

FBB T3 Brushless DC Series Geared Motor

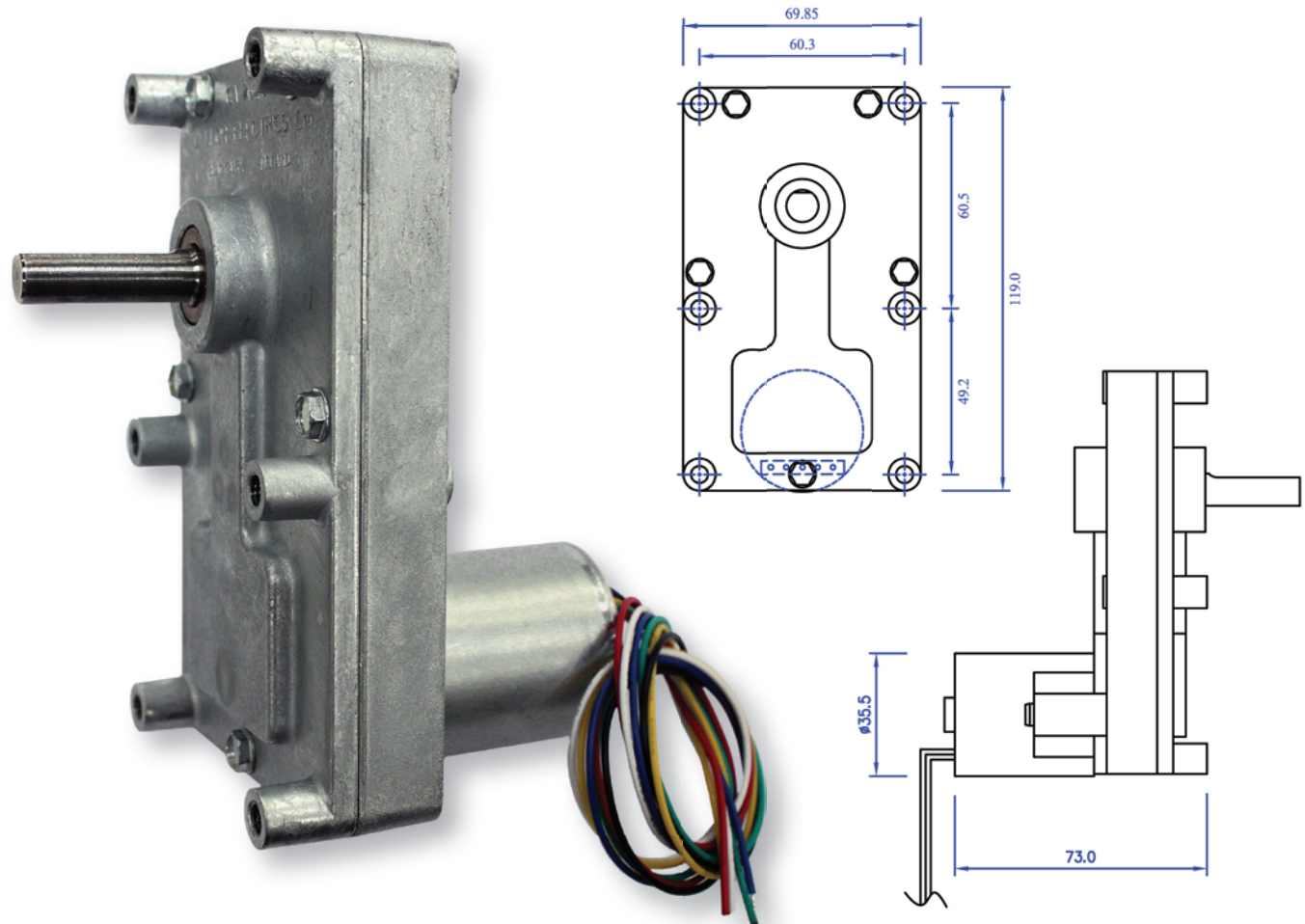
The heavyweight of our range is now available with a brushless DC option that features an inner rotor with integrated electronics for step-less speed control and exceptionally quiet operation.

Designed with pellet stoves in mind for the low noise, long life and speed control of the fuel to meet new energy efficiency targets, the versatility of this geared motor combination is equally suited for many other applications requiring a low voltage, high efficiency and quiet operation.

High quality engineering ensures a long life with shaft length and diameter to suit individual customer requirements.

- Rated voltage 24VDC
- Bi-directional
- PWM speed control
- Speed signal feedback
- Exceptionally low noise levels
- Long life
- Speed range: 0.4 to 50rpm
- Maximum output torque: 35NM

With all the functionality included into the design of this BLDC gear motor it is versatile yet strong enough to operate in many applications.



