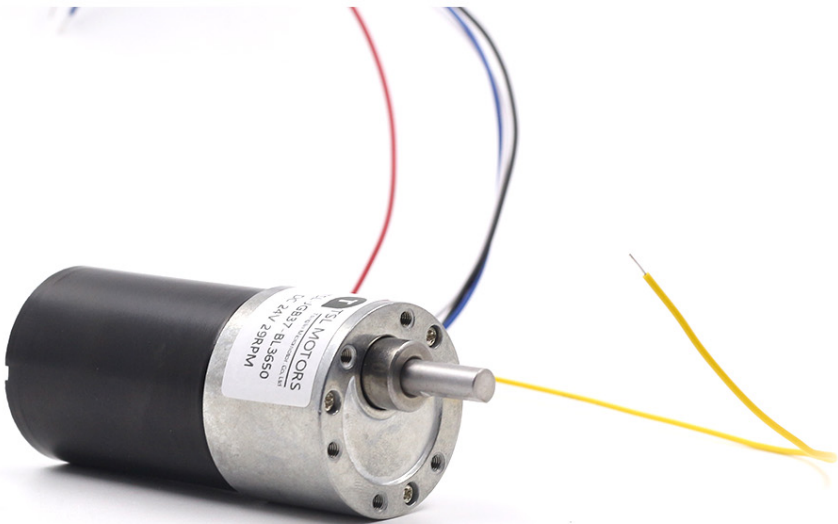


TSL-JGB37-BL3650

Ø35 mm Brushless DC Motor With Spur Gearbox



Configuration Summary

Motor Type	Brushless DC motor with integrated driver
Gearbox	Inline metal spur gearbox
Nominal Voltage	12 V / 24 V
Rated Power	24 W
Motor Diameter	Ø35.5 mm
Gearbox Diameter	Ø37 mm
Output Shaft	Ø6 mm D-shaft, 21 ±0.2 mm
Gear Ratios	6.25:1 to 810:1
Control Interface	VCC, GND, SPEED, FG, CW/CCW

Product Overview

The TSL-JGB37-BL3650 combines a compact Ø35 mm brushless DC motor, an integrated driver and an inline metal spur gearbox. The five-wire interface provides analog speed control, FG speed feedback and CW/CCW direction control. A wide selection of gear ratios is available for applications requiring compact size, low speed and high output torque.

Performance Data - 12 V / 24 W

TSL-JGB37-BL3650

Ratio	No Load		Rated Load			Stall	
i : 1	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm ±10%	A	rpm ±10%	A	kgf.cm	kgf.cm	A
6.25	1280	0.4	970	2	1	4	5
10	800	0.4	600	2	1.6	6.4	5
18.8	425	0.4	326	2	2.7	10.8	5
30	266	0.4	212	2	4	16	5
56	142	0.4	111	2	7	28	5
70	114	0.4	91	2	9	36	5
90	88	0.4	67	2	11.5	46	5
131	61	0.4	50	2	15	60	5
169	47	0.4	36	2	20	80	5
210	38	0.4	29	2	24	96	5
270	29	0.4	25	2	28	112	5
394	20	0.4	16	2	35	140	5
506	16	0.4	13	2	40	160	5
630	12	0.4	10	2	40	160	5
810	10	0.4	9	2	40	160	5

Performance parameters are reference values. Actual performance may vary with load, temperature, power supply and manufacturing tolerance. Custom voltage, speed, torque, shaft and gearbox specifications are available on request.

