

Model: TSL-BLDC-3625

36 mm BLDC motor, reference datasheet

Product Overview

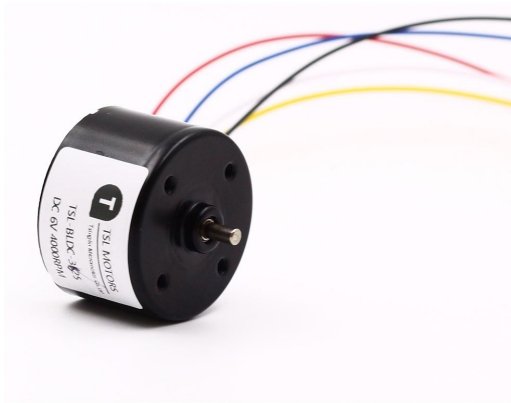


Figure 1. Product appearance - TSL-BLDC-3625 BLDC motor.

Item	Reference Description
Motor Type	Brushless DC motor (BLDC)
Model	TSL-BLDC-3625
Voltage Options	12 V / 24 V reference versions
Reference Speed Options	3000 rpm and 6000 rpm versions available
Lead Wires	5-wire standard; 6-wire brake version available on request
Direction Control	CW/CCW signal wire
Customization	Output shaft, lead length, connector, performance parameters, and control functions can be customized.

Note: Performance data is for reference only. Performance parameters, output shaft, lead wire length, connectors, and other specifications can be customized according to customer requirements.

Table 1. TSL-BLDC-3625 Reference Performance Parameters

Parameter	DC 12.0 V	DC 24.0 V
Operating Voltage	DC 12.0 V	DC 24.0 V
No-load Speed (rpm)	3000 +/- 10%	6000 +/- 10%
No-load Current (mA)	<= 90	<= 130
Rated Torque (g.cm)	40	90
Rated Speed (rpm)	2300 +/- 10%	4600 +/- 10%
Rated Current (mA)	<= 280	<= 400
Rated Power (W)	1.0	4.3
Stall Protection Torque (g.cm)	>= 170	>= 380
Stall Protection Current (A)	<= 0.85	<= 1.5

Note: Performance data is for reference only. Performance parameters, output shaft, lead wire length, connectors, and other specifications can be customized according to customer requirements.

All values are reference data from limited motor samples and may vary by voltage, speed version, operating condition, and customization.

