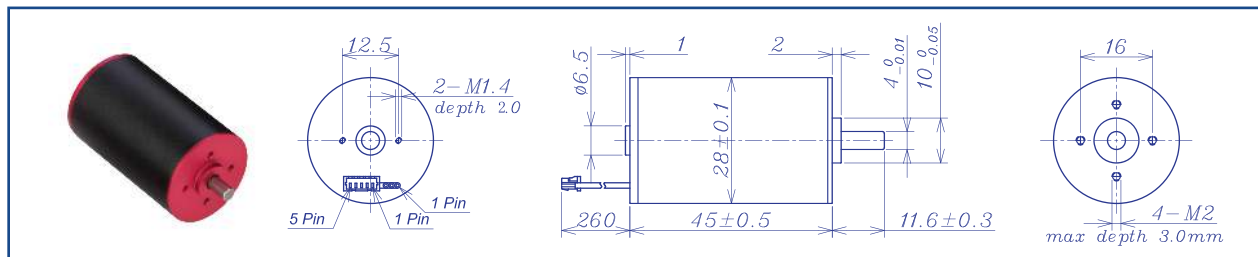


AM-BL2845AN Series



| | | Brushless Motor | | | | Ball Bearings | | |
|--|------------------|-----------------|-------|-------|-------|---------------|-------|------|
| Motor Model | | 1215 | 1210 | 1813 | 1810 | 2412 | 2409 | |
| Nominal voltage | V | 12 | 12 | 18 | 18 | 24 | 24 | |
| No load speed ±12% | rpm | 14800 | 10000 | 12520 | 9680 | 11680 | 9080 | |
| No load current Max 150% | mA | 300 | 190 | 170 | 120 | 120 | 85 | |
| Recommend limit for continuous operating | Max cont. torque | mN.m | 28.4 | 34.2 | 30.4 | 33.1 | 28.8 | 35.4 |
| | Rated Speed | rpm | 13374 | 8455 | 11222 | 8282 | 10401 | 7593 |
| | Rated Current | mA | 4000 | 3200 | 2400 | 2000 | 1600 | 1500 |
| | Rated Power | W | 39.8 | 30.2 | 35.7 | 28.7 | 31.4 | 28.1 |
| Starting current | mA | 60000 | 19672 | 21687 | 13139 | 13636 | 8727 | |
| Stall torque | mN.m | 295 | 221 | 293 | 229 | 263 | 216 | |
| Maximum power output | W | 114.3 | 57.9 | 96.1 | 58.0 | 80.4 | 51.3 | |
| Maximum Efficiency | % | 83 | 81 | 83 | 82 | 82 | 81 | |
| Terminal resistance ±12% | Ω | 0.31 | 0.61 | 0.83 | 1.37 | 1.76 | 2.75 | |
| Inductance (1KHz) | mH | 0.034 | 0.086 | 0.126 | 0.22 | 0.27 | 0.46 | |
| Mechanical time constant | ms | 3.3 | 2.9 | 2.8 | 2.7 | 2.9 | 2.7 | |
| Moment of inertia | gcm ² | 6.19 | 6.19 | 6.19 | 6.19 | 6.19 | 6.19 | |
| Torque constant | mN.m/A | 7.7 | 11.3 | 13.6 | 17.6 | 19.4 | 25.0 | |
| Speed constant | rpm/V | 1243 | 841 | 701 | 543 | 491 | 382 | |
| Speed/torque gradient | rpm/mN.m | 50.2 | 45.2 | 42.7 | 42.3 | 44.4 | 42.0 | |
| Weight | g | 138.8 | 138.7 | 139.1 | 140.1 | 138.4 | 139.2 | |

| ADDITIONAL INFORMATION | | | |
|---|----------|--|--------------|
| Motor thermal resistance: | 10.2 K/W | Motor thermal time constant: | 822 S |
| Axial (dynamic): | 4.0 N | Radial (5mm from mounting face): | 16.0 N |
| Press-fit force (static): | 110 N | Max allowable screw depth into flange: | 3.0 mm |
| Maximum radial play (5mm from mounting face): | ≤0.02 mm | Axial play: | 0 (<4.0N) |
| Maximum winding temperature: | 85°C | Ambient temperature range: | -30 to 65°C |
| Standard rear shaft diameter: | 4 mm | Standard rear shaft length "L": | 0/3.7/5.5 mm |

| Connection (AWG 22#) | Total Length: L _T =L ₁ +L ₂ +L ₃ | | | | |
|---|--|---------|---------|----------|----------|
| Cable 1:Yellow Winding A | L1:28GP | L1:32GP | L2:BL28 | L3:EN16S | L3:EN16T |
| Cable 2:Red Winding B | 25.9 | 27.4 | 45.0 | 10.7 | 12.0 |
| Cable 3: Blue Winding C | 33.1 | 35.9 | | | |
| Plug definition (AWG 28#) Molex:51021-0500 | 40.3 | 44.4 | | | |
| Plug 1: Red Hall 3~16V | | | | | |
| Plug 2: Black Hall GND | | | | | |
| Plug 3: Yellow Hall A | | | | | |
| Plug 4: Red Hall B | | | | | |
| Plug 5: Blue Hall C | | | | | |

AM-BL2845AN Combination Scheme

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

Recommended Encoder:
Encoder S: AM-EN1611S***
2~3 Channels
Encoder T: AM-EN1612T***
2~3 Channels

For more combination specs, visit Assun Motor website.

Motor data tested at 25°C. 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>