GGM

Before use this product, read well manual certainly and understand all about knowledge, safety information and cautions of product, and use right way.
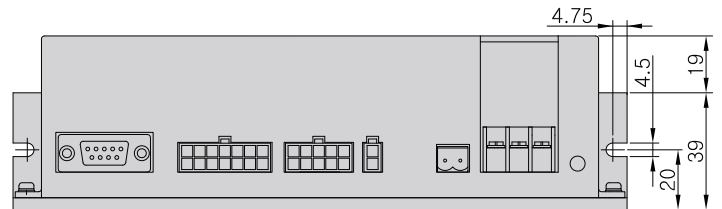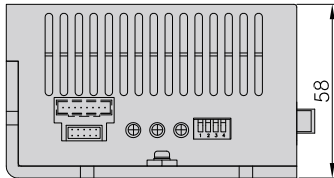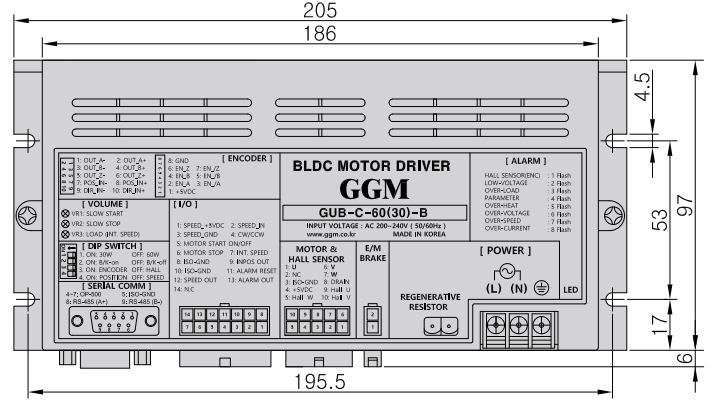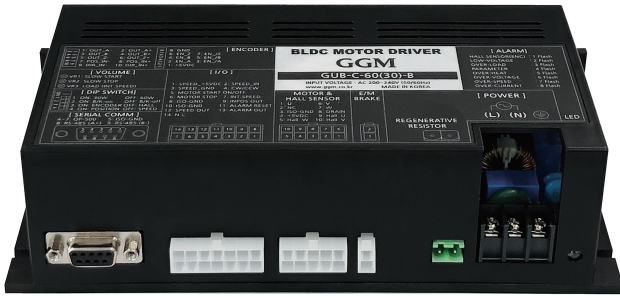After read, please be sure to keep fixed place to refer at anytime.

Manual

BLDC SPEED CONTROL UNIT

GUB-B Series

GUB-C-30-B, GUB-C-60-B, GUB-C-90-B
GUB-C-150-B, GUB-C-200-B, GUB-C-400-B

1. Product appearance

■ Driver main part outside view

[Accessory]

■ Driver In / Out put IO wire

MOLEX 5557-14R

LEAD UL Style 1007, AWG 22

Variable resistor 10KΩ

300mm
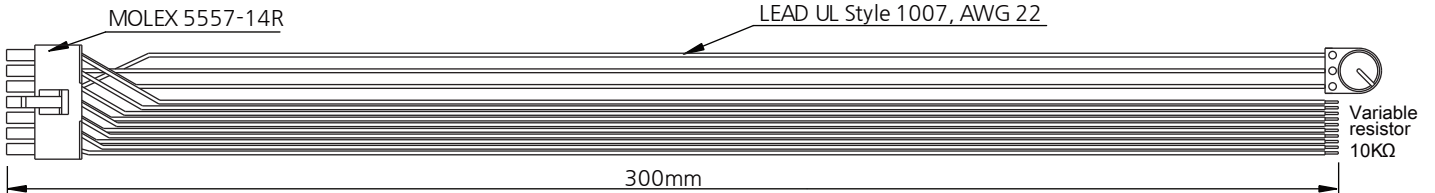
[Optional Parts]

Please Buy extension cable additionally for extending between motor and control(optional)

■ Motor extension cable

MOLEX 5557-10R   MOLEX 5559-10P
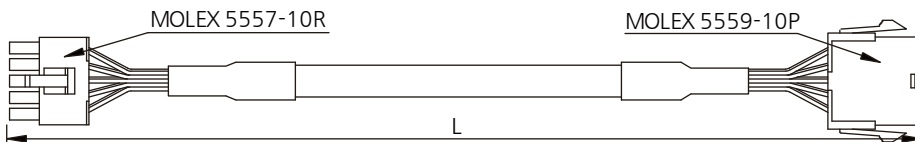
MODEL	L(extension cable length)
K10BEW-1	1m
K10BEW-2	2m
K10BEW-3	3m

