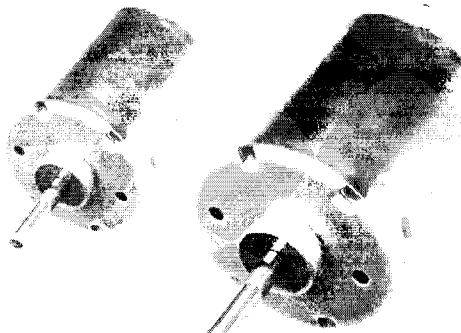
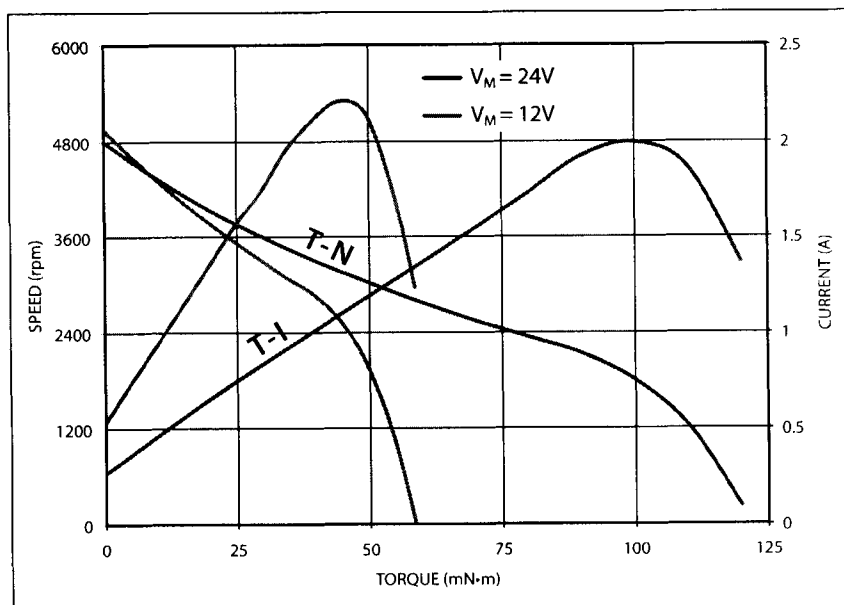


# 22H Brushless DC Motors

for Home Appliances and Office Equipment

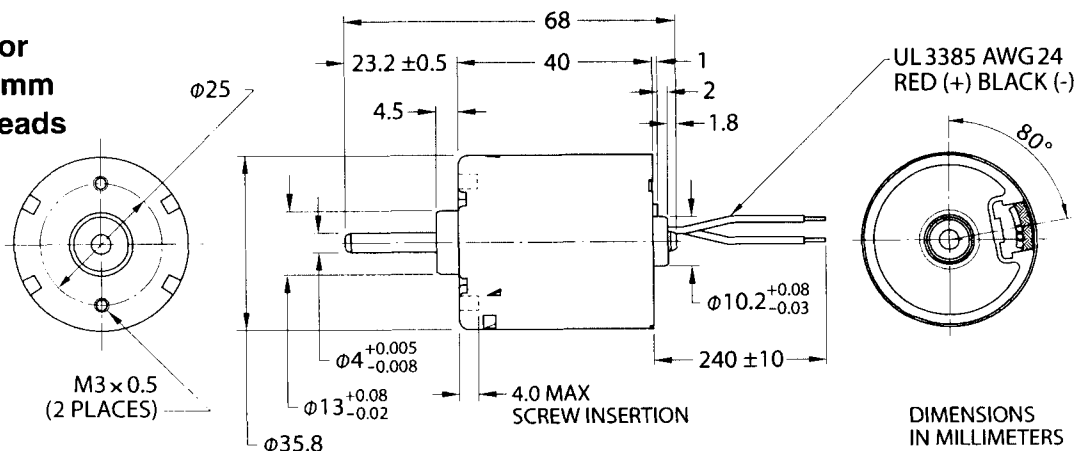


- 3-Phase, 12-Pole Brushless DC Motors
- Clockwise Rotation (CCW Optional)
- Hall Effect Commutation
- Locked Rotor Protection\*
- Quiet Operation
- Comprehensive Control/Signal Functions Available
- Low Inertia
- Compact 35.8 (dia.) × 40mm Case

