


SPECIFICATIONS	
PRODUCT NAME / Model	BLDC motor driver / MCR-BL2406G (V8.0)
POWER INPUT	DC24V \pm 15% or DC12V (Made by Order)
DRIVING CURRENT	8A (Max.)
MOTOR WATTS	< 200W
SPEED CONTROL RANGE	90:1
OPERATION & PROTECT FUNCTIONS	<ul style="list-style-type: none"> ● BUS Voltage monitor ● Temperature real time monitor ● Speed / Torque Swift (Note 1) ● Communication with control panel interface (LED panel optional)(Note 2) ● Low / over voltage output shut down protection ● Motor CW / CCW swift ● Output disable ● Internal / External speed selection ● Hall IC 3 phase signal output & pulse output ● Alarm output lock out (Note 3) ● Over current detection ● Motor overheat protection ● External reset input ● Separate timer setting in Acceleration/Deceleration (0.2~15.0 sec.) ● Overheat protection(Manufacture default setting at 70.0 °C) ● External speed DC 0-5V with 0-3000RPM linear output control (Note 4) ● Source / Sink Input Select
SPEED SETTING	Internal/ External VR for speed control (1K~500K Ohmic B Type · 0~5V)
ACCELERATION / DECELERATION TIME	0.2~15 Sec.
INPUT / OUTPUT SIGNAL	<ul style="list-style-type: none"> ● CW ● CCW ● BRAKE ● FREE STOP ● RESET ● SPEED / TORQUE SWIFT ● SHIELD GROUND ● SPEED OUTPUT ● ALARM OUTPUT
OPERATING TEMP/ HUMIDITY	-40 C to +85 C (Antifreeze)
DIMENSIONS/ WEIGHT	60(L) x 108(W) x 30(H) \pm 1 mm / 180g

Note 1 : The overheat protection still on duty, even the display swift to torque control. But this will unlimited the overload in 5 second.

Note 2 : We will offer the special display functions designed under the customers'demand in the I/O range of the model and over the minimum order.

Note 3 : It is selectable to output the alarm or not in some special application. But the overheat protection is always working on.

Note 4 : The maximum speed limit can be setting under customers' demand in some application. For example: The speed DC 0-5V with 0-3000RPM (or 2000RPM) linear output control.

FEATURE:	
<ul style="list-style-type: none"> Flat torque performance, cost effective, easy operation Low noise. Motor keep low temperature after long time operation Compact size, high efficiency, long lifetime. Swift CW/ CCW direction change. Acceleration/ Deceleration time control aseparate. Internal/ external speed control selection Output 12 or 30 pulse per round from motor to exam calculation 3 phase Hall sensor signal output for user controlled by PLC or CPU detect motor absolutely position 	 <p style="font-size: small;">Tc. Mos Case Temperature(C) Maximun Drain Current Vs.Case Temperature on Power Mos.</p>
<ul style="list-style-type: none"> Please read it thoroughly to ensure safe operation. Always keep the manual where it is readily available. 	

● **JP10 Jumper [Digital control panel, 2 Pin]**

Short -> Control by Monitor/Control PANEL

OPEN ->The LED panel offer the display function for monitor purpose. And the control function under the setting of the driver.

● **J1 Connector [External speed adjustment VR, 3 Pin]**

1 -> External speed control terminal (+V)

2 -> External speed control terminal (Wiper)

3 -> External speed control terminal (GND)

NOTE: Please use 1K~500K Ohmic VR B Type, External Voltage range DC0~5V.

● **J2 Connector [Internal/ External speed control selection, 3 Pin]**

1,2 Short -> Internal knob for motor speed adjustment

2,3 Short -> External knob or voltage for motor speed adjustment.

● **J3 Power Connector**

1 -> POWER INPUT DC +24V (DC12V is optional)

2 -> POWER INPUT DC 0V (GND)

● **J4 Connector [Motor, I/O signal connection, 8 Pin]**

Pos.	Descriptions	Driver	Motor
1	Motor U phase	(Blue)	(Blue)
2	Motor V phase	(Violet)	(White)
3	Motor W phase	(Gray)	(Brown)
4	Hall Sensor Power H +	(Yellow)	(Orange)
5	Hall Sensor Power H -	(Green)	(Black)
6	Hall Sensor, HU	(Brown)	(Yellow)
7	Hall Sensor, HV	(Red)	(Grey)
8	Hall Sensor, HW	(Orange)	(Green)