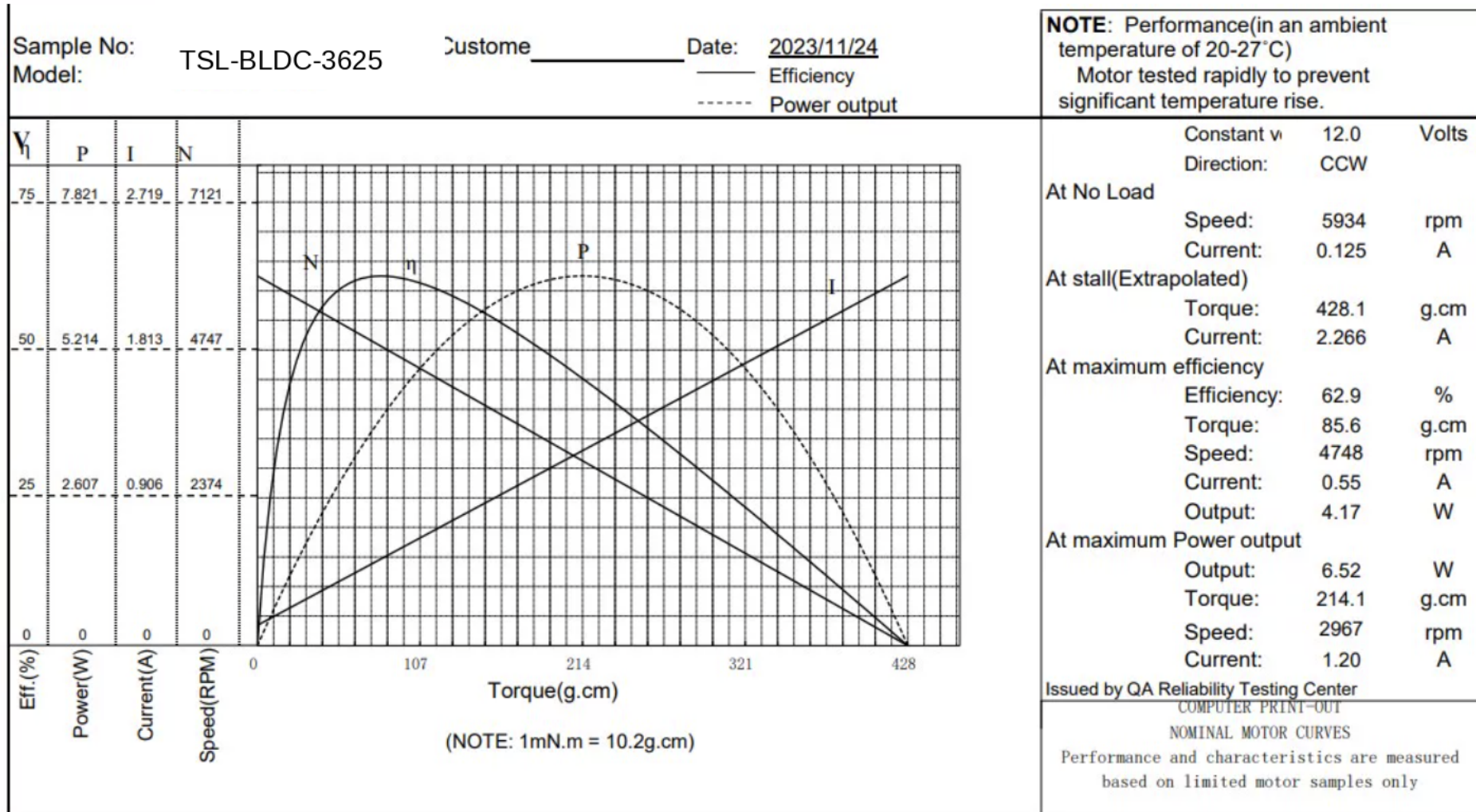


Figure 2. Reference performance curve, 12 V / 6000 rpm version. Performance data is for reference only.

