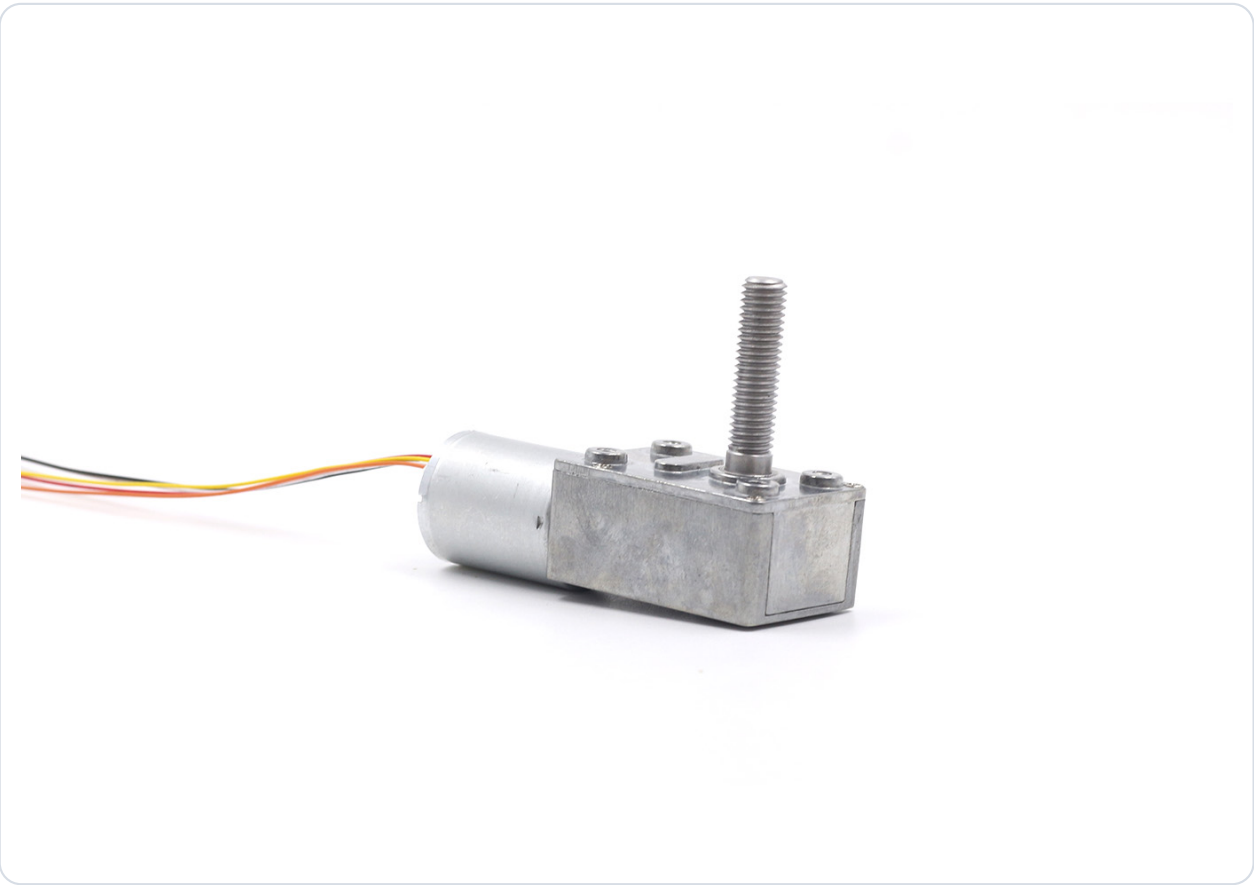


TSL-GW4632-BL2430-M8

Ø24 mm Brushless DC Motor With Worm Gearbox



Configuration Summary

Motor Type	Brushless DC motor with integrated driver
Gearbox	Right-angle worm gearbox
Nominal Voltage	12 V / 24 V
Rated Power	7.2 W
Motor Diameter	Ø24.4 ±0.3 mm
Output Shaft	M8 thread, 30 ±0.1 mm threaded length
Gear Ratios	40:1 to 3000:1
Control Interface	VCC, GND, CW/CCW, FG, PWM

Product Overview

The TSL-GW4632-BL2430-M8 combines a compact 24 mm brushless DC motor, an internal driver, a worm gearbox and an M8 threaded output shaft. The five-wire interface supports direction control, FG speed feedback and PWM speed adjustment. Multiple gear ratios are available for low-speed, high-torque applications.

