

# 42BLS Series Brushless Dc Motor

**FT AUTOMATION**

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## General specification

| Item                  | Specification              |
|-----------------------|----------------------------|
| Winding type          | Delta                      |
| Hall effect angle     | 120degree electrical angle |
| Shaft run out         | 0.025mm                    |
| Radial play           | 0.06mm@450g                |
| End play              | 0.08mm@450g                |
| Max.radial force      | 15N@10mm from the flange   |
| Max.axial force       | 10N                        |
| Insulation class      | Class B                    |
| Dielectric Strength   | 500VDC for one minute      |
| Insulation resistance | 100M $\Omega$ Min.500VDC   |



## Electric connection

| Lead NO. | Lead Color | Lead Gauge   | Function | DESCRIPTION                     |
|----------|------------|--------------|----------|---------------------------------|
| 1        | Red        | UL1007/26AWG | VCC      | SUPPLY VOLTAGE FOR HALL SENSORS |
| 2        | Black      |              | GND      | GROUND FOR HALL SENSORS         |
| 3        | Yellow     |              | HALL A   |                                 |
| 4        | Green      |              | HALL B   |                                 |
| 5        | Blue       | UL1007/20AWG | HALL C   |                                 |
| 6        | Yellow     |              | PHASE U  |                                 |
| 7        | Green      |              | PHASE V  |                                 |
| 8        | Blue       |              | PHASE W  |                                 |

## Technique Specification

| Model             |        | 42BLS01 | 42BLS02 | 42BLS03 | 42BLS04 |
|-------------------|--------|---------|---------|---------|---------|
| Voltage           | V      |         |         |         |         |
| Number of poles   |        |         |         | 8       |         |
| Number of phase   |        |         |         | 3       |         |
| No load speed     | rpm    | 5000    | 5000    | 5000    | 5000    |
| Rated torque      | Nm     | 0.063   | 0.125   | 0.185   | 0.25    |
| Rated Speed       | rpm    | 4000    | 4000    | 4000    | 4000    |
| Rated Current     | A      | 1.7     | 3.5     | 4.6     | 6       |
| Peak Torque       | Nm     | 0.19    | 0.38    | 0.57    | 0.75    |
| Back-EMF constant | V/Krpm | 3.13    | 3.14    | 3.15    | 3.16    |
| Torque Constant   | Nm/A   | 0.035   | 0.0355  | 0.036   | 0.037   |
| Resistance        | ohm    | 1.5     | 0.74    | 0.55    | 0.28    |
| Weight            | Kg     | 0.3     | 0.45    | 0.65    | 0.75    |
| Length            | mm     | 41      | 61      | 81      | 100     |

## Drawing

