

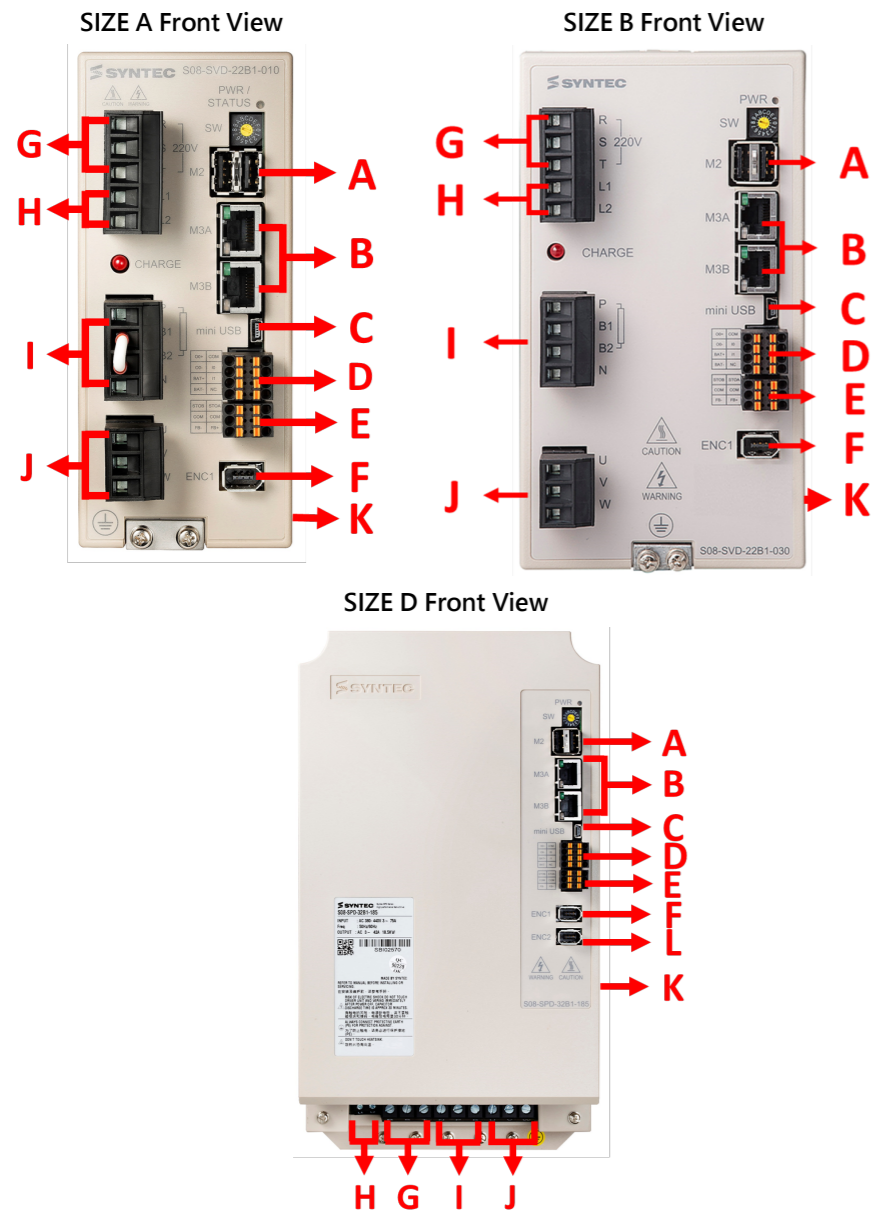
# 22B Series Generation II Driver

## Basic Installation Instructions v1.5

### 1. Applicable Type:

Type	Product Name
1	S08-SVD22B1-010 1KW Generation II Driver – Uniaxial SIZE A
2	S08-SVD22B1-030 3KW Generation II Driver – Uniaxial SIZE B
3	S08-SPD22B1-110 11KW Generation II Driver – Uniaxial SIZE D