■ Encoder extension cable

SMH200-08(YEONHO)   SMH200-08PL(YEONHO)
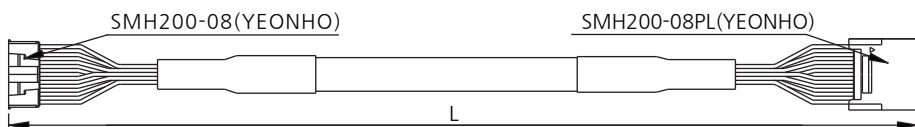
MODEL	L
KEEW-1	1m
KEEW-2	2m
KEEW-3	3m

■ Brake extension cable

MOLEX 5557-2R   LEAD UL 1007, AWG 20 Black   MOLEX 5559-2P
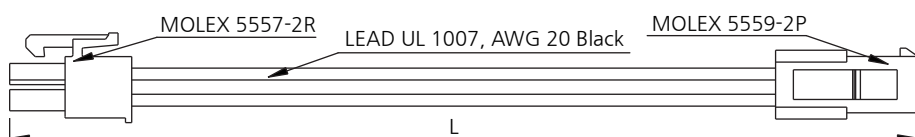
MODEL	L
KXEW(B)-1	1m
KXEW(B)-2	2m
KXEW(B)-3	3m

2. Specifications

Item	GUB-C-30-B	GUB-C-60-B	GUB-C-90-B	GUB-C-150-B	GUB-C-200-B	GUB-C-400-B	Note
Rated output[W]	30W	60W	90W	150W	200W	400W	
Input power[V]	AC 220V (±10%)						
Rated current[A]	0.6	1	1.5	1.8	2.5	4	
Max current[A]	2	3	4	5	5.5	7.8	
External size (mm)	205 X 97 X 58						
Communication	RS485 Communication board (option)						
Encoder	Encoder Board (option) 1,000 ppr						
Velocity control range	Speed control	100~3,000r/min (Velocity variation±1% or under)					
	Position control	1~3,000r/min (Velocity variation±1% or under)					Encoder type (when controlling pulse input)
Operating Environment	Termperature	Use : 0 ~ 40℃, Storage : -20 ~ 70℃					Non-freezing
	Humidity	Use : 85% below, Storage : 85% below					Non-condensing
	Environment	No corrosive gas and dust, No splashing water and oil					

3. Name and functions of each part
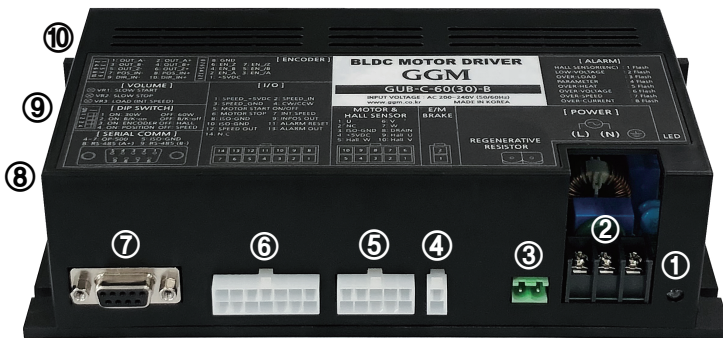
①	LED	③	Regenerative resistor [100Ω,100W]	⑦	Serial communication - OP-500 - RS485(option)
②	Power Single phase 220V (L) (N) ⏚	④	Electronic brake	⑧	DIP switch
		⑤	Motor & Hall sensor	⑨	Internal volume
		⑥	In / Output IO	⑩	Encoder Board (option)
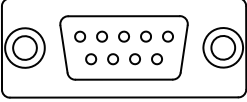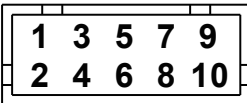
4. DIP switch & internal volume specifications

Item	Pin no.	Contents											Note
DIP switch	1	GUB-C-60(30)-B				GUB-C-150(90)-B				GUB-C-400(200)-B			
		ON	30	OFF	60	ON	90	OFF	150	ON	200	OFF	400	
	2	ON	Brake function ON			OFF		Brake function OFF					
	3	ON	Encoder drive mode			OFF		Hall sensor dirve mode					Applicable for Encoder option
	4	ON	Position control mode			OFF		Speed control mode					
Internal volume	VR1 VR2 VR3	VR1	Slow Start	VR2	Slow Stop	VR3	LOAD (Use int.speed) - CW Max (Lood factor 100%) - CCW Min (Lood factor 0%)						

5. LED specifications

Item		LED sign	Note
LED [Operation]		Motor Power ON : Red light on	
		Control ON : Green light on	
		Motor running : Green light on	
LED [alarm]	Hall sensor alarm	Flickering once at intervals of 6 seconds (Red)	Motor stop
	Low voltage alarm	Flickering twice at intervals of 6 seconds (Red)	
	Over load alarm	Flickering 3 times at intervals of 6 seconds (Red)	
	Parameter alarm	Flickering 4 times at intervals of 6 seconds (Red)	
	Over heat alarm	Flickering 5 times at intervals of 6 seconds (Red)	
	Over voltage alarm	Flickering 6 times at intervals of 6 seconds (Red)	
	Over speed alarm	Flickering 7 times at intervals of 6 seconds (Red)	
	Over current alarm	Flickering 8 times at intervals of 6 seconds (Red)	

