



SIV22 Brief Introduction

SIV22 Brief Introduction

◆ SIV21 Current Situation



Structure

Non Modularization: **Inconvenient** manufacturing and maintenance, poor compatibility.



Hardware

Worn Hardware: Components have been used for more than 20 years, most of which are at the **risk of being discontinued**.



Performance

Insufficient Performance: Current performance **does not comply with** the customer welding condition.



Sale

Weak Sale: It has been sold for more than 10 years, **underwhelming response** among the market.



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◆ SIV21 Alternative Solution

Based on the above situations, O/CHN released the alternative Timer (SIV22) which can matches the market requirements well.



SIV22



SIV21

SIV22 Brief Introduction

◆ SIV22 Design Concept



Structure



Hardware



Performance



Sale

Platformization: Design based on OBARA standard platform, 90% components can be shared with SIV32.

Modularization: Modularization design, efficient manufacturing and convenient maintenance.

High Performance: Good basic performance, the same with SIV32 (High repeated accuracy, quick rising rate).

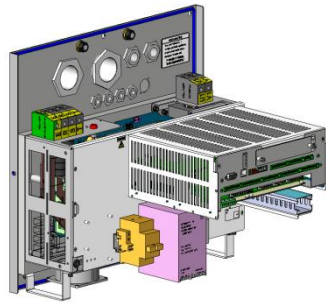
Compatibility: Completely compatible with SIV21.

Diversification: advanced and normal collocation
SIV32 (High-end positioning, focus on Function performance)
SIV22 (General positioning, focus on Cost effectiveness)



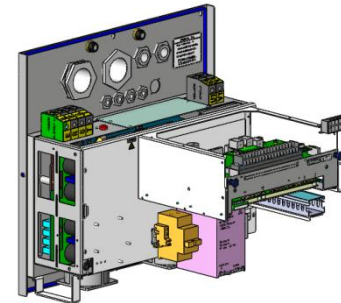
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◆ Comparison between SIV22 and SIV32



SIV32-M

Process = Process



SIV22-M



PCN-2002125

+



PCN-2002144



PCN-2002130



SCR



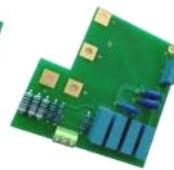
IGBT



Driver



Charger



EMC



Capacitor array

... 90% components
can be shared with
SIV32

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◆ SIV22 Sale Positioning

SIV22 is an economic type MFDC Timer, with basic necessary functions and low costs.

The combination of SIV32 & SIV22 can constitute a product system of High & General positioning.



1 SIV32

Flagship, with strong functions, including Adaptive function and Aluminum welding function, suitable for advanced customers.

2 SIV32-M

32M model, reduced part configuration, smaller size, lower price, suitable for advanced customers.

3 SIV22

Economic model, completely compatible with SIV21, without Adaptive function and Aluminum welding function, suitable for general customers.

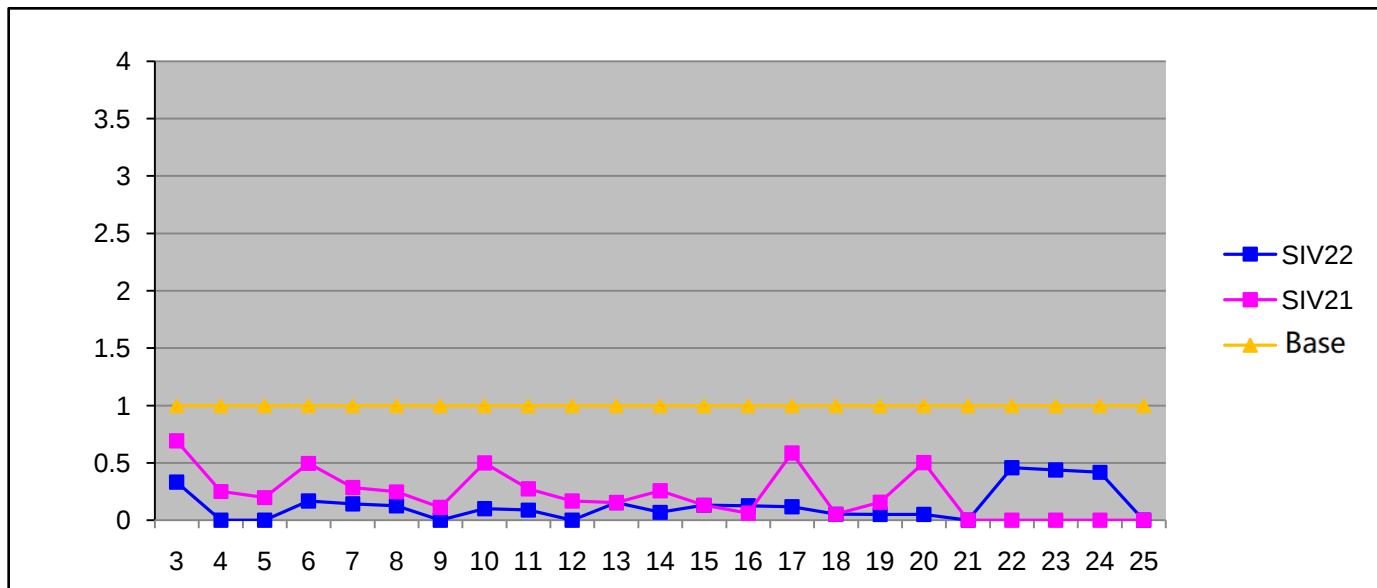
4 SIV22-M (recommended)