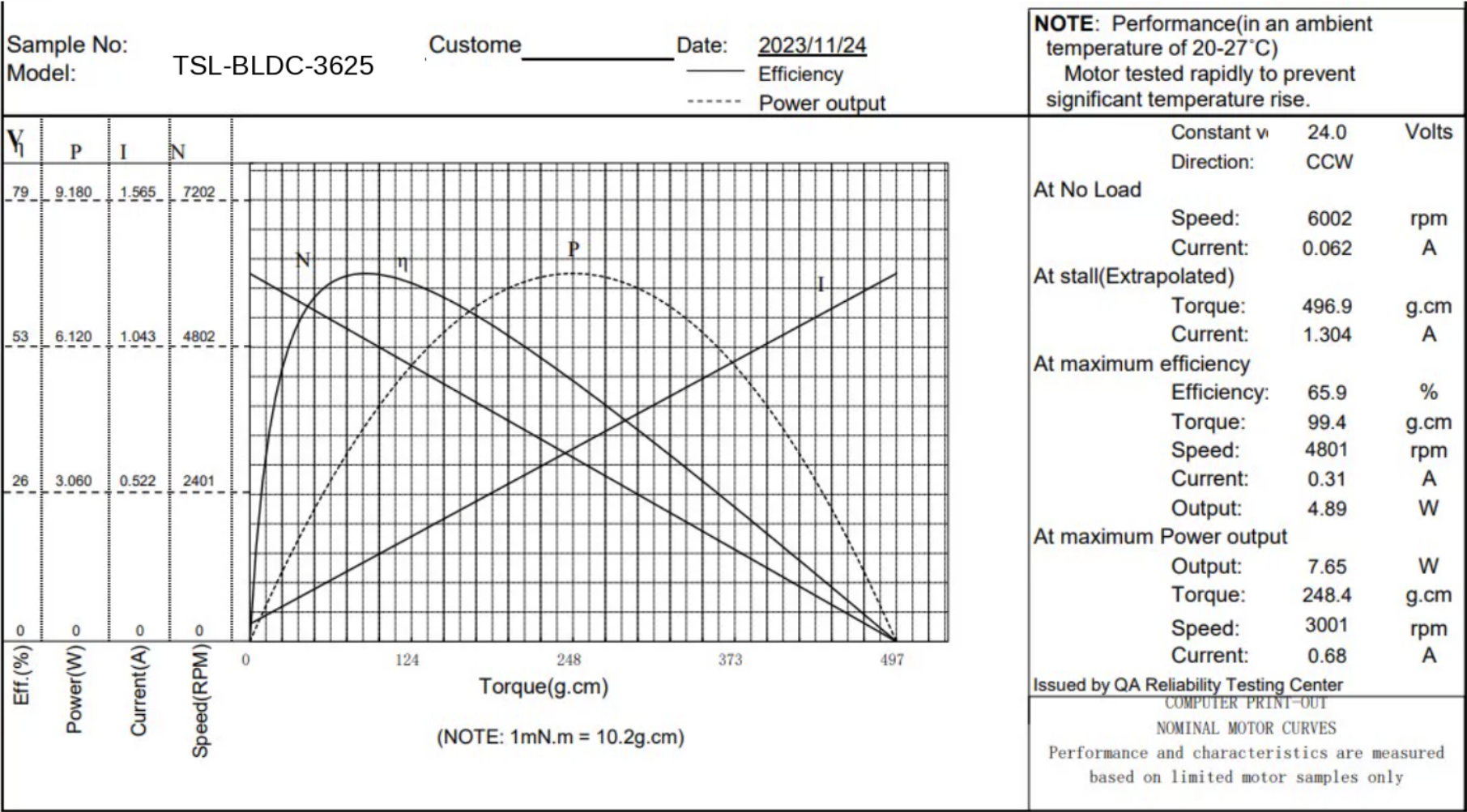


Figure 3. Reference performance curve, 24 V / 6000 rpm version. Performance data is for reference only.