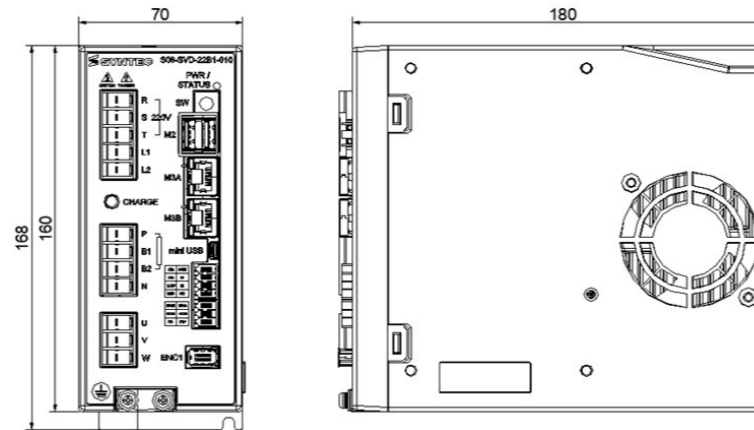
### 2. Interface Specifications:



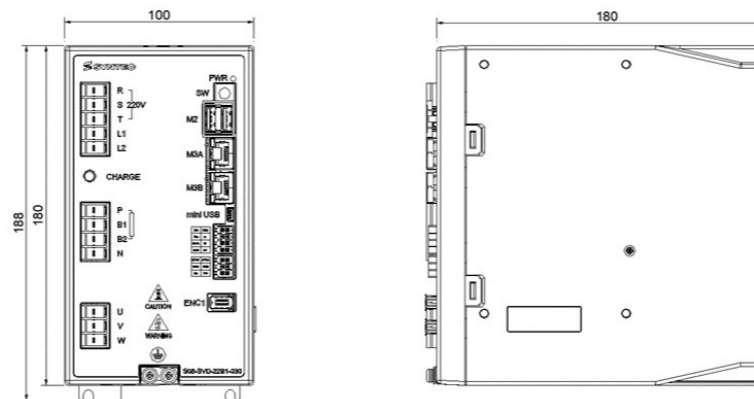
A	M2 Host Control Communication Port	Connect to host controller Serial Communication Port 10Mbps (Either M2 or M3)
B	M3 Host Control Serial Communication Port	Connect to host controller Serial Communication 100Mbps (Either M2 or M3)
C	Mini USB Port	Connect to personal computer
D	I/O Signal Port External Battery Port	Connect to I/O equipment (emergency stop, indicator lights, etc.) connect to the battery of the absolute encoder
E	STO Signal Port	STO interface, 2 sets of safety inputs, 1 set of safety feedback
F	Encoder Feedback 1 (ENC1)	Connect to motor encoder
G	External Power Supply	Connect to 3-phase electrical power 220V(RST)
H	Control Power (L1 L2)	If there are safety requirements, the controlled source can be independently supplied from L1 & L2 and connect to single-phase AC. The input voltage must be the same as RST.
I	Regenerate Resistor (P B1 B2 N)	Two connection methods of SIZEA, SIZEB, optional: a) Connect the external regenerative resistor to P & B2. b) The built-in brake is to short circuit B1 and B2 SIZE D: external regenerate resistor connects to P and B
J	Motor Power Source	Connect to motor and supply power. (UVW)
K	Expansion Module Connector	The driver can connect to expansion module, i.e., Encoder ABZ connector expansion module, ADDA expansion module, etc. If there are any needs, please contact Syntec sales staff.
L	Encoder Feedback 2 (ENC2)	Connect to load encoder