22M model reduced part configuration smaller size, lower price, suitable for general customers.

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◆ Performance Comparison

Current Repeated Accuracy

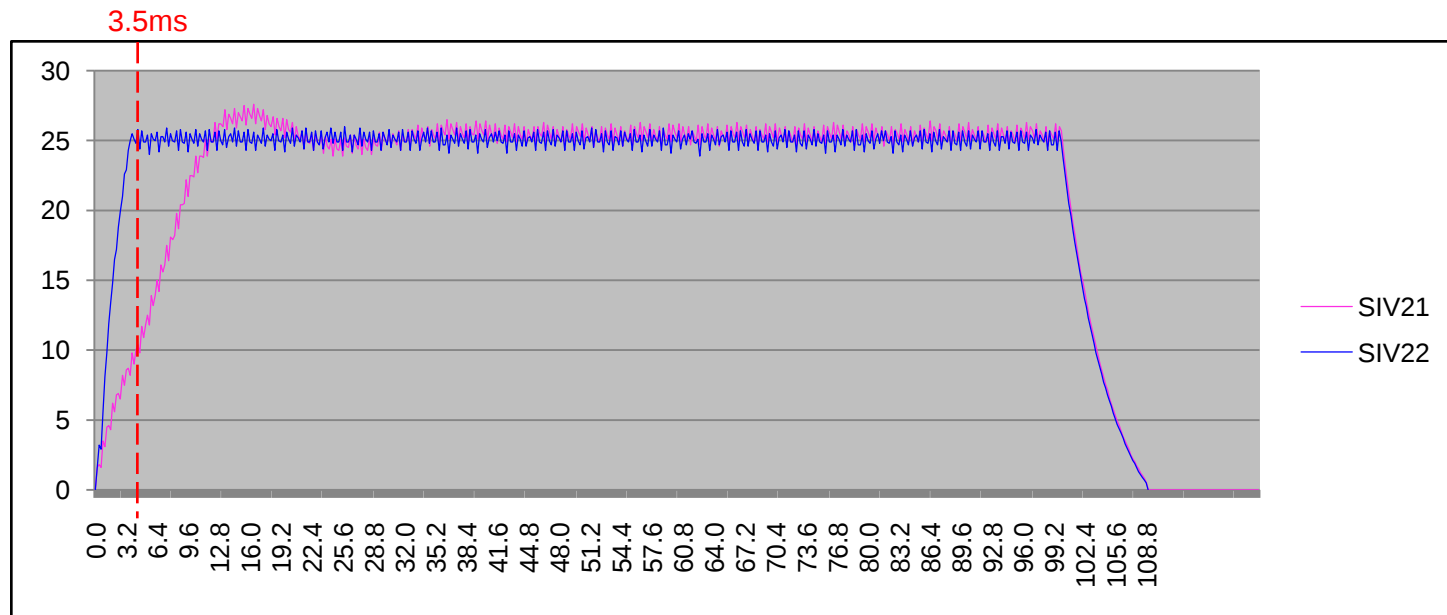


- SIV22C-6A Power assembly + 90kVA MF transformer
- 1000Hz
- Under LAB condition (380V, 50Hz)