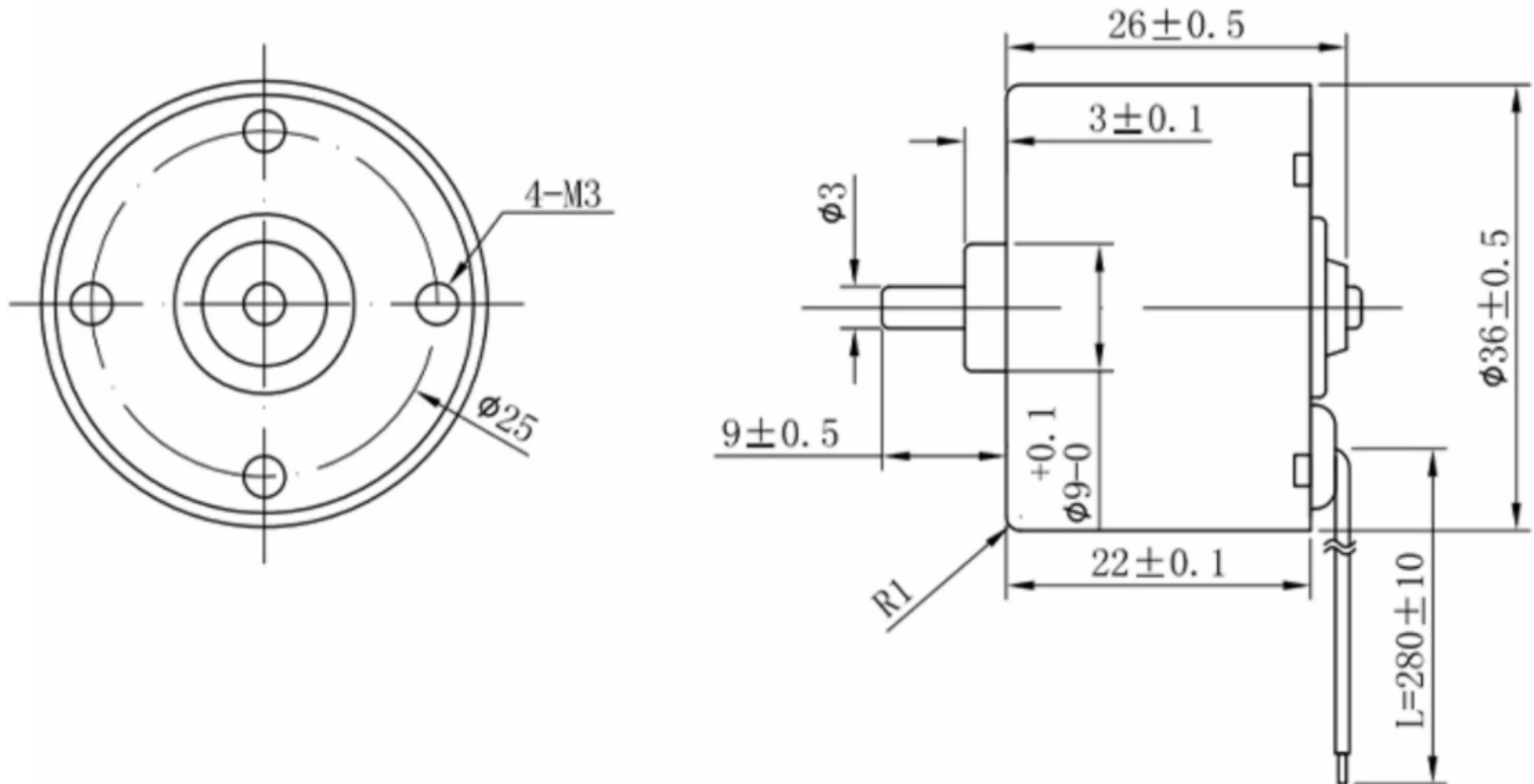


Figure 4. 9 mm shaft length mechanical drawing. Dimensions are in mm unless otherwise specified.

Output shaft length, diameter, shape, and mounting details can be customized according to customer requirements.

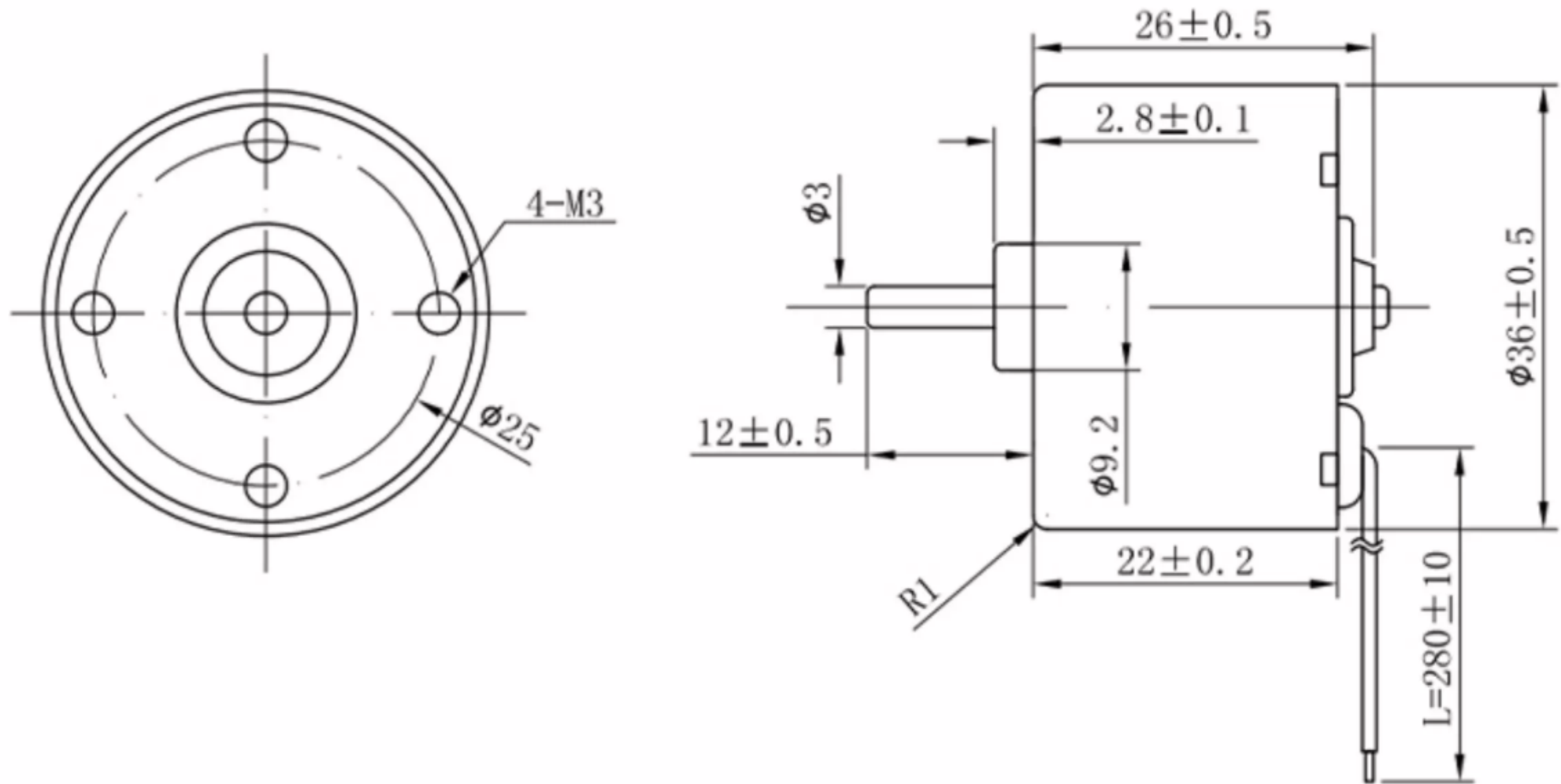


Figure 5. 12 mm shaft length mechanical drawing. Dimensions are in mm unless otherwise specified.