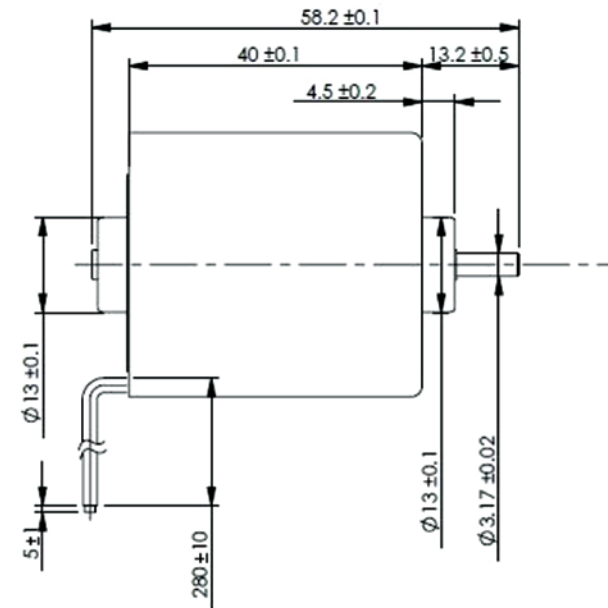
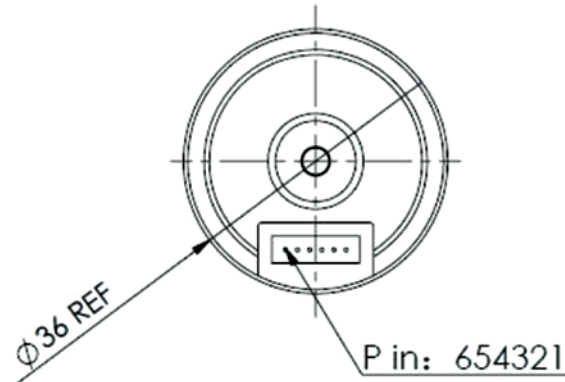
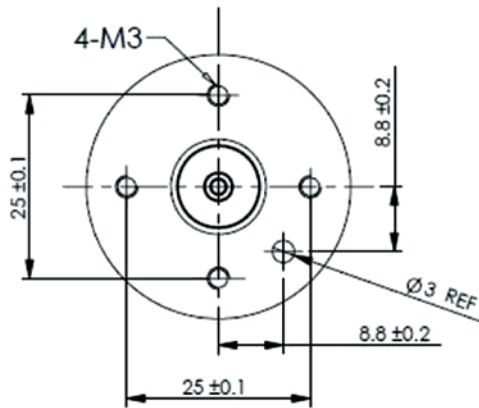
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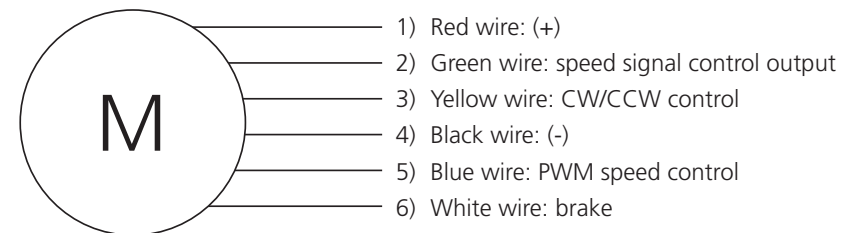
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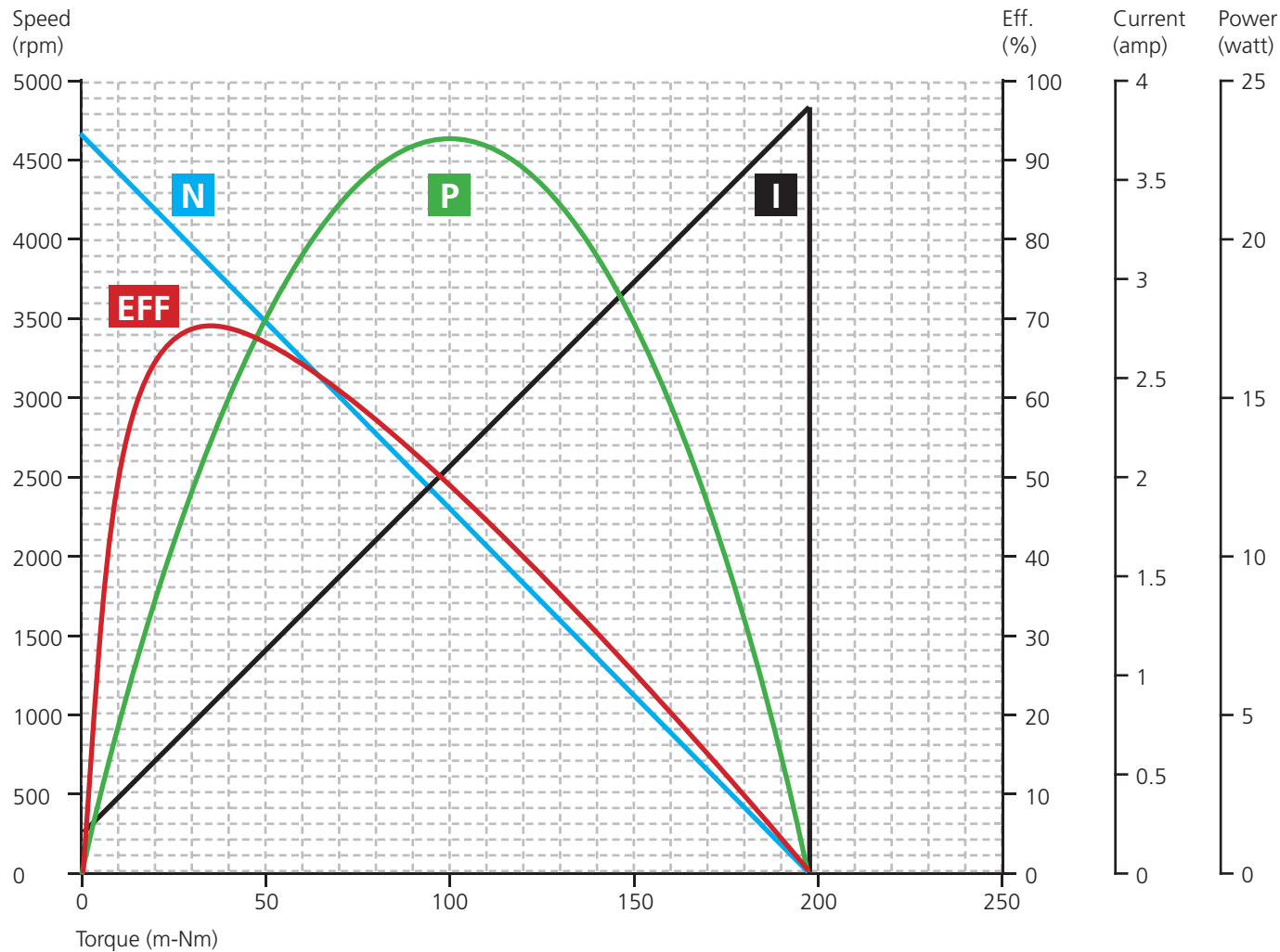
1. Operating voltage range: 8-26VDC.
2. Motor axial end play: 0.05-0.5mm.
3. Measuring method for motor output shaft extension: push the rotor against the end cap to measure the shaft extension.
4. Cable connection method:
 - 4:1 When the red wire is connected to the positive pole of the power supply (+) and the black and blue wire are connected to the negative pole of the power supply (-) the motor direction is CW when viewed output shaft side of the motor.
 - 4:2 When the red wire is connected to the positive pole of the power supply (+) and the black, blue and yellow wire are connected to the negative pole of the power supply (-) the motor direction is CCW when viewed output shaft side of the motor.
 - 4:3 When the blue wire is connected to the (-) the motor runs at full speed. When the blue wire is connected to the PWM signal the speed can be adjusted.

