

# DC Motor with Encoder · 1027N3M-EN-

**Applications:** Precision control fields like medical instrument, industrial robot and so on.

**Operating Environment:** -10 ~ +60; 15 ~ 90% RH

| Motor Characteristics     |                  | 168-4.5-EN520200-001 |
|---------------------------|------------------|----------------------|
| Voltage                   | V                | 4.5                  |
| Terminal resistance       | $\Omega$         | 10.7                 |
| No load speed             | rpm              | 16800                |
| No load current           | mA               | 20                   |
| Stall torque              | mNm              | 0.98                 |
| Stall current             | mA               | 385                  |
| Load torque               | mNm              | 0.25                 |
| Load speed                | rpm              | 12200                |
| Load current              | mA               | 120                  |
| Max output power          | W                | 0.47                 |
| Max. efficiency           | %                | 61                   |
| Back-EMF constant         | mV/rpm           | 0.26                 |
| Torque constant           | mNm/A            | 2.44                 |
| Rotor inertia             | gcm <sup>2</sup> | 0.1                  |
| Weight                    | g                | 8                    |
| Length                    | L [mm]           | 27                   |
| Encoder Characteristics   |                  |                      |
| Number of channels        |                  | 2                    |
| Counts per turn           | cpt              | 200                  |
| Supply voltage            | V                | 5                    |
| Max operating frequency   | kHz              | 110                  |
| High level output voltage | V                | 2.4 Min              |
| Low level output voltage  | V                | 0.4 Max              |
| Phase shift               | $^{\circ}$ e     | 90                   |
| Z index pulse width       | $^{\circ}$ e     | —                    |
| Dimension A               | mm               | 10                   |
| Dimension B               | mm               | 12                   |

**Options:**

Lead wires length, shaft length, special coils, gearheads, encoder channels, encoder counts per turn

**Dimension (mm) · 1027N3M-168-4.5-EN520200-001:**