6. Communication or Encoder output & Position pulse input (option)

Item	Pin no.	Contents			Note	
D-SUB(9P)-Female	1,2,3	N.C				
	4	OP-500(+5VDC)			Separate purchse of OP-500	
	5	GND			OP-500 Function - Speed display - Setting the parameter (communication ID, Highest speed, etc)	
	6	OP-500(RX)				
	7	OP-500(TX)				
	8	RS-485(A+)			Communication option (Separate purchse of communication board)	
	9	RS-485(A-)				
Encoder output & Position pulse input (YEONHO, YDAW 200-10)	1	ENC_A-	2	ENC_A+	A phase output	Separate purchase of encoder board
	3	ENC_B-	4	ENC_B+	B phase output	
	5	OUT_Z-	6	OUT_Z+	Z phase output	
	7	POS_IN-	8	POS_IN+	Position pulse	
	9	DIR_IN-	10	DIR_IN+	Direction pulse	

7. Input and output I/O specification (YEONHO, YDH200-14)

Pin no.	Name of signal	Color	Contents
1	SPEED_+5V	Red	Direct current power for speed setting (+5V) / This is used as the power input of variable resistance for receiving this power supply from the external source and entering the speed, and it is prohibited to use it for any other purpose.10KΩ (1/4W or higher) is used when the external variable resistance is used.
2	SPEED_IN	Orange	Direct current power input for speed setting/ Change the motor speed up to the maximum speed in proportion to (0~5VDC).
3	SPEED_GND	Black	GND
4	CW / CCW	Yellow	Decides the motor direction. CW direction if the input is "Low" (GND connection). CCW direction if the input is "High" (GND not connected).
5	START	White	If the input is "Low" (GND connection), the motor control function is enabled (Motor rotation ready). If the input is "High" (GND not connected) during motor rotation, the motor will stop automatically.
6	STOP	Blue	If the input is "Low" (GND connection) during motor rotation, the motor is stopped by the deceleration brake.
7	SPEED_IN	Brown	When the input is low (connect GND), the internal volume(VR3) is applied as the speed volume to set the speed. - When the input is low (connect GND), internal Vol. VR3 can not be used as a load factor Vol. When the input is high (GND not connected), use the external volume to set the speed.
8	GND	Black	GND
9	Inpos Out	Green	Position movement completion output (when encoder type control the position) "Low" (0V) changing.
10	GND	Black	GND
11	Alarm Reset	Gray	This eliminates the cause of an alarm and forcibly resets the alarm. If the input is "Low" (GND connection), the alarm is reset.
12	SPEED_OUT	Pink	Motor speed pulseoutput (Open Collector) _ 15 pulseoutput a rotation.
13	Alarm Out	Purple	In the event of an alarm by alarm signal output (Open Collector), output changes to "Low" (0V).
14	N.C		

■ **Speed control**

If I/O #7inputis"High" (GND not connected), motor speed changes up to the max speed in proportion to the external volume (I/O#2)
input voltage (0~5VDC).
In the event of utilizing external adjustable resistance, use the value of 10KΩ (1/4W or over).
If I/O #7input is "Low" (GND connection), motor speed changes up to the max speed in proportion to the internal volume input voltage (0~3.3VDC)

■ **Motor direction control**

If I/O #4input is "Low" (GND connected), the motor rotates toward CW (to motor axis).
If I/O #4input is "High" (GND not connected), the motor rotates toward CCW (to motor axis).

■ **Controller ON/OFF control**

If I/O#5input is"Low" (GND connected), motor control function is activated. (green LED light on)
(ready for motor rotation)
Motor operation starts according to an external volume input value. (LED turns on blue) If input is "High" (GND not connected) while motor rotation, the motor stops naturally.

■ **Motor stop control**

If I/O#6inputis "Low" (GND connected) while motor rotation, the motor stops. [deceleration - brake (no maintaining)]

■ **Output signal**

Inpos Signal output	Motor speed pulse output	Alarm sign output
I/O signal output "Low" when position movement is completed (encoder type is position control mode)	I/O #12 outputs signal pulse while motor rotation. (outputs 15 pulses of signal per 1 motor rotation)	In the event of an alarm, I/O #13 output changes to "Low" (0V).

■ **Electric brake control / position & direction instruction signal**

Electric brake control	Electric brake control
Electric brake is released automatically when motor is run. Electric brake works automatically after the motor stop (Brake type motor)	- Counts Per Revolution (CPR) = 1000 pulse - Pulse frequency(Hz) = (Control Speed rpm/60)*1000 (Signal permitted frequency 100KHz)

※ **Contact your vendor or our second factory if you haveany questions about product or requirepost-sales service.**