- 4:4 The cable connection method of the motor must comply with the above instructions. Reverse connection of the positive and negative of the power is strictly forbidden. Do not connect the voltage higher than 26VDC.
- 4:5 When connecting the terminal with the motor connector, the terminal should be aligned accurately and inserted slowly. Force pressed is forbidden. When separating the terminal from the motor connector do not pull the lead wires by force to avoid possible damage to the motor connector.
5. If pressing any part onto the motor shaft the other shaft end must be supported as the spacer ring or bush bearing inside the motor could be damaged due to the thrust force.
6. The maximum length for fixing screws into the motor housing is 3mm.
7. Motor complies with RoHS.



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Performance (in an ambient temperature of 25-30°C)
Motor tested rapidly to prevent significant temperature rise

At a constant voltage of: 24 Volts
With a circuit resistance of: 0.000 Ohms

At No Load

Speed: 4671 RPM
Current: 0.190 Amp

At stall (Extrapolated)

Torque: 197.218 m-Nm
Current: 3.890 Amp

At maximum efficiency

Efficiency: 69.47%
Torque: 35.724 m-Nm
Speed: 3829RPM
Current: 0.859 Amp
Output: 14.324 Watts

At maximum power

Torque: 98.609 m-Nm
Speed: 2346 RPM
Current: 2.036 Amp
Output: 24.229 Watts

Characterisitcs

Torque Constant: 53.308 m-Nm/Amp
EMF Constant: 53.308 mV/rad/sec
Dry resistance: 6.17 Ohms
Motor regulation: 23.686 Rpm/m-mNm

Calculation

At torque Level: 21.582 m-Nm
Speed: 4162 RPM
Current: 0.594 Amp
Efficiency: 65.95%
Output: 9.407 Watts

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