Performance Data - 12 V / 7.2 W

TSL-GW4632-BL2430-M8

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Current	Torque
i:1	rpm ±10%	A	rpm ±10%	A	kgf.cm	A	kgf.cm
40:1	150	0.12	112	0.6	1.5	2	6.4
65:1	90	0.12	70	0.6	2.4	2	10
90:1	66	0.12	50	0.6	3	2	13
150:1	40	0.12	30	0.6	5.6	2	23
200:1	30	0.12	22	0.6	7.4	2	30
260:1	23	0.12	17	0.6	10	2	40
340:1	18	0.12	13	0.6	12	2	52
448:1	13	0.12	10	0.6	14	2	61
600:1	10	0.12	7	0.6	19	2	81
1000:1	6	0.12	4	0.6	25	2	136
1800:1	3	0.12	2.5	0.6	25	2	136
3000:1	2	0.12	1.5	0.6	25	2	136



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

Performance Data - 24 V / 7.2 W

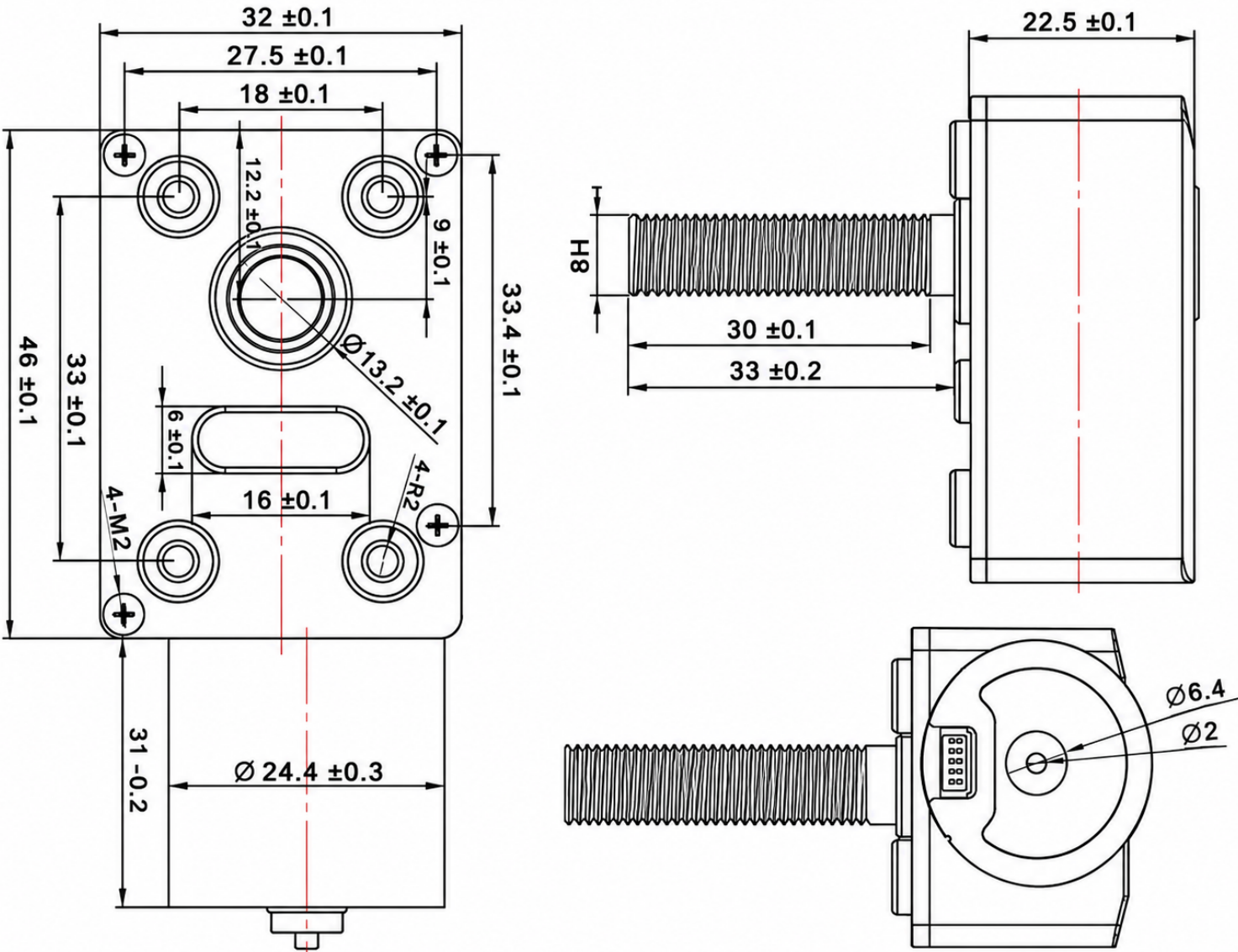
TSL-GW4632-BL2430-M8

Ratio	No Load		Rated Load			Stall	
	Speed	Current	Speed	Current	Torque	Current	Torque
i:1	rpm ±10%	A	rpm ±10%	A	kgf.cm	A	kgf.cm
40:1	150	0.06	112	0.3	1.5	1	6.4
65:1	90	0.06	70	0.3	2.4	1	10
90:1	66	0.06	50	0.3	3	1	13
150:1	40	0.06	30	0.3	5.6	1	23
200:1	30	0.06	22	0.3	7.4	1	30
260:1	23	0.06	17	0.3	10	1	40
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Performance parameters are reference values. Actual performance may vary with load, temperature, power supply and manufacturing tolerance. Custom specifications are available on request.

Mechanical Dimensions

TSL-GW4632-BL2430-M8 | Unit: mm



Unless otherwise specified, dimensions are in millimetres.

Wiring and Control Interface

Internal-driver brushless motor | Five-wire connection

1**Red**
VCC

2**Black**
GND

3**Orange**
CW / CCW

4**Yellow**
FG

5**White**
PWM

