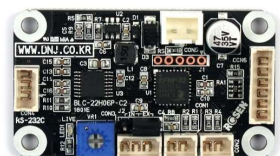


BLDC Motor Controller (RS-232)**BLC-22H06P-C2**

BLDC CONTROLLER

- Digital(PWM) speed control
- ON/OFF, Direction, Acceleration/Deceleration(ACC/DEC)
- Internal / external speed control selection
- BL3640 BLDC Motor
- Compact size, high efficiency
- Small size, low cost, easy

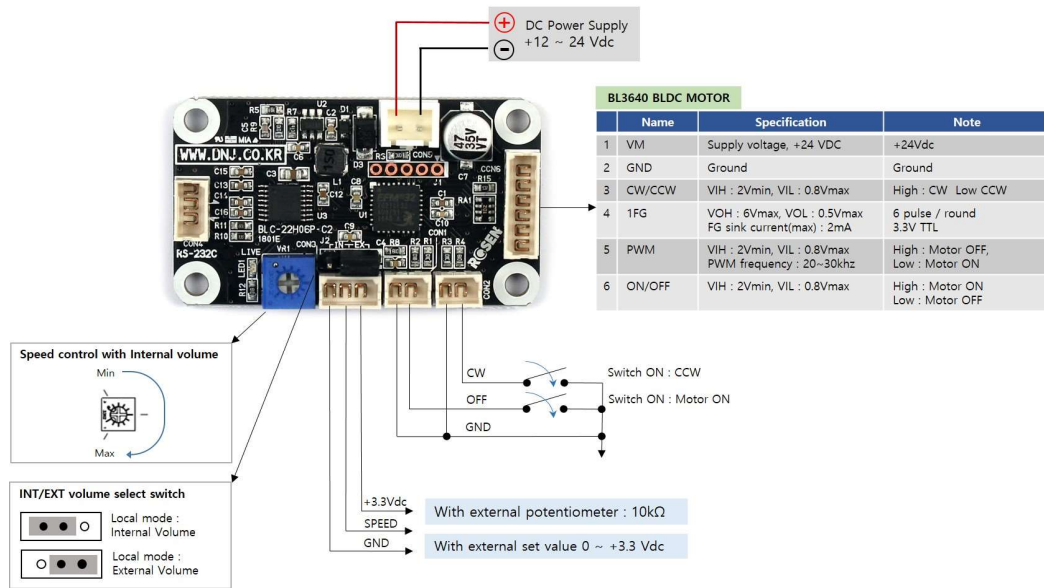
Specification		Part numbers			
Rated Specifications		BLC-22H06P-CU	BLC-22H06P-C2	BLC-22H06P-C4	
Voltage	Vdc	< 24	< 24	< 24	
Switching frequency of power stage	kHz	25KHz			
Function		Speed(volume), Enable, Direction, ACC/DEC			
Communication		USB	RS232	RS485	
Input I/O					
Ext/Int volume		<INT volume> 10kΩ (Set value speed : 0 ~ 3.3Vdc) <EXT volume> 10kΩ (Set value speed : 0 ~ 3.3Vdc)			
Enable (ON/OFF)		<Enable function not active> : Set to GND <Enable function active> : Input open (3.3Vdc pull up ; 10kΩ)			
Direction		<Clockwise> : Input open (3.3Vdc pull up ; 10kΩ) <Counter-clockwise> : Set to GND			
Ambient temperature and humidity					
Operation condition		Dry bulb temp:-10~+50 [°C], Relative humidity : 0 ~ 90 [%]			
Storage condition		Dry bulb temp:-10~+60 [°C], Relative humidity : 10 ~ 90 [%]			
Non condensating		20 ~ 80%			
Mechanical Specifications					
1 Weight	g	8			
2 Dimention (L x W x H)	mm	48.5 X 28 X 11.5			
3 Mounting threads		Flange for M3-screws			
Terminals					
Power		Male header PCB : SMW250-02, 1 row, Pitch : 2.5 mm - Suitable plug : SMH250-02 (YEON-HO) - Suitable for wire cross section : AWG#22 UL1007			
Motor		Male header (PCB) : MOLEX 53014-0610, 1 row, Pitch : 2 mm - Suitable plug : MOLEX 51004-0610 - Suitable for wire cross section : AWG#26 UL1007			
Signal I/O (Enable, CCW)		Male header (PCB) : MOLEX 53014-0210, 1 row, Pitch : 2 mm - Suitable plug : MOLEX 51004-0210 - Suitable for wire cross section : AWG#26 UL1007			
Communication I/O BLC-22H06P-CU BLC-22H06P-C2/C4		Micro USB B type Male header (PCB) : MOLEX 53014-0310, 1 row, Pitch : 2 mm - Suitable plug : MOLEX 51004-0310			

Ordering Model No.**BLC - 22H06P - C ☐****Nidec 6pin BLDC motor(BL3640) Controller**