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◆ Performance Comparison

Current Rising Rate

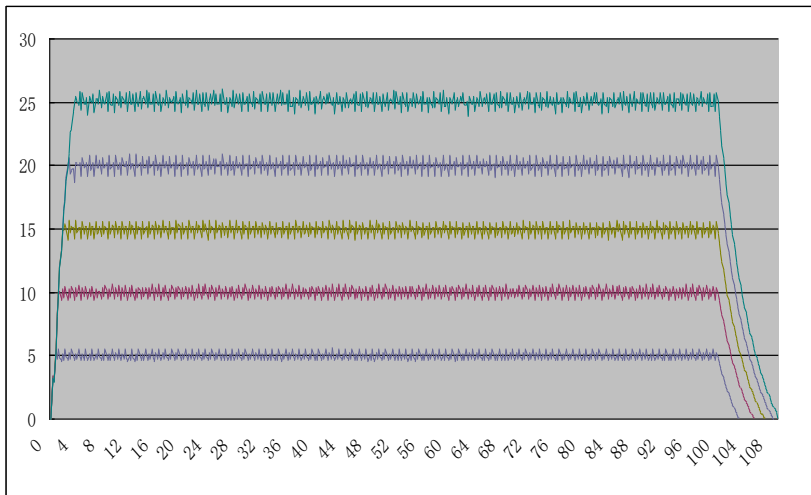


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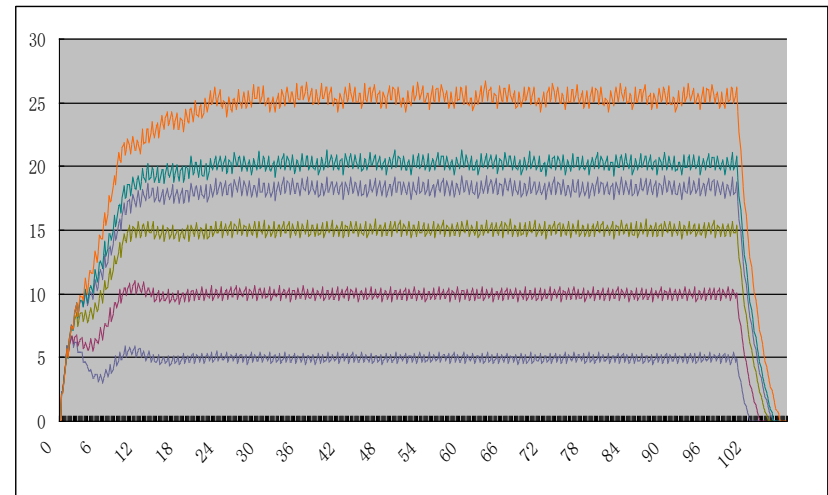
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◆ Performance Comparison

Welding Curve



SIV22



SIV21

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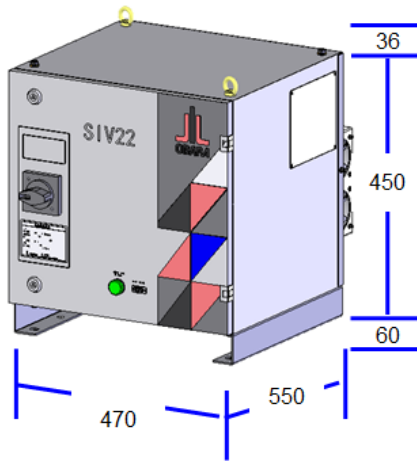
◆ Specification Comparison

No.	Item	SIV22-6 (STD)	SIV22-6-M	SIV21-6 (STD)
1	Picture			
2	Dimension (W×H×D)	500 × 610 × 290	470 × 550 × 550	500 x 750 x 460
3	Weight	50kg	45kg	55kg
4	Repeated Accuracy	±2%	±2%	±3%
5	Max Output@IT110, 1000Hz	27kA	27kA	25kA
6	Rising Rate@IT110, 1000Hz	25kA / 6ms	25kA / 6ms	25kA / 12ms
7	Current Control	1st / 2nd	1st / 2nd	1st
8	Field Bus	○	○	○
9	SWAQ System	○	○	○
10	NFB (Circuit Breaker)	●	●	●
11	Time	cycle	cycle	cycle
13	Control Mode	KSR	KSR	KSR
16	Isolation Contactor	●	×	●
17	TRT Module	×	×	×
18	Terminal	UT terminal	UT terminal	UT terminal

