BLDC SPEED CONTROL UNIT

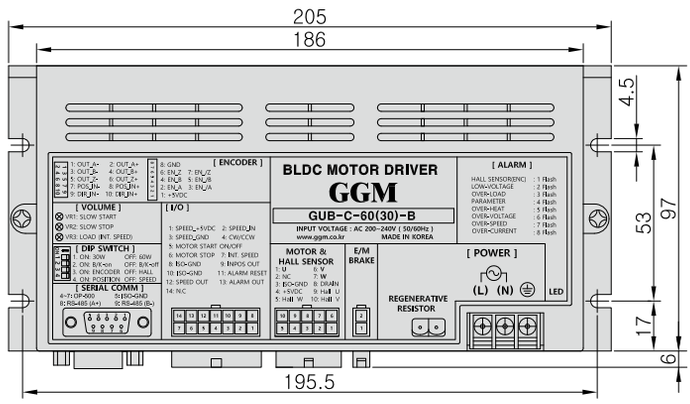
GUB-B

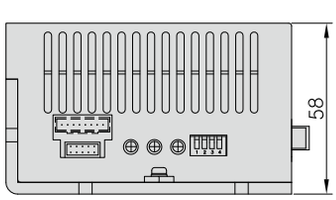
GUB-C-30-B, GUB-C-60-B, GUB-C-90-B,
GUB-C-150-B,GUB-C-200-B, GUB-C-400-B
GUB-C-750-B, GUB-C-1000-B

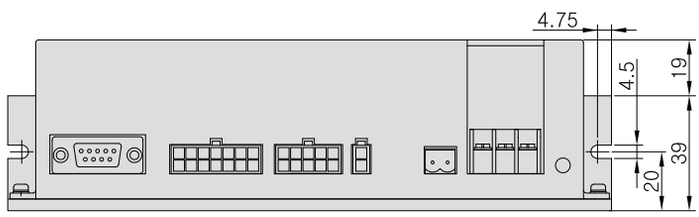
B Series motor applied product

Product appearance and characteristics

■ Driver main part outside view

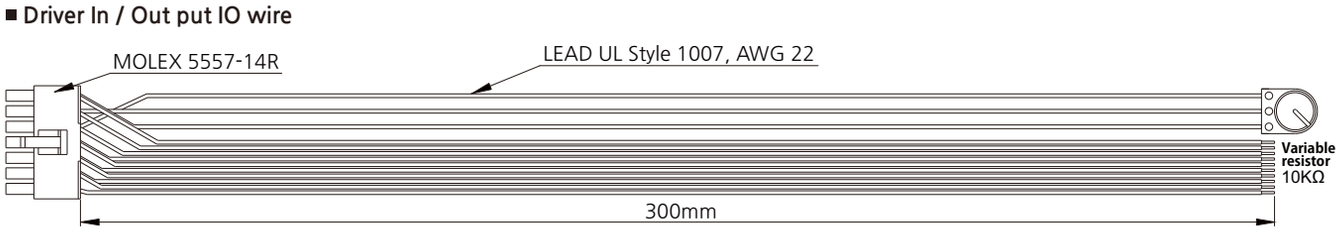






[Accessory]

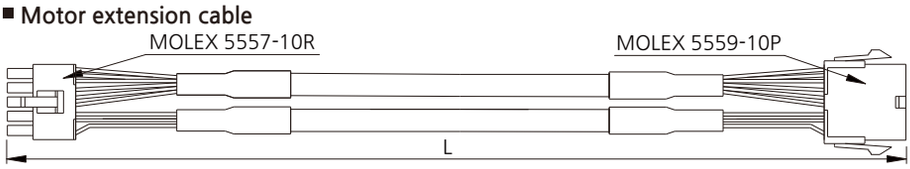
■ Driver In / Out put IO wire



[Optional Parts]

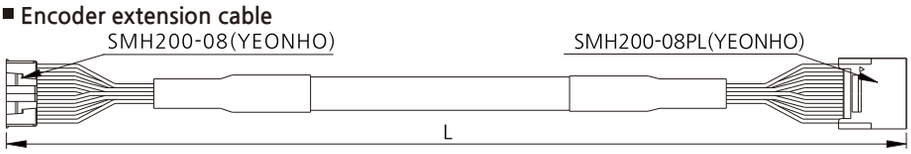
Please Buy extension cable additionally for extending between motor and control(optional)

■ Motor extension cable



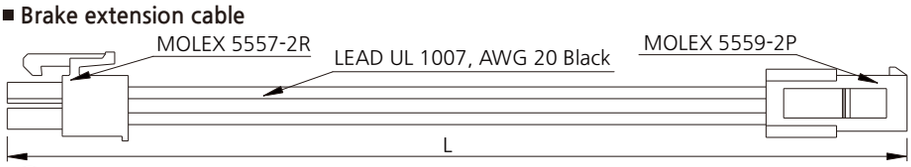
MODEL	L (extension cable length)
K10BEW-1	1m
K10BEW-2	2m
K10BEW-3	3m

■ Encoder extension cable



MODEL	L
KEEW-1	1m
KEEW-2	2m
KEEW-3	3m

■ Brake extension cable



MODEL	L
KXEW(B)-1	1m
KXEW(B)-2	2m
KXEW(B)-3	3m

Name and functions of each part

①	LED	③	Regenerative resistor [100Ω,100W]	⑦	Serial communication - Op500 - RS485(option)
②	Power Singlephase220V (L) (N)	④	Electronic brake	⑧	DIP switch
		⑤	Motor & Hall sensor	⑨	Internal volume
		⑥	In / Output IO	⑩	Encoder Board (option)

