

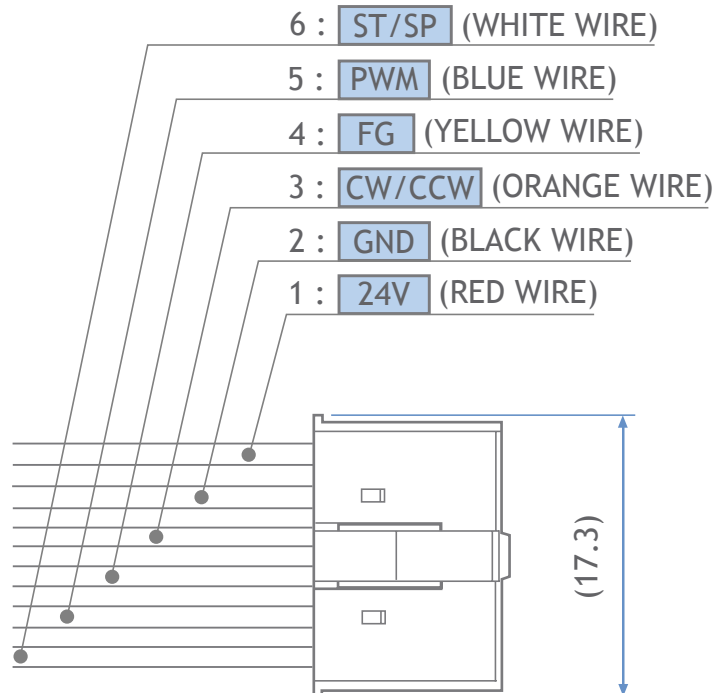
Brushless motor

for series **BL192**

Interface				
Pin No.	Signal name	I/O	Specification	Note
1	VM	IN	DC 24V +/- 10%	Power supply
2	GND	IN	Ground	
3	CW/CCW	IN		High CW Low CCW
	Input voltage range		0-5V	
	VIH		2.0V Min	
4	FG	OUT		You need to pull up for FG terminal so that the terminal is open drain output.
	VOH		6V Max	
	VOL		0.6V Max	
	Max rating of FG sink current		3mA	
	Number of FG output pulse		6 Pulse/round	
5	PWM	IN		High motor ON Low motor OFF
	Input voltage range		0-5V	
	VIH		2.5V Min	
	VIL		1.0V Max	
6	STOP/START	IN		High motor START Low motor STOP
	Input voltage range		0-5V	
	VIH		2.0V Min	
	VIL		1.0V Max	

BL192

You should connect a Schottky Barrier Diode between each signal line and ground to prevent Ic from being damaged. We recommend to connect 47uF capacitor between 5V to GND for protecting from filter actions by electrical noises. Do not change CW/CCW input until motor has stopped completely, if you change the CW/CCW signal during motor running, motor may have some damage or be destroyed.



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Ratings

N°	Item	Specification	Note
1	Rated voltage	DC 24V	
2	Min. operating voltage	DC 16V	
3	Man. operating voltage	DC 26.4V	
4	Type	3 phases 12 poles brushless motor with 3 hall sensor	
5	Rotating direction	CW/CCW	
6	Bearing type	Sleeve bearing	
7	Motor posture	Horizontal	
8	Motor mass	145g Typ.	

Electrical characteristics (temp. 20+/-5 °C, relative humidity 80% max)

N°	Item	Specification	Note
1	Dielectric strength	AC 600V 1 sec 1mA	Check between all shorted terminals and motor cover.
2	Insulation resistance	DC 500V 10MΩ Min	
3	No load current	0.36A Max	DC 24V
4	No load speed	5000 +/- 15% RPM	DC 24V

Temperature ratings

N°	Item	Specification	Note
1	Operating ambient conditions	Dry bulb temp: -10 +50 °C	Relative humidity: 0 - 90%
2	Max permissive coil temp.	115 °C	
3	Max permissive IC surface temp.	110 °C	
4	Max permissive FET surface temp.	110 °C	
5	Max Transistor Temperature	110 °C	
6	Max permissive lead wire temp.	105 °C	
7	Max permissive bearing temp.	90 °C	

Circuit protection

N°	Item	Specification	Note
1	Current limit	3A Typ.	Using PWM
2	Thermal shutdown	175 °C +/-30 °C	There is no guarantee of proper operation when thermal shutdown motor is reused.
3	Motor lock protection	2 sec Typ.	When the motor locks, the motor current is automatically cut off within the defined time. The motor restarts by power supply reset.

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