### 3. Controller Specifications (Unit: mm)

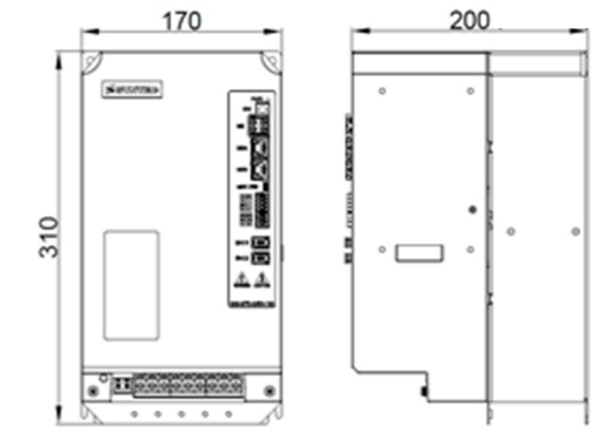
#### ● SIZE A



#### ● SIZE B

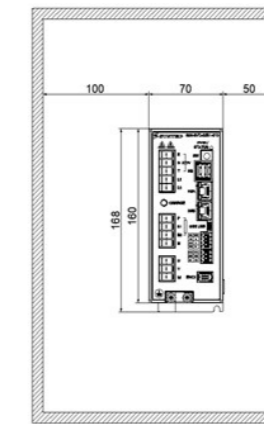


#### ● SIZE D

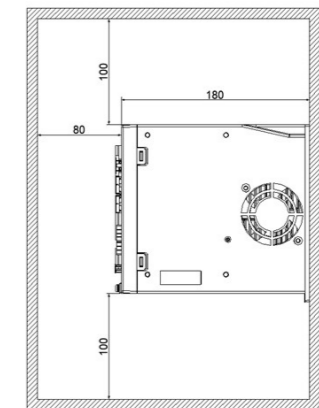


### 4. Installation Specifications (Unit: mm)

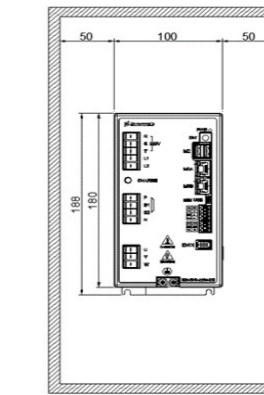
#### ● SIZE A Front View



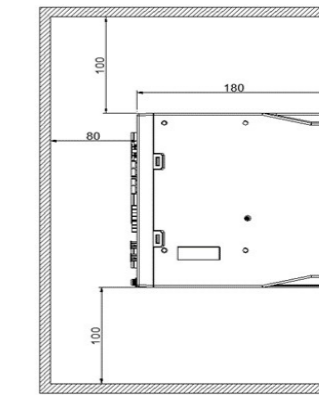
#### ● SIZE A Side View



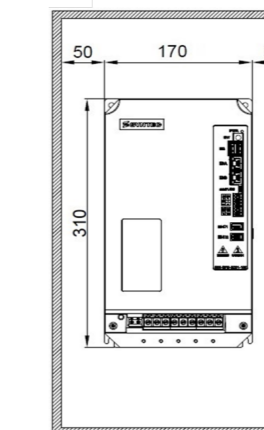
#### ● SIZE B Front View



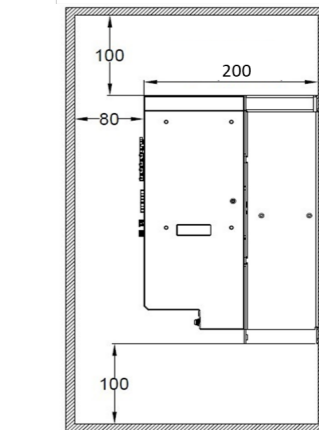
#### ● SIZE B Side View



#### ● SIZE D Front View



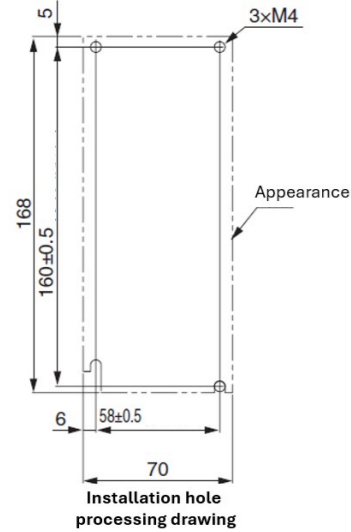
#### ● SIZE D Side View



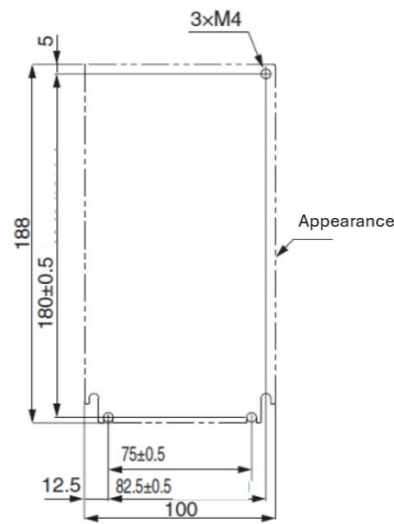
## 5. Mounting Hole Specifications (Unit: mm)

Please install with M4 screws.

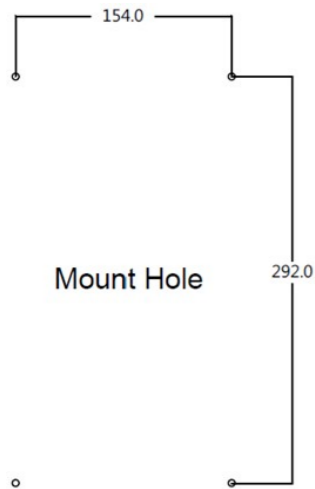
### ● SIZE A



### ● SIZE B



### ● SIZE D (Please install with M5 screws.)

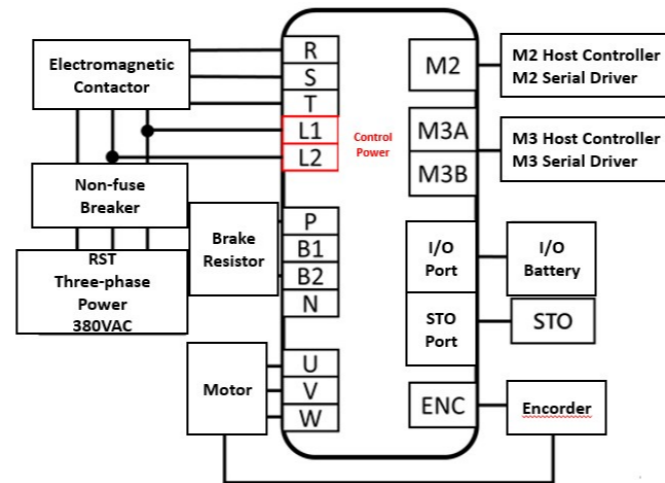


## 6. Basic Wiring Diagram

- Please Confirm whether the wiring of the U, V, W terminals output to the motor is correct, otherwise it may cause reversal or abnormality, and the encoder must be adjusted again.
- In case the use of independent controlled source, please connect the sources (L1, L2) of the control plate to either of the three RST terminals before the magnetic contactor (MC).
- The default settings of B1 and B2 are short circuit with built-in braking resistors. If the processing requires a high load factor, it is recommended removing the short circuit wiring and apply an external high wattage braking resistor between P and B2.
- When wiring the host controller, either M2 Serial Communication Port or M3 Serial Communication Port can be installed.