1. 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	GUB-C-750-B	GUB-C-1000-B
Rated output[W]		30W	60W	90W	150W	200W	400W	750W	1000W
Input power[V]		AC 220V (±10%)							
Rated current[A]		0.6	1	1.5	1.8	2.5	4	7	9
Max current[A]		2	3	4	5	5.5	7.8	12	15
External size(mm)		205 X 97 X 58							
Communication		Rs485 Communication board (option)							
Encoder		Encoder Board (option) 1,000 ppr							
Speed control		100~3,000r/min (Velocity variation±1% or under)							
Position control		Encoder type (When controlling pulse input) 1~3,000r/min (Velocity variation±1% or under)							
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							

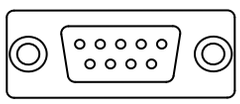
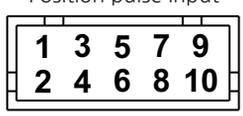
2. DIP switch & internal volume specifications

Item	Pin no.	Contents															
DIP switch (ON 1 2 3 4)	1	GUB-C-60(30)-B				GUB-C-150(90)-B				GUB-C-400(200)-B				GUB-C-750(1000)-B			
		ON	30	OFF	60	ON	90	OFF	150	ON	200	OFF	400	ON	1000	OFF	750
	2	ON	Brake function ON							OFF	Brake function OFF						
	3	ON	Encoder drive mode							OFF	Hall sensor dirve mode						
	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%)						

3. LED specifications

Item		LED sign	Note
LED [Operation]		Motor Power ON : Red light on	
		Control ON : Green light on	
		Motor running : Blue 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)	

4. 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	

5. 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 pulse output (Open Collector) _ 15 pulse output 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		

6. Features

■ **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).

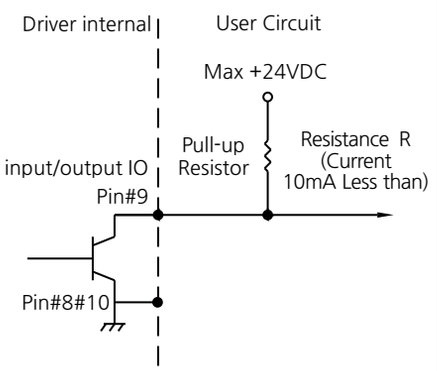
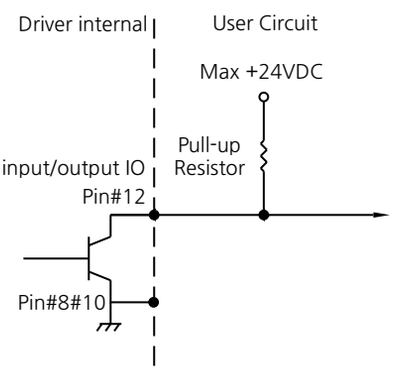
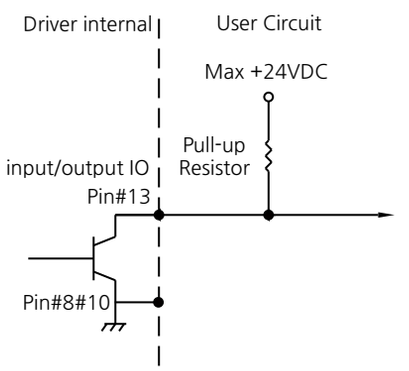
■ **Controller ON/OFF control**

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. If input is "High" (GND not connected) while motor rotation, the motor stops naturally.

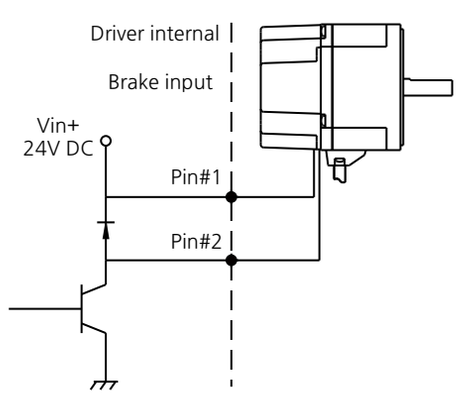
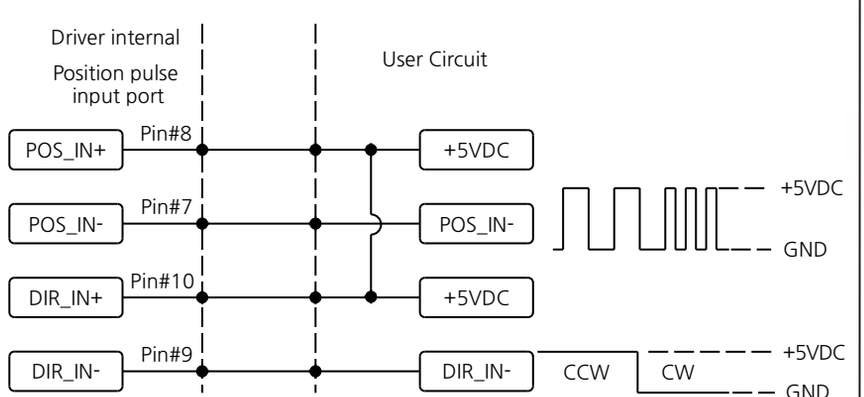
■ **Motor stop control**

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	Position & Direction instruction signal input (Position control mode)
	
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)