



► Slimline stepper motors

6407



MINIATURIZATION



LOW NOISE



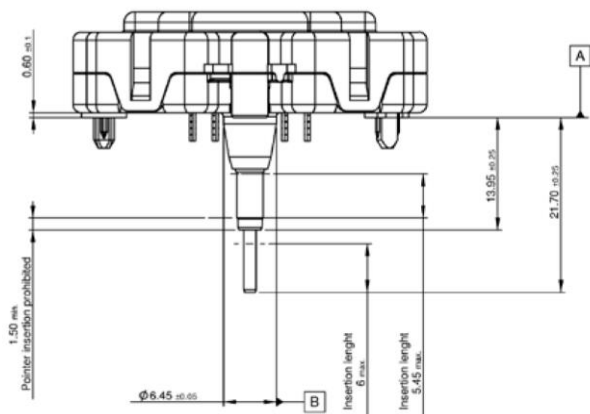
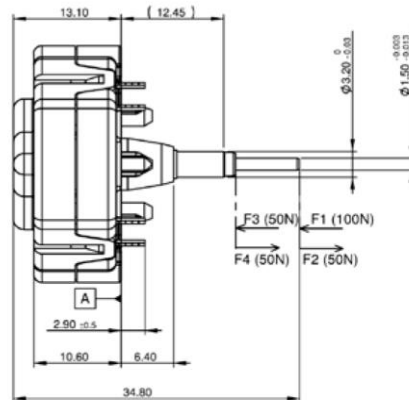
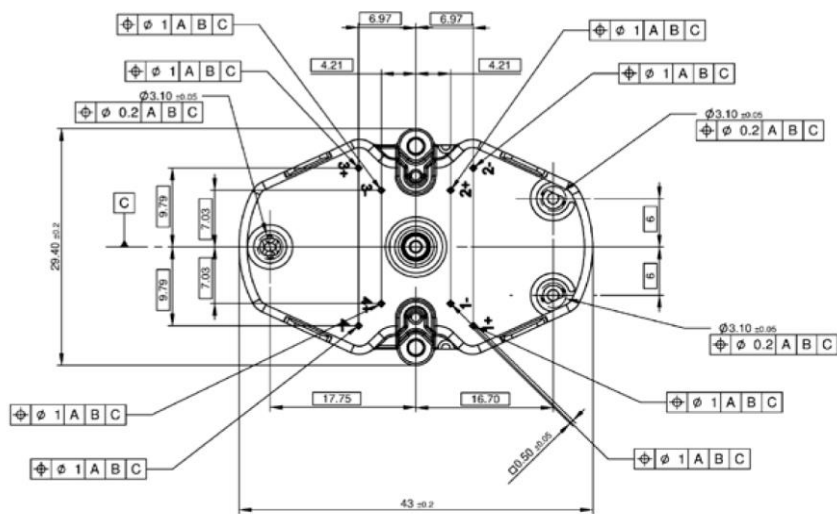
HIGH VIBRATION

- Nominal Torque 1.6 mNm
- Weight 11g
- Steel Output shafts.... $\varnothing 1.5^{-0.003} /_{-0.013}$ mm
- Plastic output shaft.... $\varnothing 3.2^0 /_{-0.03}$ mm

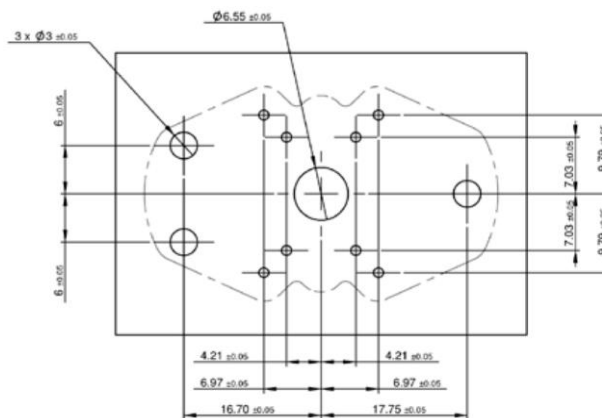
The 6407 Dual Stepper Motor permits independent movement of two concentric output shafts and is used in applications where combined indications are required.

► Dimensions

Drawing not to scale. All dimensions in mm.



Recommended circuit board hole pattern



► Technical data

| Part N° | Position on PCB | Output shaft material | Shaft Diameter | Shaft length | Internal stop |
|----------|-----------------|-----------------------|--|--------------|---------------|
| 6407R009 | Rear Mount | Plastic | Ø 3.2 ⁰ / _{-0.03} mm | 13.95 mm | yes |
| | | Steel | Ø 1.5 ^{-0.003} / _{-0.013} mm | 21.70 mm | yes |

► Electrical / Mechanical Characteristics

Variables :

- Ambient temperature Ta = 22° C
- Voltage at the coils U = 5 V±0.1 V

| Parameter | Min | Typical | Max | Unit |
|--|-----|----------|-----|-------------------|
| Rotor step angle | – | 18 | – | degree |
| Gear ratio | – | 1:36 | – | – |
| Pole pairs rotor | – | 5 | – | – |
| Step size degree in full step mode | – | 0.5 | – | degree |
| Step size degree with 6 micro steps | – | 0.083 | – | degree |
| Operating angle | | | | |
| • Plastic output shaft | 305 | – | – | degree |
| • Steel output shaft | 310 | – | – | degree |
| Operating temperature | -40 | – | 105 | °C |
| Storage temperature | -50 | – | 105 | °C |
| Soldering temperature (max 5 sec) | – | – | 290 | °C |
| Operating voltage | 4.5 | – | 7.5 | V |
| Operating current | – | 20 | 35 | mA |
| Coil resistance | 214 | 227 | 240 | Ω |
| Coil Inductance | 45 | 55 | 65 | mH |
| Dynamic torque @ 200 ° / sec | | | | |
| • Plastic output shaft | 1.2 | 1.6 | – | mNm |
| • Steel output shaft | 1.2 | 1.6 | – | mNm |
| Holding torque (with current, 5V) | | | | |
| • Plastic output shaft | 2.5 | 3.6 | – | mNm |
| • Steel output shaft | 2.5 | 3.6 | – | mNm |
| Noise level @ 200 degree / sec @ 5 cm from the reference face, pre-test (one output shaft running at a time) | – | 30 | 35 | dB (A) |
| Maximum speed | 800 | – | – | °/s |
| Equivalent motor inertia at output | – | 5.1 E-06 | – | kg m ² |
| Permissible forces on output gear | | | | |
| F1* Axial force | – | – | 100 | N |
| F2* Axial force (with retention of the housing) | – | – | 50 | N |
| F3* Axial force | – | – | 50 | N |
| F4* Axial force (with retention of the housing) | – | – | 50 | N |
| Radial force at 10 mm from front face of motor | – | – | 15 | N |

* Refer to drawing