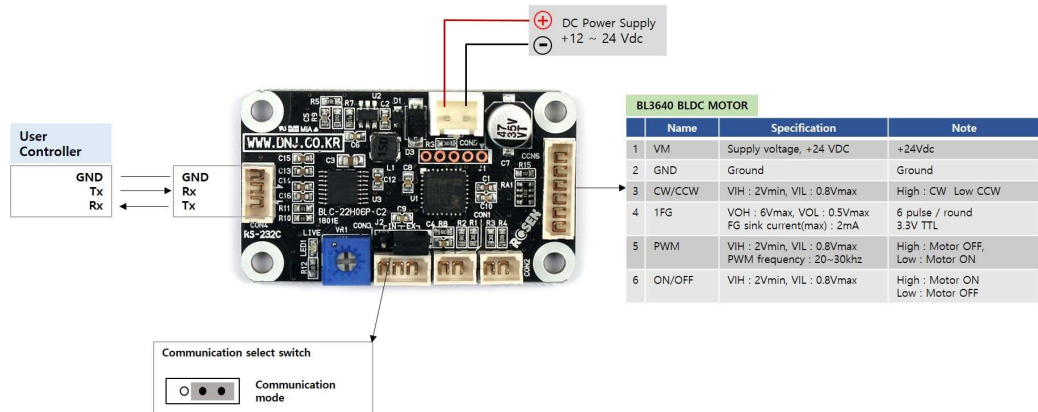
C0 : TTL
 C2 : RS232
 C4 : RS485
 CU : Micro USB

Wiring Diagram

Local Mode



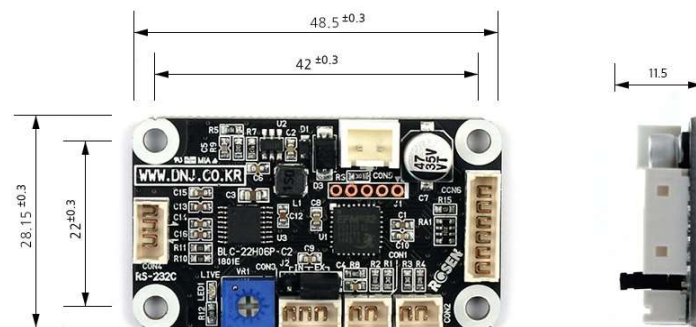
Communication Mode



Communication Set-up	
1 Baudrate	9,600 bps
2 Data	8 bit
3 Parity	None
4 Stop	1
5 Flow control	None

RS232	
1 Protocol	MODBUS RTU
2 Address No.	0x64
3 Read	0x03 (Read Holding Resistors)
4 Write	0x06 (Write single Resistors)

Dimension Drawing



Dimensions in [mm]

Protocol

1. This product applies MODBUS-RTU communication protocol
2. The device ID is "0x64: 100"
3. Setting should be by 9,600bps, 8 bits of data, Parity None, and 1 stop for Communication speed
4. It supports only Read Holding Registers (Function Code 3) and Write Single Register (Function Code 6) among the MODBUS function codes.
5. The states of the switches (CW / CCW, ENABLE) and variable resistors mounted on the control board can not be confirmed using the "Read Input Register" function. If this code requests read, it is ignored.
Also, this can be confirmed using the "Read Holding Registers" function.
6. Table 1 as below describes the registers and functions.

Table 1

REG. Name	Function	
0001 SET_SPEED_REMOTE	It is the motor speed (duty %) set by REMOTE. 0 ~ 1000 can be input, 1000 means the maximum speed. To adjust the speed in LOCAL, set this value to 1001 or higher. The maximum value is 65535.	R/W
0002 SET_CW_CCW_REMOTE	CW / CCW indicates the location of the control authority. 0 and 1 are REMOTE, and the other values are LOCAL (Board). "0" is the direction of CW, and "1" is the direction of CCW.	R/W
0003 SET_ENABLE_REMOTE	It indicates the position of control of ENABLE signal of motor. 0 and 1 are REMOTE, and the other values are LOCAL (Board). "0" is DISABLE, "1" is ENABLE.	R/W
0004 SET_BREAK_REMOTE (*1)	It indicates the position of the control authority of the BREAK signal of the motor. 0 and 1 are REMOTE, and the other values are LOCAL (Board). "0" is BREAK DISABLE, "1" is BREAK ENABLE.	R/W
0005 SET_ACC_TIME	It is the acceleration time setting register of the motor. It can be set to 0, 1000 ~ 5000 [msec]. "0" means no acceleration time.	R/W
0006 SET_DEC_TIME	It is the acceleration time setting register of the motor. It can be set to 0, 1000 ~ 5000 [msec]. "0" means no acceleration time.	R/W
0007 CUR_SPEED	This is the speed value currently being output.	R
0008 CUR_CW_CCW	This is the CW/CCW value currently being output.	R
0009 SET_SPEED	This is the speed setting value applied on the board.	R
000A SET_CW_CCW	This is the CW/CCW value applied on the board.	R
000B SET_ENABLE	This is the ENABLE value applied on the board.	R
000C SET_BREAK	This is the BREAK value applied on the board.	R
000D RESERVED	Reserved area (not used).	—
F001 WRITE_PARAM (*2)	Save the currently set parameters to internal memory.	W
F002 INIT_PARAM (*3)	Set the parameter to the factory-set value.	W

(*1) BLC-22H06P-Cx and BLC_13H05P-Cx are not supported.

(*2) The register address is 0xF001, and the data must be 0xA1A1 to execute the instruction.

(*3) The register address is 0xF002, and the data must be 0xA2A2 to execute the instruction.