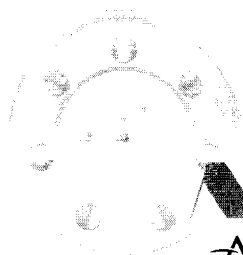
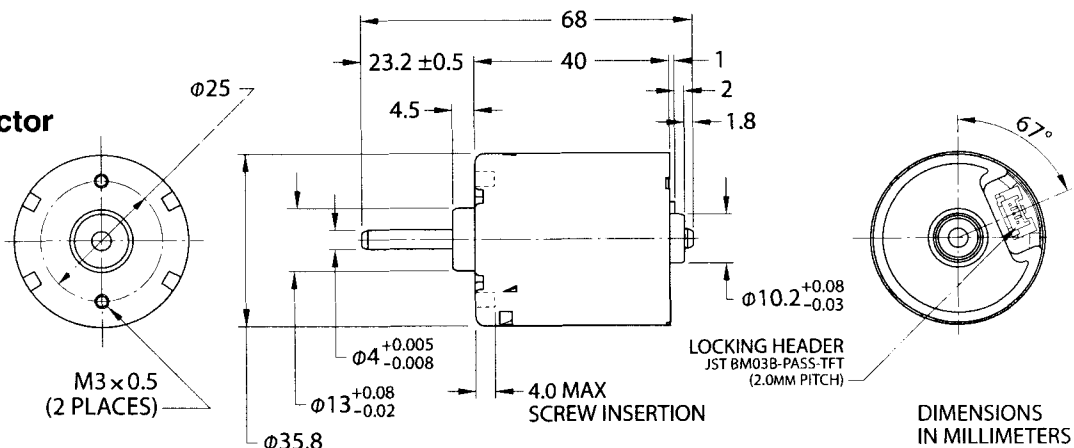


\* Automatic shutdown at locked rotor condition: Restart at power OFF/ON.

## 22H Motor with 240mm Power Leads



## 22H Motor with Built-in 3-Pin Connector



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# 22H Brushless DC Motors

for Home Appliances and Office Equipment

## Motor and Drive Circuit Options

| Feature                              | 22H Standard | 22H Options                                                                                                                             |
|--------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Direction of Rotation <sup>(1)</sup> | CW           | CCW (also see rotational direction control option below)                                                                                |
| Shape of Motor Shaft                 | Round        | D-Cut                                                                                                                                   |
| Surface of Motor Shaft               | Smooth       | Knurled                                                                                                                                 |
| Length of Motor Shaft                | 23.2mm       | 18.2mm or 28.2mm                                                                                                                        |
| Diameter of Motor Shaft              | 4.0mm        | 3.17mm                                                                                                                                  |
| Bearing Type                         | Sleeve       | Ball                                                                                                                                    |
| Motor Terminations <sup>(2)</sup>    |              |                                                                                                                                         |
| Power In                             | $V_M$        | —                                                                                                                                       |
| Ground                               | GND          | —                                                                                                                                       |
| CW/CCW Select                        | —            | High = CW/Low = CCW.                                                                                                                    |
| Start/Stop Control                   | —            | High = Start/Low = Stop.                                                                                                                |
| PWM Input                            | —            | $f_{in} = 500 \text{ Hz to } 50 \text{ kHz}$ , $V_{in(Low)} < 1.0V$ , $V_{in(High)} = 2.5 \text{ to } 5.0V$ , duty cycle = 20% to 100%. |
| Locked Rotor Alarm                   | —            | Open-collector circuit, high-pass/low-fail, $I_C = 3.0 \text{ mA}$ , maximum.                                                           |
| Tachometer 1                         | —            | Open-collector circuit, $I_C = 3.0 \text{ mA}$ , maximum, square wave pulses per revolution = motor poles/2.                            |
| Tachometer 2                         | —            | Open-collector circuit, $I_C = 3.0 \text{ mA}$ , maximum, square wave pulses per revolution = motor poles $\times 3/2$ .                |

(1) Rotational orientation: Looking toward the load end of the motor shaft.

(2) Series 22H designs support any four (max.) of six motor termination options shown above.

