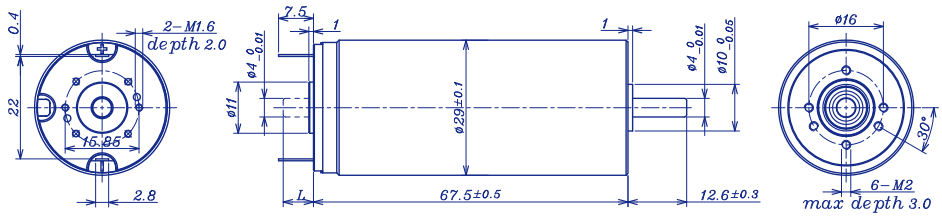
DC BRUSHED CORELESS MOTOR __

# Graphite Brush

ASSUN
DRIVING THE FUTURE

DC BRUSHED MOTOR

## AM-CL2968GAE Series




| | | | Graphite brush | | Ball bearings | | | |
|---|---|---|---|---|---|---|---|---|
| **Motor Model** | | | **1210** | **1810** | **2410** | **3610** | **4810** | **6010** |
| Nominal voltage | | V | 12 | 18 | 24 | 36 | 48 | 60 |
| No load speed | ±12% | rpm | 9790 | 9780 | 9800 | 9760 | 9780 | 9770 |
| No load current | Max 150% | mA | 240 | 160 | 120 | 80 | 65 | 55 |
| Recommend limit for continuous operating | Max cont. torque | mN.m | 56.7 | 62.1 | 67.2 | 63.9 | 64.8 | 62.3 |
| | Rated speed | rpm | 9233 | 9221 | 9270 | 9216 | 9271 | 9266 |
| | Rated current | mA | 5100 | 3700 | 3000 | 1900 | 1450 | 1120 |
| | Rated power | W | 54.8 | 59.9 | 65.2 | 61.7 | 62.9 | 60.4 |
| Starting current | | mA | 85714 | 62069 | 53333 | 32727 | 26667 | 20690 |
| Stall torque | | mN.m | 997.7 | 1085.3 | 1241.6 | 1147.1 | 1243.7 | 1206.9 |
| Maximum power output | | W | 255.7 | 277.9 | 318.6 | 293.1 | 318.4 | 308.7 |
| Maximum efficiency | | % | 90 | 90 | 91 | 90 | 90 | 90 |
| Terminal resistance | ±12% | Ω | 0.14 | 0.29 | 0.45 | 1.1 | 1.8 | 2.9 |
| Inductance | (1KHZ) | mH | 0.094 | | | | | |
| Mechanical time constant | | ms | 3.6 | 3.3 | 2.9 | 3.1 | 2.9 | 3 |
| Moment of inertia | | gcm² | 35.3 | 35.3 | 35.3 | 35.3 | 35.3 | 35.3 |
| Torque constant | | mN.m/A | 11.7 | 17.5 | 23.3 | 35.1 | 46.8 | 58.5 |
| Speed constant | | rpm/V | 818 | 545 | 409 | 272 | 204 | 163 |
| Speed/torque gradient | | rpm/mN.m | 9.8 | 9 | 7.9 | 8.5 | 7.9 | 8.1 |
| Weight | | g | 268 | 268 | 268 | 268 | 268 | 268 |

### ADDITIONAL INFORMATION

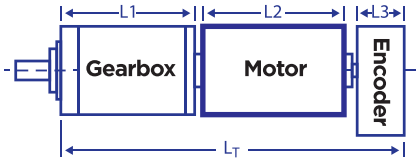
| | | | |
|---|---|---|---|
| Motor thermal resistance: | 10.6 K/W | Motor thermal time constant: | **** S |
| Axial (dynamic): | 7.3 N | Radial (5mm from mounting face): | 28.0 N |
| Press-fit force (static): | 60(120)N | Max allowable screw depth into flange: | 3.5 mm |
| Maximum radial play (5mm from mounting face): | ≤0.02 mm | Axial play: | 预压 |
| Maximum winding temperature: | 125ºC | Ambient temperature range: | -40 to 85ºC |
| Standard rear shaft diameter: | 4.0 mm | Standard rear shaft length "L": | L mm |

**Total Length (Gearbox and Motor): $L_T$=L1+L2+L3**

| L1:26GP | L1:28GP | L1:32GP | L2: CL28 | L3: EN22S |
|---|---|---|---|---|
| 25.7 | 26.1 | 27.4 | 57 | 10.7 |
| 36 | 33.3 | 35.9 | | **L3: EN24T** |
| 44.5 | 40.5 | 44.4 | | 12 |
| 53 | 47.7 | 52.9 | | |
| | | | | |

Remarks: Client can choose gearbox and encoder to match with this motor. Some combinations are listed here for reference.

**AM-CL2968GAE Combination Scheme**




**Recommended Gearbox:**
Planetary Gearbox:
AM-26GP
AM-28GP
AM-32GP

**Recommended Encoder:**
Encoder S: AM-EN2211S***
2~3 Channels
Encoder T: AM-EN2412T***
2~3 Channels

For more combination specs, visit Assun Motor werbsite.

Motor data tested at 25ºC. Motor operation exceeding continuous limits will reduce life or result in damage.
At elevated ambient temperatures, load current must be reduced.

Download datasheet: https://assunmotor.com/documents-download

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