Output shaft length, diameter, shape, and mounting details can be customized according to customer requirements.

The technical drawing shows a side view of a mounting bracket. Key features include:

- Dimensions:**
 - Total width: 9.0 ± 0.5
 - Distance from centerline to right edge: 26 ± 0.5
 - Internal distance: 2.8 ± 0.1
 - Inner diameter: $\varnothing 2.0$
 - Outer diameter: $\varnothing 9.2$
 - Overall height: $\varnothing 36 \pm 0.2$
 - Mounting hole offset: 3 ± 0.2
 - Length of the mounting arm: $L = 280 \pm 10$
- Assembly Details:**
 - Four M3 screws are indicated by the callout "4-M3".
 - A break symbol (two wavy lines) is shown on the mounting arm.
 - An arrow points to the bottom surface of the main body.

Note:
Thread depth allows 2 mm max.
Select mounting screws accordingly.

Figure 6. 2 mm shaft diameter mechanical drawing. Dimensions are in mm unless otherwise specified.

Wire Color	Signal	Function	Reference Behavior
Red	VCC	Motor power positive input	12 V or 24 V input. Do not interchange with GND.
Black	GND	Ground / power negative	Connect to power negative.
White	CW/CCW	Direction selection	High level = CCW; low level = CW. Switch direction only after the motor has stopped.
Yellow	FG	Speed feedback output	6 pulses per revolution; feedback output can be customized.
Blue	PWM	PWM / start-stop control	Reference input 0-5 V; recommended PWM frequency 20-30 kHz.
Green (optional)	BRAKE	Brake control	Optional 6-wire brake version; behavior can be customized.

Figure 7. Wire color and control-signal definitions for the TSL-BLDC-3625 interface.

Forward/Reverse Wiring Instructions

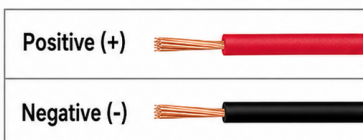
(5-wire, no brake)

Not for speed-control version

Reverse rotation wiring:

- +** **Power positive (+)** → connect to the motor red wire
- **Power negative (-)** → connect to the motor black wire

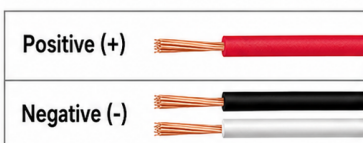
Leave all other wires unconnected / floating



Forward rotation wiring:

- +** **Power positive (+)** → connect to the motor red wire
- **Power negative (-)** → connect to the motor black wire + white wire

Leave all other wires unconnected / floating



Note: Do not reverse the motor's positive and negative connections.

Forward/Reverse Wiring Instructions

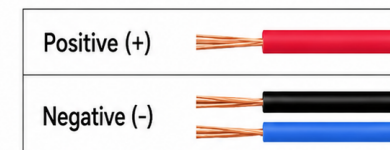
(6-wire with brake)

Not for speed-control version

Reverse rotation wiring:

- +** **Power positive (+)** → connect to the motor red wire
- **Power negative (-)** → connect to the motor black wire + blue wire

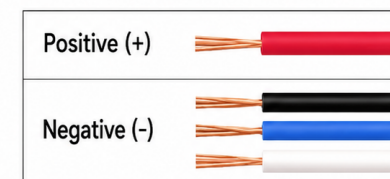
Leave all other wires unconnected / floating



Forward rotation wiring:

- +** **Power positive (+)** → connect to the motor red wire
- **Power negative (-)** → connect to the motor black wire + blue wire + white wire

Leave all other wires unconnected / floating



Note: Do not reverse the motor's positive and negative connections.

Figure 8. Wiring diagrams. Left: 5-wire no-brake version. Right: 6-wire brake version. Do not reverse the motor positive and negative connections.

For speed-control versions, confirm the required controller wiring before use. Direction changes should be made only after the motor has stopped to protect internal components.