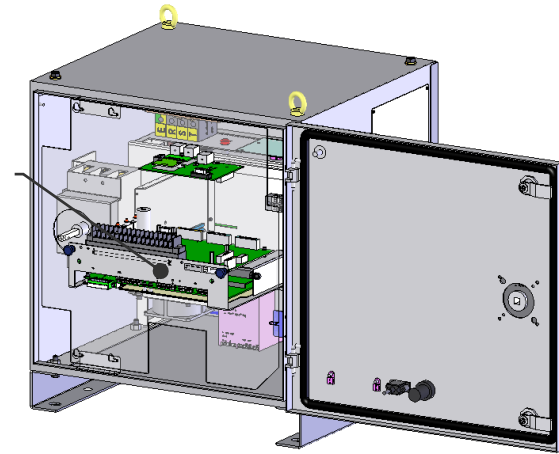
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◆ Specification Comparison

Structure



Control assembly



Option board

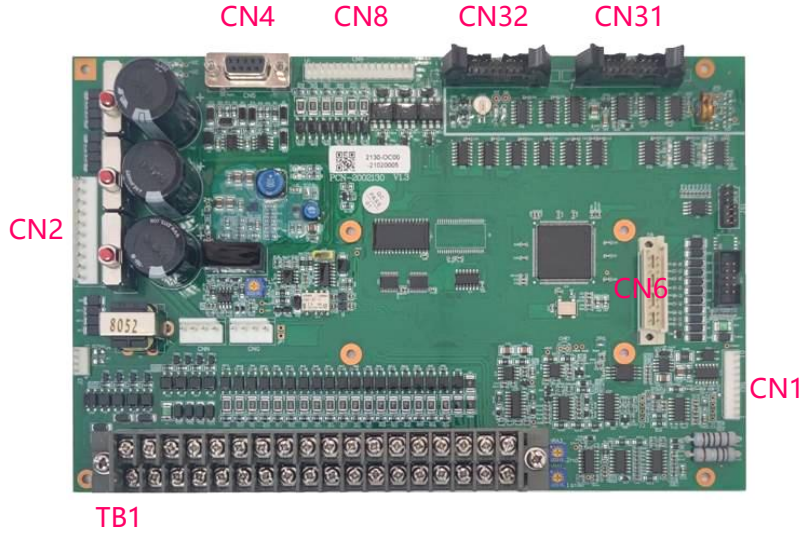
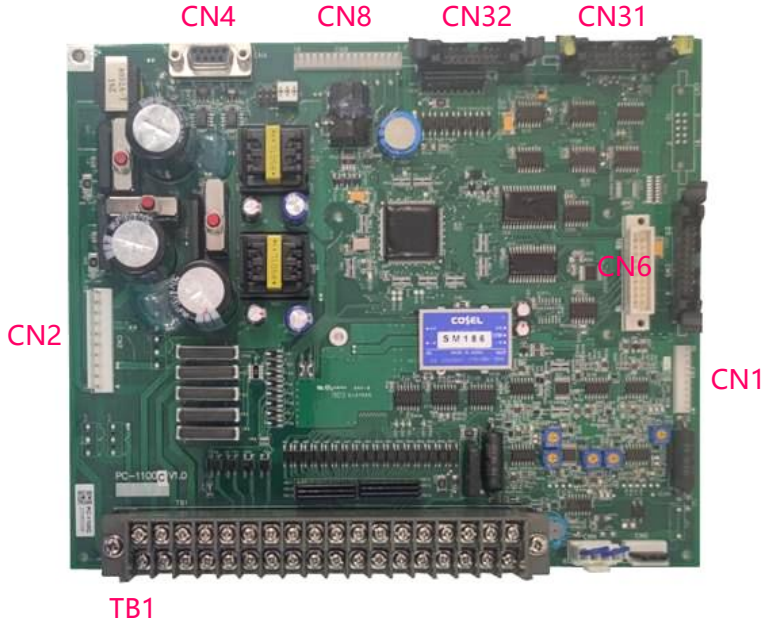
SIV22 control assembly