- **J11 Connector [I/O signal connection, 10 Pin]**

POS	Descriptions	COLOR	NOTE
1	COMMON INPUT	(Black)	
2	CW/CCW Swift	(Yellow)	
3	BRAKE IN (OPEN=RUN, SHORT=BRAKE)	(Red)	
4	Output Disable (OPEN=RUN, SHORT=DISABLE)	(Green)	
5	SPEED/TORQUE SWIFT OPEN=SPD,SHORT=TQU)	(Orange)	
6	RESET	(Blue)	
7	SHIELD GROUND (SHIELD)	(Violet)	
8	OUTPUT COMMON GROUND	(Brown)	
9	ALARM OUTPUT Open Collector C (<20mA)	(Gray)	
10	SPEED OUTPUT Open Collector C (<20mA)	(White)	

- **J6 Motor Overheat Protect Connector (2PIN)**

1,2 -> Motor overheat protect connector, optional in motor manufactory.

- **R13 Internal Speed Control VR**

Speed control range : 100RPM - 3000 RPM (STANDARD)

- **R16 Internal Torque VR**

Torque Range : 0% - 100% (STANDARD)

- **R21 Acceleration Time Setting VR**

Setting Range : 0.2 ~ 15 sec.

- **R26 Deceleration Time Setting VR**

Setting Range : 0.2 ~ 15 sec.

- **J9 ENCODER/DECODER**

- 1: PHASE A
- 2: PHASE B
- 3: PHASE Z
- 4: SIGNAL GROUND

- **S1 Input terminal polarity selection**

- 1: SINK mode, J11 -> PIN1=DC0V
- 2: SOURCE mode, J11 -> PIN1=DC+V (BUS VOLTAGE DC+24 or DC+12V)



APPLICATIONS :

OPP/CPP PACKING MACHINE:

OPP/CPP packing machine (semi-automatic) for DVD VCD CD

MCR-BL2406G (V8.0) fast deliver the film for the PP package of DVD 、VCD 、CD at exact position. Simply setup the speed and make the mechanical movement totally in control. Even thought the mechanic devices in age, MCR-BL2406G (V8.0) can detect the resistance and make them performance in the highest efficiency.

BALL SCREW & X-Y-Z TABLE:

MCR-BL2406G (V8.0) can be combined for X-Y-Z movement.

Application : Centering a Substrate, Pulling out Connectors, Driving a Pump Actuator Device, Fine Tuning A Nozzle, Focusing a CCD Camera, Silicon Wafer Pin Lifter, Pressing Applications , Wafer Transfer , Traveling Operation , X-Y Table , X-Y Stage , Positioning Application.

CHEMICAL INDUSTRY:

MCR-BL2406G (V8.0) controls the brushless motor in constant speed unidirectional or bidirectional. Apply in chemical, biochemical and medical devices for laboratory. Easy fit it into the devices and the devices will be more compact and easy to carry

FOOD INDUSTRY:

MCR-BL2406G (V8.0) with hi-tech CPU make brushless motor rotation rate up to 3000RPM or more that will be suitable application in food industry. No matter with low speed torque or instantaneous acceleration, MCR-BL2406G (V8.0) is the one for the industry. Application :

Material Agitator , Arm Operation, Rotation of Camera, Operation of Large Index Table, Positioning on Index Table, Load Elevator, Open/Close Gate, Pushing Applications.

HOME APPLICATION

MCR-BL2406G (V8.0) combined with brushless motor rotation in low noise applying to washing machine. Easy control the motor rotate direction and speed in external D/A signal. It also can apply to dryer machine and air condition. This application will save our energy and do not rise temperature through external voltage signal input and motor control by driver's PWM.

CUTTING MACHINES:

MCR-BL2406G (V8.0) combined with brushless motor could rotate instantaneous acceleration or fast cutting applying to clothing cutting machine. For the application MCR-BL2406G (V8.0) combine with controller will calculate the rotation distant, clothing cutting and reposition automatically by driver signal feedback. Combine with the function of constant speed and torque compensation. It also application on car waxing, low speed milling machine or automatic tool. Easy installation, compact size and easy operated. Application : Feeding Materials , Feeding at Regular Intervals, Open-Close Gate, Up and Down Operation, Printing Media , Cleaning Applications, Picking Applications, Pumping Applications.

TOOTHPASTE / COSMETIC TUBE SEALING REPOSITION MACHINE

MCR-BL2406G (V8.0) combined with brushless motor could apply in sealing for tube , such as toothpaste, jam, cosmetic etc. Mark searching,

automatic filling, and quickly position before tube sealing, MCR-BL2406G (V8.0) make these production line to be simple. Combine with the photosensor can quickly locate to mark within 0.7 sec per cycle,It is maintain free and very stable in machine without the shortage of stepper motor lost step status in the procedure of acceleration.

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