIN. (BETWEEN THE MOTOR COILS AND THE MOTOR CASE) | | |
| AMBIENT HUMIDITY MAX. 85% (NO CONDENSATION) | | |

PERMISSIBLE RADIAL+AXIAL FORCE

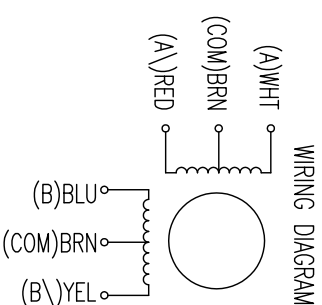


| AXIAL-FORCE Fq (N) | Fq=7 |
|---------------------|--------------------------|
| DISTANCE d (mm) | 5 10 15 20 |
| RADIAL-FORCE Fr (N) | 58 36 26 20 |
| SHAFT PLAY (mm) | AXIAL 0.075 RADIAL 0.025 |
| AT LOAD MAX: (N) | 10 5.0 |

for >speed → ← for <speed

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

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



| TYPE OF CONNECTION (EXTERN) | | MOTOR | |
|-----------------------------|------------------|-------------------|------------|
| UNIPOLAR | BIPOLAR TWINNING | CONNECTOR PIN NO. | LEADS |
| A --- COM | A --- COM | 1 | WHT |
| A\ --- COM | A\ --- COM | 5 | BRN |
| B --- COM | B --- COM | 3 | RED |
| B\ --- COM | B\ --- COM | 2 | BLU |
| | | 6 | BRN |
| | | 4 | YEL |
| | | | A --- COM |
| | | | A\ --- COM |
| | | | B --- COM |
| | | | B\ --- COM |

NANOTEC:

SH4018S0406

STEPPING MOTOR

| REV | DESCRIPTION | DATE | APVD | SIGNATURE | DATE |
|-----|-------------|------|------|-------------|----------|
| | | | | S.K. | 04.07.06 |
| | | | | J.W. | 03.07.06 |

SH4018S0406