- Small size and light weight
- Efficient and convenient Mounting & Maintenance

SIV22 Brief Introduction

◆ Specification Comparison

Main Board Comparison

 Diagram of the SIV22 PCB (PCN-2002130) showing port locations. Labels in red text point to: CN4 (top left), CN8 (top center), CN32 (top right), CN31 (top right), CN2 (left side), CN6 (center right), CN1 (bottom right), and TB1 (bottom left).	 Diagram of the SIV21 PCB (PC-1100*) showing port locations. Labels in red text point to: CN4 (top left), CN8 (top center), CN32 (top right), CN31 (top right), CN2 (left side), CN6 (center right), CN1 (bottom right), and TB1 (bottom left).
SIV22 PCB (PCN-2002130)	SIV21 PCB (PC-1100*)

*SIV22 and SIV21 share the same port definitions

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◆ Specification Comparison

I/O Definition

Terminal No.	Definition	Description
A1	Sol Common	Common Terminal of Working Valve Output
A2	Sol1	Working Valve Output 1 DC24V 0.5A (need surge absorbing)
A3	Sol2	Working Valve Output 2 DC24V 0.5A (need surge absorbing)
A4	Output Common	Common Terminal of Output Signal, dry contact output
A5	Alarm	NO/NC Output, external power input available, Max. DC24V 0.5A
A6	Hold End	NO Output, external power input available, Max. DC24V 0.5A
A7	Input Common	Common Terminal of Input Signal, Internal DC24V 20mA
A8	Start SW1	Start Input 1 (Binary Code 1)
A9	Start SW2	Start Input 2 (Binary Code 2)
A10	Start SW3	Start Input 3 (Binary Code 4)
A11	Start SW4	Start Input 4 (Binary Code 8)
A12	Input Common	Common Terminal of Input Signal, Internal DC24V 20mA
A13	MC3 On-SW	Enable output signal of Contactor MC
A14	Weld On/Off	Enable output signal of Welding Current Output
A15	Step Clear	Step clear
A16	Theromo. Common	Common Terminal of Transformer Temperature Control Input
A17	Safety SW Common	Common Terminal of Stop Switch Input
A18	2nd Current Feedback Com	Common Terminal of 2nd Current Feedback Input

Terminal No.	Definition	Description
B1	Retract Sol Com.	Common Terminal of Retraction Valve Output (single coil valve)
B2	Retract Sol7	Retraction Valve Output 7 DC24V 0.5A (need surge absorbing)
B3	Retract Sol8	Retraction Valve Output 8 DC24V 0.5A (need surge absorbing)
B4	Output Common	Common Terminal of Output Signal, dry contact output
B5	Step Up Finish	NO Output, external power input available, Max DC24V 0.5A
B6	Step Last Stage	NO Output, external power input available, Max DC24V 0.5A
B7	SW.Com. Start	Start Input, validity of this signal is determined by parameter Pt
B8	Retract Start SW7	Retraction Valve Start Input 7 (single coil valve)
B9	Retract Start SW8	Retraction Valve Start Input 8 (single coil valve)
B10	Group 0	Group Input 1 (Binary code 1)
B11	Group 1	Group Input 2 (Binary code 2)
B12	Group 2	Group Input 3 (Binary code 4)
B13	Group 3	Group Input 4 (Binary code 8)
B14	Alarm Reset	Alarm clear
B15	Step Select Clear	Step select clear
B16	Transf. Thermo	Transformer Temperature Control Input (dry contact input)
B17	Safety SW	Stop Switch Input (dry contact input)
B18	2nd Current Feedback	2nd Current Feedback Input (1000A / 150mV ISO)

SIV22 Brief Introduction

◆ SIV22 Programming

Programming

1 TP-NET



TP-NET

RS485 (DB9)

To Timer



2 TP-BOX



TP-PC

Ethernet

Default IP: 192.168.0.1



RS485 (DB9)
To Timer

- With the help of TP-Box, the use of TP-PC programming software and the function of calibration current can be available.

- One TP-Box is recommended for each project.

SIV22 Brief Introduction

◆ SIV22 Resume

Development and Sale:

