

22 Series 2IN1 Driver

Basic Installation Instructions v1.5

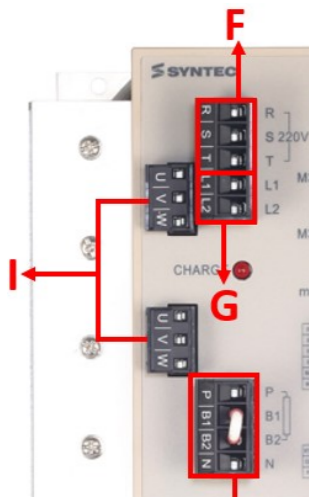
1. Applicable Drivers:

The types of applicable drivers are as follows:

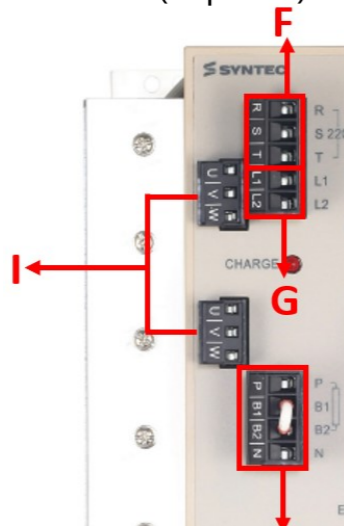
Type	Product Name
1 S08-SMD22B20-00	SMD-30/30-XS 2IN1 Driver
2 S08-SMD22C20-00	SMD-30/30-XS 2IN1 Driver
3 S08-SME22C20-00	SMD-30/30-XS 2IN1 Driver
4 S08-SMD22C30-00	SMD-40/40-XS 2IN1 Driver
5 S08-SME22C30-00	SMD-40/40-XS 2IN1 Driver
6 S10-SMD22B30-00	SMD-40/40-XS 2IN1 Driver
7 S10-SME22B30-00	SMD-40/40-XS 2IN1 Driver

2. Driver Interface Instructions

● 22B (Top view)



● 22C (Top view)

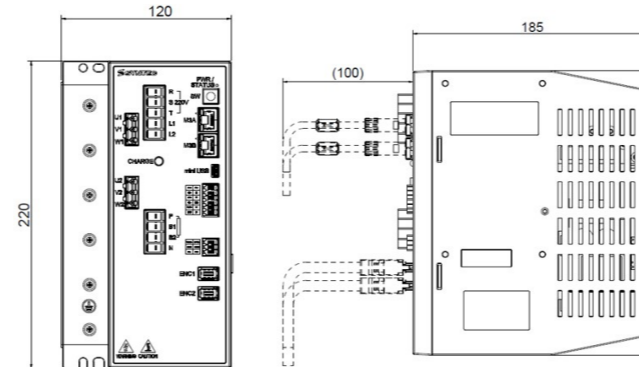


Driver Function	
A	M3/ECAT Serial Communication Port Connect to the host controller and the next driver, 100Mbps serial communication
B	Mini USB Port Connect to personal computer.
C	I/O Signal Port Connect to I/O equipment (i.e. the emergency stop, indicator lights, etc.) External Battery Port Connect the absolute encoder power supply battery (dry cell battery box) here
D	STO Signal Port STO interface; 2 sets of safety inputs and a set of safety function feedback.
E	Encoder Feedback From top to bottom are the first port to the second. The first to the second ports connect to motor encoders.
F	External Power Supply Connect to 220V~230V three-phase power (RST).

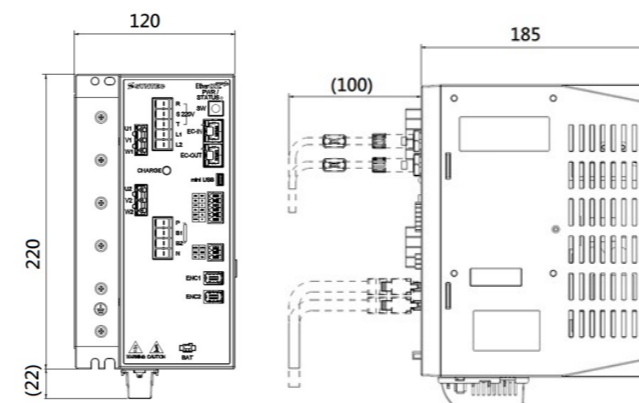
G	Control Power	If there are safety requirements, the controlled source can be independently supplied from L1 & L2 and connect to single-phase AC 220V. The input voltage must be the same as RST.
H	Regenerative Resistor	Two connection methods, optional: a) Connect the external regenerative resistor to P & B2 b) The built-in brake is to short circuit B1 and B2
I	Machine Power Supply	Connect to motor and supply power (UVW)
J	Lithium battery box	Install the lithium battery for power supply of the absolute encoder

3. Controller Specifications (Unit: mm)

● 22B

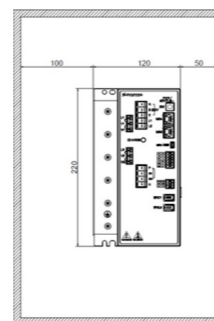


● 22C

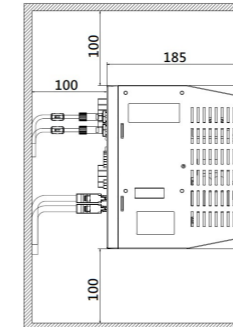


4. Installation Specifications (Unit: mm)

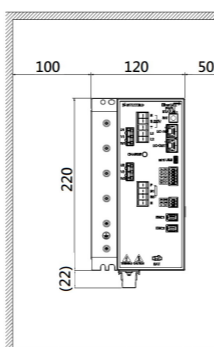
● 22B Front View



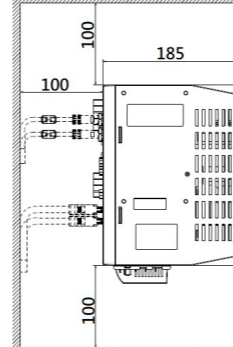
● 22 B Side View



● 22C Front View

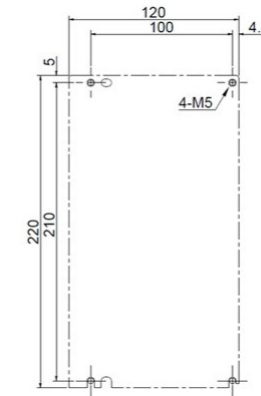


● 22C Side View



5. Mounting Hole Specifications (Unit: mm) Please install with M5 screws.

● 22B /22C

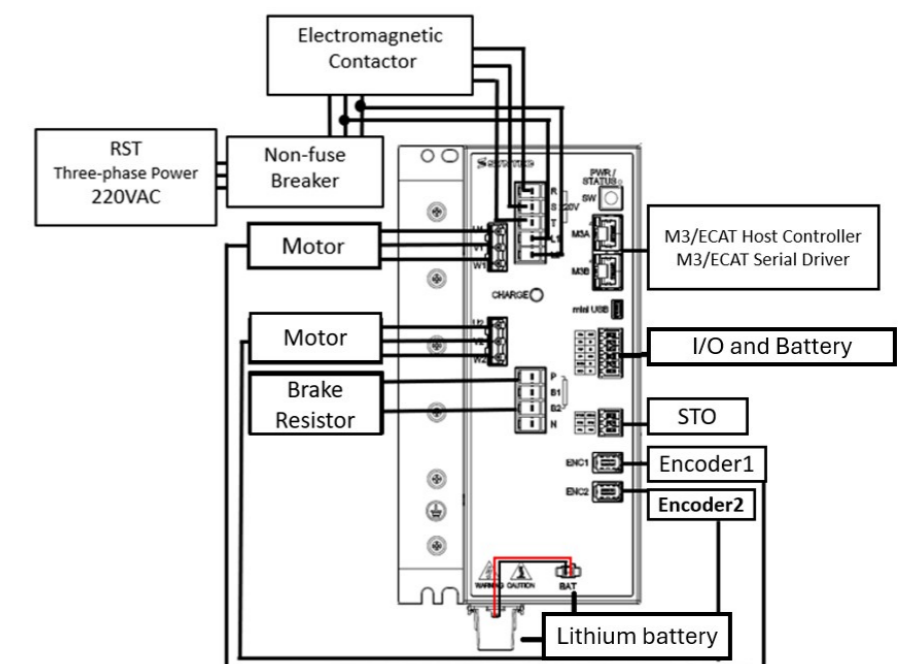


6. Basic Wiring Diagram

- 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.