Performance Data - 24 V / 24 W

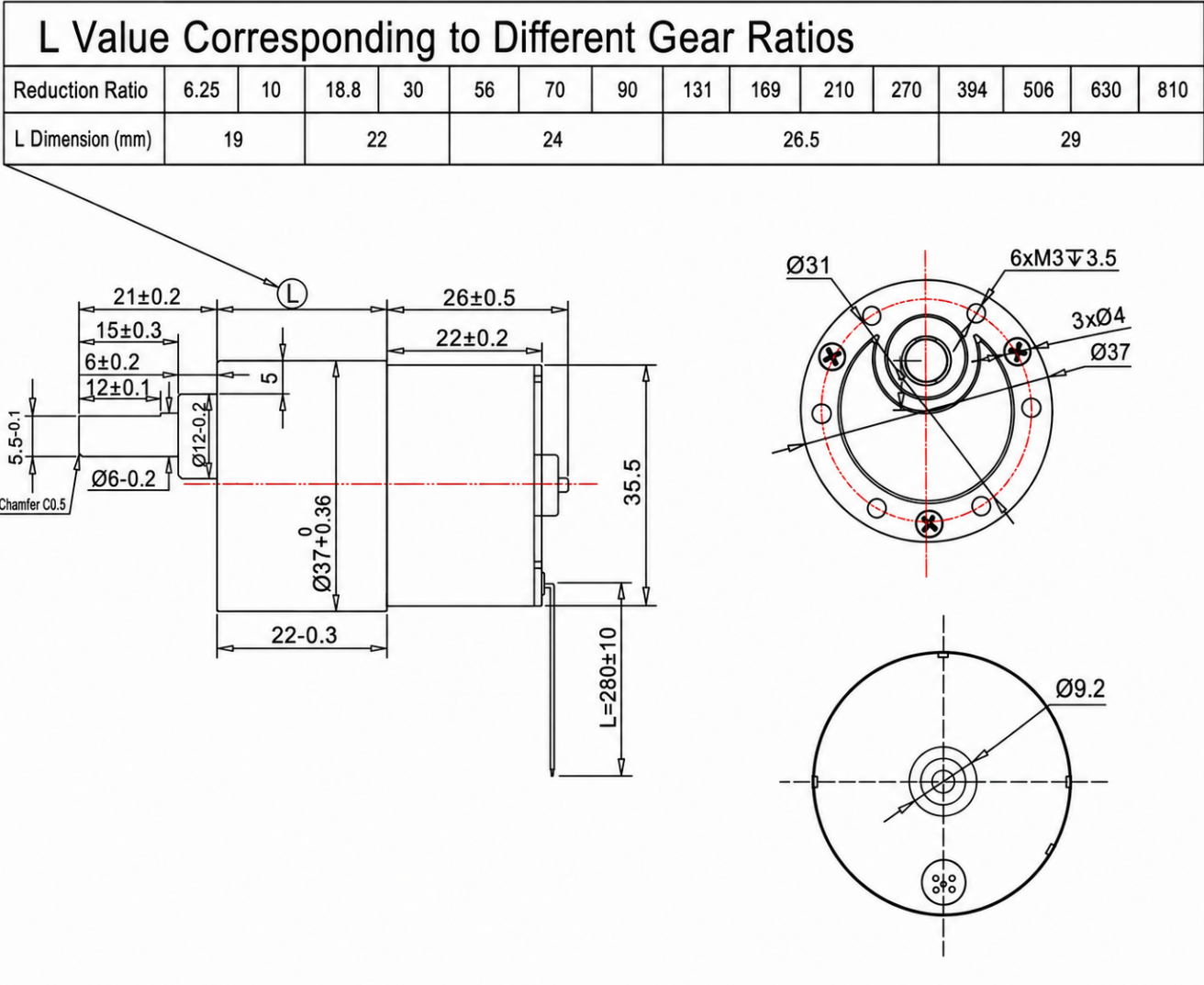
TSL-JGB37-BL3650

Ratio	No Load		Rated Load			Stall	
i : 1	Speed	Current	Speed	Current	Torque	Torque	Current
i:1	rpm ±10%	A	rpm ±10%	A	kgf.cm	kgf.cm	A
6.25	1280	0.25	970	1	1	4.7	5.1
10	800	0.25	600	1	1.7	7.6	5
18.8	425	0.25	326	1	3	14	5
30	266	0.25	212	1	4.8	22.8	5
56	142	0.25	111	1	8.5	35	5
70	114	0.25	91	1	10	40	4.9
90	88	0.25	67	1	12.5	50	4.9
131	61	0.25	50	1	17.5	70	4.9
169	47	0.25	36	1	22.6	90	4.9
210	38	0.25	29	1	25	100	4.9
270	29	0.25	25	1	30	120	4.9
394	20	0.25	16	1	35	140	4.9
506	16	0.25	13	1	40	160	4.9
630	12	0.25	10	1	40	160	4.9
810	10	0.25	9	1	40	160	4.9

Performance parameters are reference values. Actual performance may vary with load, temperature, power supply and manufacturing tolerance. Custom voltage, speed, torque, shaft and gearbox specifications are available on request.

Mechanical Dimensions

TSL-JGB37-BL3650 | Unit: mm



Unless otherwise specified, dimensions are in millimetres.

Wiring and Control Interface

Integrated-driver brushless motor | Five-wire connection

 **Black**
GND

 **Red**
VCC

 **Blue**
SPEED / analog control

 **Yellow**
FG speed feedback

 **White**
CW / CCW

Signal	Parameter	I/O	Specification	Remark
GND	Ground	IN	Power ground	Black lead. Connect to power-supply negative.
VCC	Supply input	IN	12 V or 24 V version; supply tolerance $\pm 10\%$	Red lead. Connect to power-supply positive.
FG	High level VOH	OUT	Min. 4 V at 5 V with 10 k Ω pull-up	Yellow lead. Open-collector output for speed detection.
	Low level VOL		0 to 0.6 V	
	Output current		5 mA max.	
	Pulse quantity		6 pulses / revolution	
SPEED	Input voltage	IN	0 to 5 V	Blue lead. Analog speed-control input.
	Speed regulation		Typical control range: 1.2 to 3.3 V analog voltage	Motor speed is proportional to the input analog voltage.
CW / CCW	Input voltage	IN	0 to 5 V	White lead. Direction-control input.
	High level VIH		Min. 2 V	CCW
	Low level VIL		Max. 0.2 V	CW

Note: The standard speed-control input is an analog 0-5 V signal, not a pulse-wave PWM input. Pulse-wave PWM control requires a customized driver version.
Confirm the supplied wiring/driver version before connection. Stop the motor before changing direction.