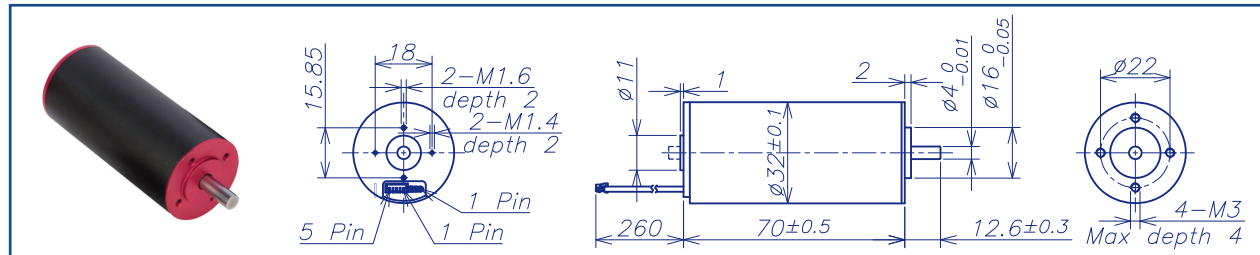


AM-BL3270BF Series

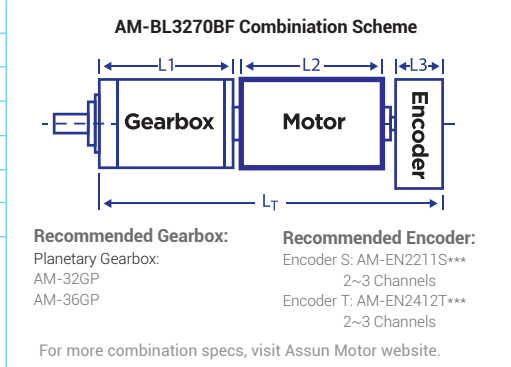


| | | Brushless Motor | | | Ball Bearings | | |
|--|------------------|-----------------|--------|-------|---------------|-------|--------|
| Motor Model | | 1208 | 1207 | 2409 | 2407 | 3609 | 3607 |
| Nominal voltage | V | 12 | 12 | 24 | 24 | 36 | 36 |
| No load speed | ±12% rpm | 8426 | 6741 | 8988 | 7095 | 8792 | 7222 |
| No load current | Max 150% mA | 750 | 500 | 375 | 250 | 250 | 167 |
| Recommend limit for continuous operating | Max cont. torque | mN.m | 125.8 | 139.4 | 123.0 | 140.5 | 123.2 |
| | Rated Speed | rpm | 7653 | 5959 | 8325 | 6347 | 8128 |
| | Rated Current | mA | 10000 | 8700 | 5200 | 4600 | 3400 |
| | Rated Power | W | 100.83 | 86.99 | 107.27 | 93.39 | 104.83 |
| Starting current | mA | 109091 | 750000 | 70588 | 43636 | 45000 | 31579 |
| Stall torque | mN.m | 1484 | 1275 | 1800 | 1409 | 1760 | 1503 |
| Maximum power output | W | 327.3 | 225.0 | 423.5 | 261.8 | 405.0 | 284.2 |
| Maximum Efficiency | % | 84 | 84 | 86 | 85 | 86 | 86 |
| Terminal resistance | ±12% Ω | 0.11 | 0.15 | 0.34 | 0.55 | 0.80 | 1.14 |
| Inductance (1KHz) | mH | 0.01 | 0.01 | 0.048 | 0.08 | 0.12 | 0.18 |
| Mechanical time constant | ms | 1.12 | 1.05 | 0.99 | 1.00 | 0.99 | 0.95 |
| Moment of inertia | gcm ² | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 | 18.9 |
| Torque constant | mN.m/A | 13.6 | 17.0 | 25.5 | 32.3 | 39.1 | 47.6 |
| Speed constant | rpm/V | 702 | 562 | 374 | 296 | 244 | 201 |
| Speed/torque gradient | rpm/mN.m | 5.7 | 5.3 | 5.0 | 5.0 | 5.0 | 4.8 |
| Weight | g | 280 | 280 | 280 | 280 | 280 | 280 |

| ADDITIONAL INFORMATION | | | |
|---|----------|--|--------------|
| Motor thermal resistance: | 7.0 K/W | Motor thermal time constant: | 1163 S |
| Axial (dynamic): | 6.0 N | Radial (5mm from mounting face): | 28.0 N |
| Press-fit force (static): | 110 N | Max allowable screw depth into flange: | 4.0 mm |
| Maximum radial play (5mm from mounting face): | ≤0.02 mm | Axial play: | 0 (<6.0 N) |
| Maximum winding temperature: | 155°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 20#) | Total Length: L _T =L ₁ +L ₂ +L ₃ | | | | |
|--|--|---------|---------|----------|----------|
| Cable 1: Yellow Winding A | L1:32GP | L1:36GP | L2:BL28 | L3:EN22S | L3:EN24T |
| Cable 2: Red Winding B | 27.4 | 39.6 | 70.0 | 10.7 | 12.0 |
| Cable 3: Blue Winding C | 35.9 | 48.6 | | | |
| Plug definition (AWG 28#) Molex: 51021-0500 | 44.4 | 57.6 | | | |
| Plug 1: Brown Hall 3~16V | | | | | |
| Plug 2: Black Hall GND | | | | | |
| Plug 3: Yellow Hall A | | | | | |
| Plug 4: Red Hall B | | | | | |
| Plug 5: Blue Hall C | | | | | |

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



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.

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