● 22B/22C

Correct wiring method

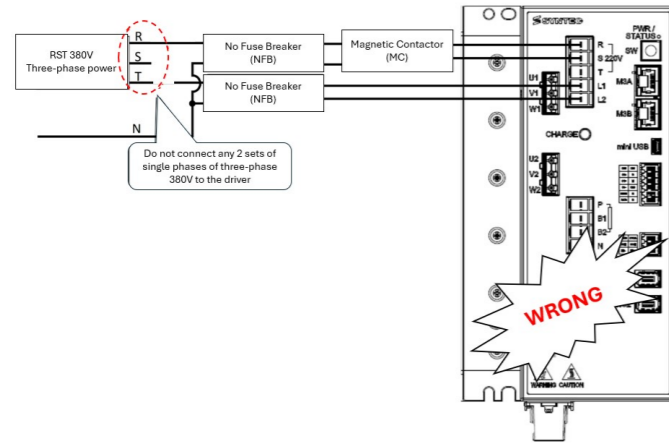


※Recommended RST Wire Diameter:
14AWG ~12AWG

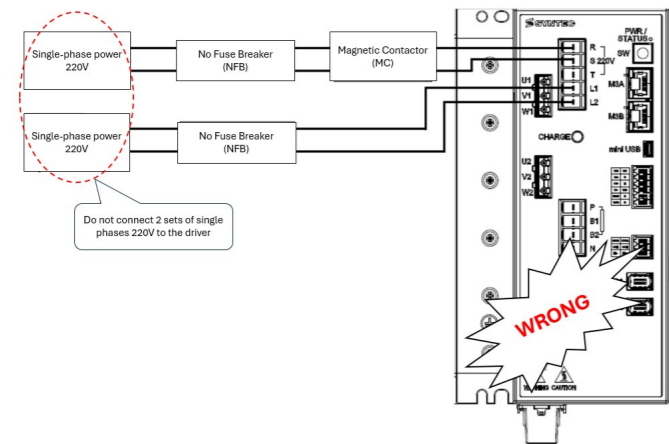
※Recommended Encoder Wire Diameter:
22AWG×2C+24AWG×2P

Wrong wiring method

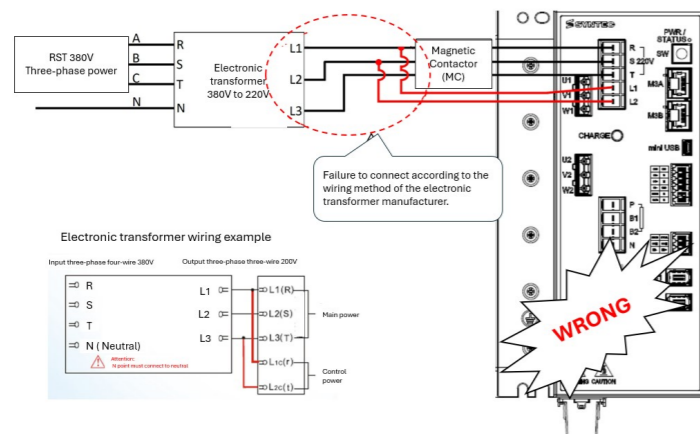
- (1) Connecting any two sets of three-phase 380V single-phase electricity with different phases to the driver will cause the driver to withstand voltages exceeding 220V and cause malfunctions.



- (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.



- (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.



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 the polarities of voltages.

● Mini USB Port Arrangement

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

● STO Signal Port

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

● Encoder Feedback Arrangement

Encoder Feedback	PIN	SIGNAL
1	5	5V
2	1	GND
3	3	BAT+
4	4	BAT-
5	2	D+
6	6	D-

● M3/ECAT Serial Communication Port Arrangement

M3/ECAT	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

● I/O Signal Port

I/O Port	1	7	8	12
1	OO+	7	SDI COM01	
2	OO-	8	I0	
3	O1+	9	I1	
4	O1-	10	SDI COM23	
5	BAT+	11	I2	
6	BAT-	12	I3	

● 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	

Notice : Contact capacity of output is 24V/200mA. Do not use in overload condition.

8. Driver Specifications

Type	S08-SMD22B20-00 / S08-SMD22C20-00/ S08-SME22C20-00	S08-SMD22C30-00 / S08-SME22C30-00 / S10-SMD22B30-00 / S10-SME22B30-00	
Input Voltage	MAIN:AC 3PH 200~230V 50/60Hz CONT.:AC 1PH 200~230V 50/60Hz		
Input Current	MAIN:15A · CONT.:0.25A	MAIN:23A · CONT.:0.25A	
Output Voltage	Axis1~Axis2	AC 3PH 0~230V 0~400Hz	
Rated Output Current	Axis1~Axis2	7.6A	11A
Rated Power	Axis1~Axis2	1kW	2KW
Terminal Specifications	RST	Suggest AWG : 2mm ² (AWG #14) Rated torque : 0.7N·m	Suggest AWG : 3.5mm ² (AWG #12) Rated torque : 0.7N·m
	PBN	Suggest AWG : 2mm ² (AWG #14) Rated torque : 0.7N·m	Suggest AWG : 2mm ² (AWG #14) Rated torque : 0.7N·m
	U ₁ V ₁ W ₁ ~U ₂ V ₂ W ₂	Suggest AWG : 1.25mm ² (AWG #16) Rated torque : 0.5N·m	Suggest AWG : 2mm ² (AWG #14) Rated torque : 0.5N·m
	I/O Signal Port	Suggest AWG : 0.2mm ² (AWG #24~26)	
Environment Condition	TN System ⁽¹⁾ Allowable voltage deviation : -15% ~ +10% Allowable frequency deviation : -5% ~ +5%		
Environment Condition	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 flammable gas.	
	Height	Operating/Storage Altitude (Max.) : 1,000 meters (With derating, usage is possible at the altitude between 1,000 m and 2,000 m.) Transporting Altitude (Max.) : 10,000 meters	
Vibration	5.9 m/s ²		
Pollution Degree	2		
IP Level	IP20		
Frame Size W × H × D mm	220 x 185 x 120		
Weight	3.95Kg		

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