No.	Signal	Parameter	I/O	Specification	Remark
1	Motor power (VCC)	Supply input	IN	12 V version: DC 12 V (operating range: 8-15 V) 24 V version: DC 24 V (operating range: 8-26 V)	Red lead. Motor power input.
2	Ground (GND)	Ground	IN	GND	Black lead. Ground connection.
3	Direction (CW / CCW)	Input voltage		0-5.0 V	Orange lead. Direction control input.
		High level VIH	IN	Min. 5 V	High level = CCW
		Low level VIL		Max. 0.3 V	Low level = CW
		High level VOH		1.5 V ≤ U ≤ 5.0 V (at 5 V)	
4	Frequency generator (FG)	Low level VOL	OUT	0.6 V max.	Yellow lead. Open-collector NPN output for motor-speed detection.
		Signal current		3 mA max.	
		Pulse output		18 pulses / revolution	
5	Pulse-width modulation (PWM)	Input voltage		0-5.0 V	White lead. PWM speed-control input.
		High level VIH		Min. 5 V	High level = motor stop
		Low level VIL	IN	Max. 0.23 V	Low level = motor run
		Pulse frequency		Recommended: 15-35 kHz	As the control voltage rises from 0.23 V toward 5 V, motor speed decreases until the motor stops.

Important Notes

1. Do not reverse or interchange the positive and negative power leads.
2. Stop the motor before changing direction; switching direction while rotating may damage electronic or mechanical components.
3. Due to gearbox construction, the factory output direction is not identical for every ratio. Confirm the actual CW/CCW direction before installation.
4. Reducing speed reduces available output torque. Select the output speed and gear ratio according to the required torque.