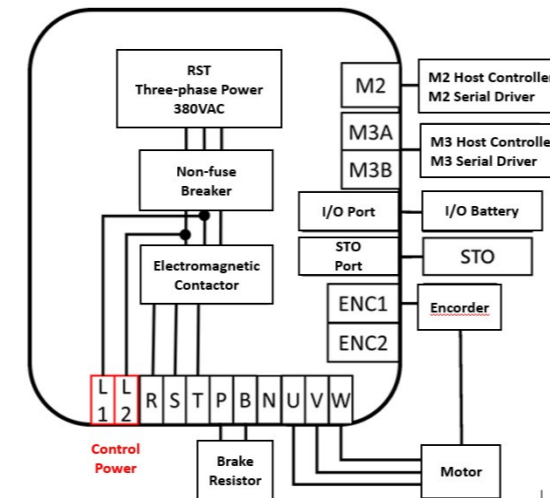
## Correct wiring method

### ● SIZE A & SIZE B



※SIZE A · SIZE B  
Only ENC1

### ● SIZE D



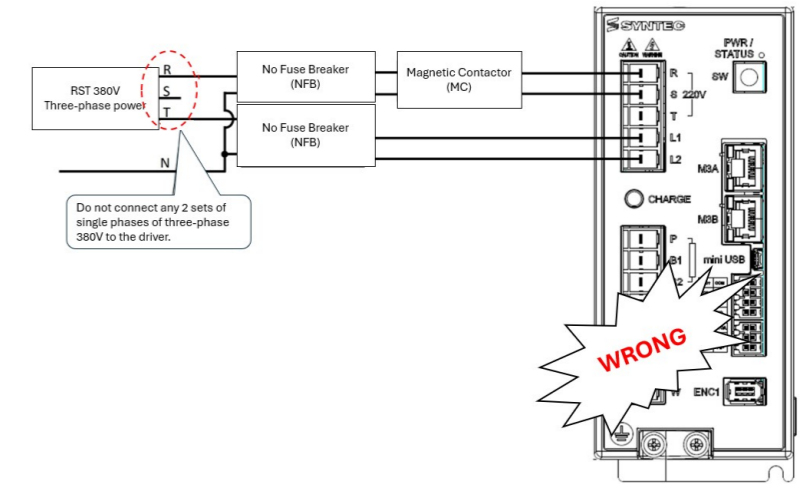
※Recommended RST wire  
diameter : 4AWG or 22mm<sup>2</sup>

※Recommended Wire  
Diagam 22AWG×2C+24AWG×  
2P, Over 90%coverage

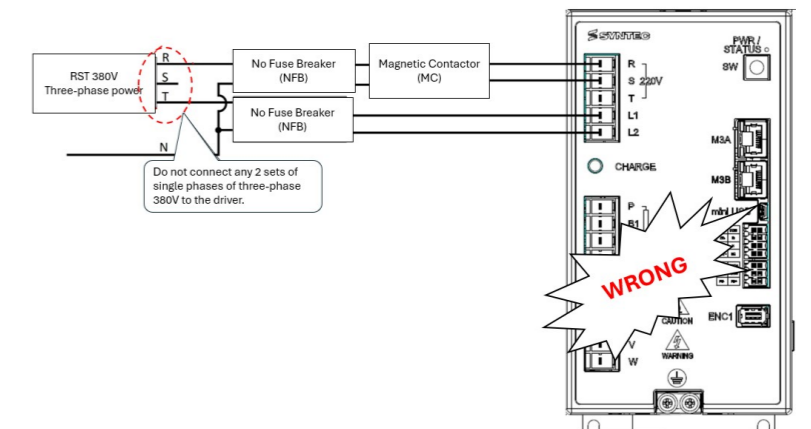
## Wrong wiring method

- (1) Connecting any two sets of three-phase 380V single-phase electricity with different phases to the driver will cause the driver to withstand voltages exceeding 220V and cause malfunctions.

### SIZE A

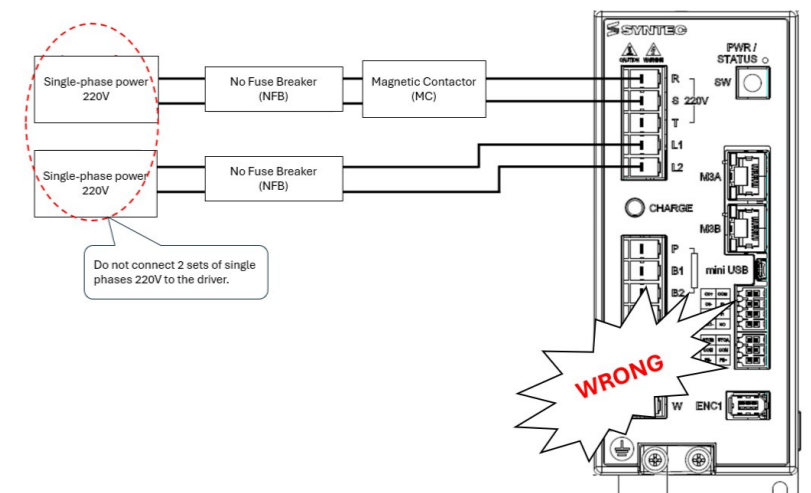


### SIZE B

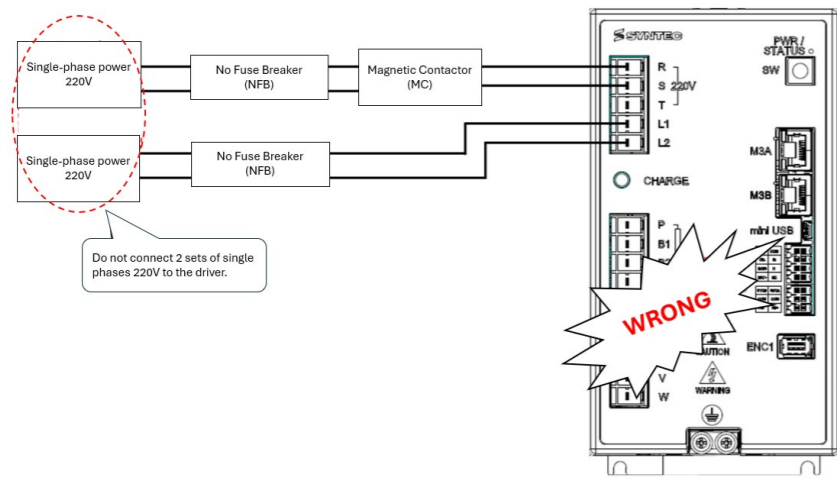


- (2) Since the voltage difference between the two sets of single-phase 220V cannot be determined, the driver may be subjected to a voltage exceeding 220V and cause a malfunction.

### SIZE A

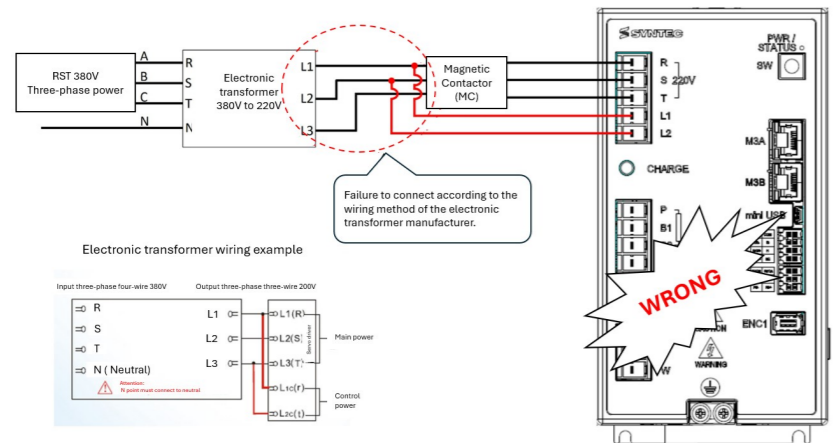


**SIZE B**

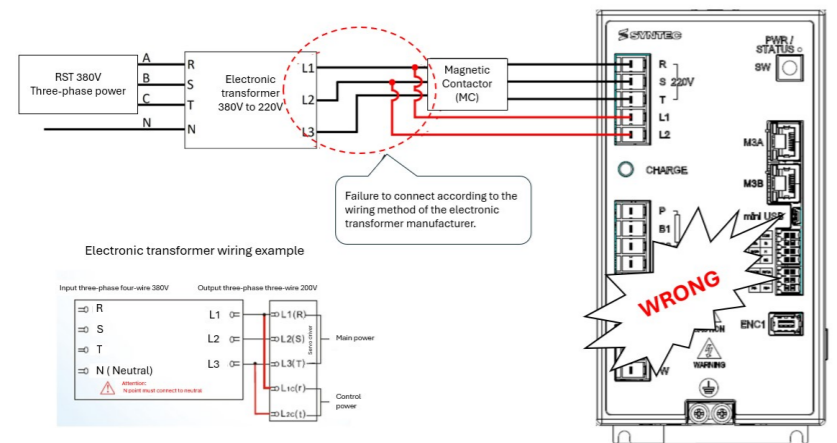


(3) Since the electronic transformer outputs a non-sinusoidal wave, failure to connect according to the wiring method of the electronic transformer manufacturer may cause drive failure.

**SIZE A**



**SIZE B**



**Suggestion :**

- If the machine does not have safety requirements (use MC to cut off the main circuit power supply), connect the driver control power supply L1/L2 is not required. Only need to connect the transformer L1/L2/L3 to the driver R/S/T.
- Since electronic transformers have different designs from different manufacturers and the output is not a three-phase AC sine wave, parameter Pn-036 (three-phase → single-phase) can be adjusted to avoid alarms caused by abnormal power supply detection.

**7. Interface Configurations**

Please notice the value and polarities of voltages.

- M2Serial Communication Port Arrangement
- STO Signal Port Arrangement

M2	PIN	SIGNAL
1	1	--
2	2	D-
3	3	D+
4	4	--

STO	PIN	SIGNAL	PIN	SIGNAL
1	1	STO-B	2	STO-A
3	3	STO-COM	4	STO-COM
5	5	STO-FB-	6	STO-FB+

- Encoder Feedback
- M3 Serial communication Port
- Mini USB Port

Encoder Feedback	Pin	Signal
1	1	5V
2	2	GND
3	3	BAT+
4	4	BAT-
5	5	D+
6	6	D-

M3	PIN	SIGNAL
1	1	TX+
2	2	TX-
3	3	RX+
4	4	NC
5	5	NC
6	6	RX-
7	7	NC
8	8	NC

Mini USB	PIN	SIGNAL
1	1	5V
2	2	DM
3	3	DP
4	4	GND
5	5	GND

- Station Number Settings

Station no. Setting	PIN	SIGNAL	PIN	SIGNAL
0	N/A	8	Station no. 8	
1	Station no. 1	9	Station no. 9	
2	Station no. 2	A	Station no. 10	
3	Station no. 3	B	Station no. 11	
4	Station no. 4	C	Station no. 12	
5	Station no. 5	D	Station no. 13	
6	Station no. 6	E	Station no. 14	
7	Station no. 7	F	Station no. 15	

- I/O Signal Port

I/O Port Signal	PIN	Signal	PIN	Signal
1	1	O0+	2	COM
3	3	O0-	4	I0
5	5	BAT+	6	I1
7	7	BAT-	8	NC

Notice : Contact capacity of output is DC30V, 200mA. Do not use in overload condition.

**8. Driver Specifications**

Model	S08-SVD22B1-010	S08-SVD22B1-030	S08-SPD22B1-110	
Input Voltage	MAIN:AC 3PH 200~230V 50/60Hz CONT.:AC 1PH 200~230V 50/60Hz			
Input Current	MAIN : 8A CONT. : 0.25A	MAIN : 22A CONT. : 0.25A	MAIN : 71A CONT. : 0.25A	
Output Voltage	AC 3PH 0~230V 0~400Hz			
Rated Output Current	7.6A	17.6A	42A	
Rated Power	1kW	3kW	11KW	
Terminal Specifications	RST · PBN · UVW	Wire Specification: 16-12 AWG ; Rated Torque : 0.6 N-m	Wire Specification: 12 AWG ; Rated Torque : 0.6 N-m	Wire Specification : 10-8 AWG ; Rated Torque : 1.2 N-m
	I/O · STO Communication Port	Wire Specification : 28~16 AWG		
Environment Conditions	Power Supply	TN System <sup>(1)</sup> Allowed Voltage Deviation : -15% ~ +10% Allowed Frequency Deviation : -5% ~ +5%		
	Ambient Temperature	Operating: 0 to 55°C (Without condensation. With de-rating above 40°C.) Storage/Transport: -20 to 65°C		
	Ambient Humidity	Operation: Below 90% RH (without condensation) Storage / Transport: Below 90%RH (without condensation)		
	Surrounding Area	Indoor (Avoid direct sunlight), Avoid Corrosive Gas, Avoid Inflammable Gas		
	Height	Operating/ Storage Altitude (Max.) : 1,000 meters Transporting Altitude (Max.) : 10,000 meters		
Vibration	5.9 m/s <sup>2</sup>			
Pollution Degree	2			
IP Level	IP20			
Frame Size W × H × D mm	70 x 160 x 180	100 x 180 x 180	170 x 310 x 200	
Weight	2Kg	2.5Kg	7Kg	

NOTE :

- (1) TN System : The neutral point of the power system is grounded directly to earth, and the other exposed metal components are grounded by protective earthing conductors.