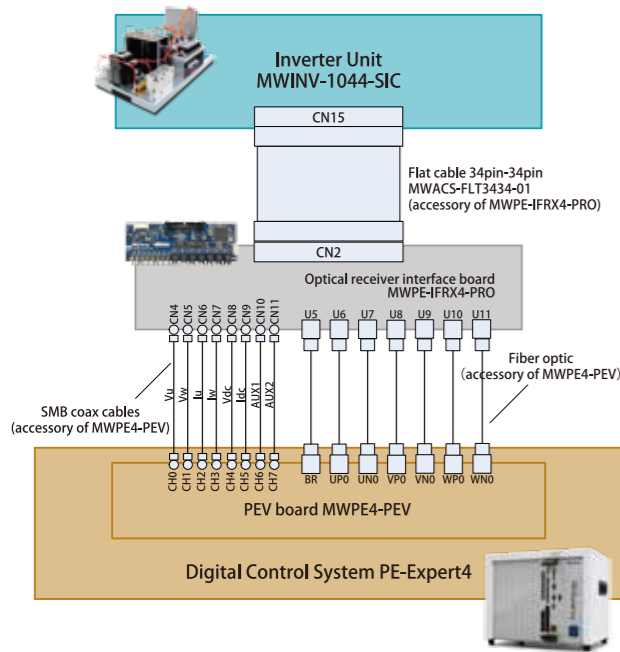
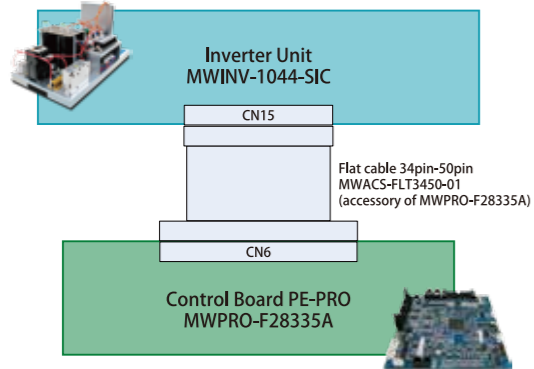


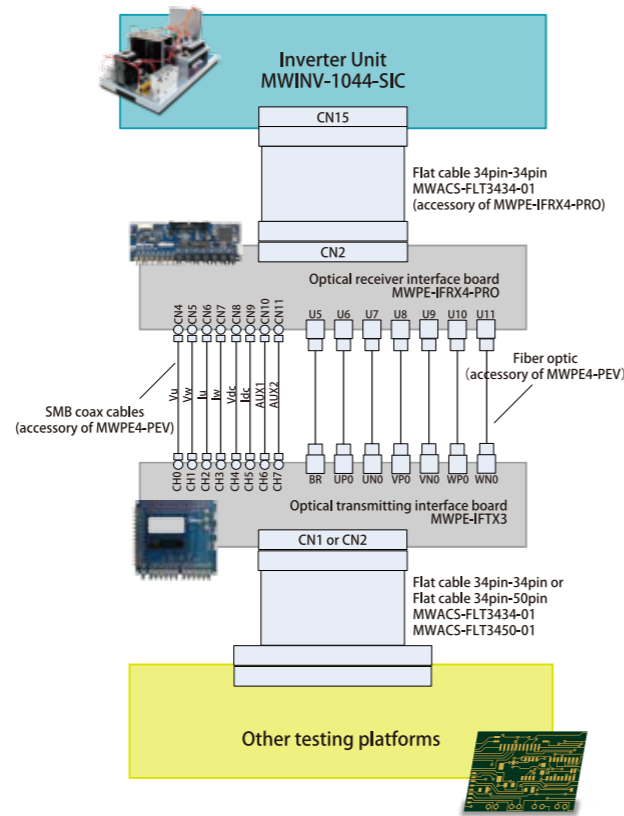
Seamless Connection between PE-Expert and PE-Inverter  
For PE-Expert4



For MWPRO-F28335A



Connection between PE-Inverter and other testing platforms



Interface Board with Dead Time Addition Function



MWPE-IFRX4-PRO

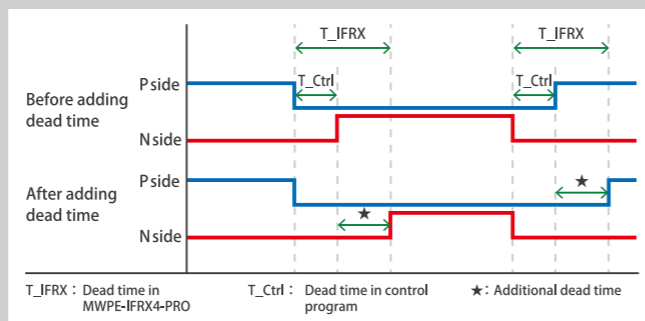
[Dead Time]

■ Setting Range : 20n~10.22 μs

■ Resolution : 20ns

※ setting of dead time through dip switch

Additional dead time can be added to stated dead time on the interface board. If input dead time is larger than dead time set in program, the difference will be added. A safe operating environment is realized in case of insufficient dead time.



Attention about Safety

To use the product safely, read the user manual before operation.

Do not store the product in environments with high humidity, temperature, dust, oil and etc. Death or injury might result from fire, electric shock, damage and etc.

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The inquiry about a product and the request for data

Contact ( Sales Dept. ) : +81-45-548-8836

●FAX : +81-45-548-8832

●Mail : [sales@myway.co.jp](mailto:sales@myway.co.jp)

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Myway  
it's a passion way

PE-Inverter

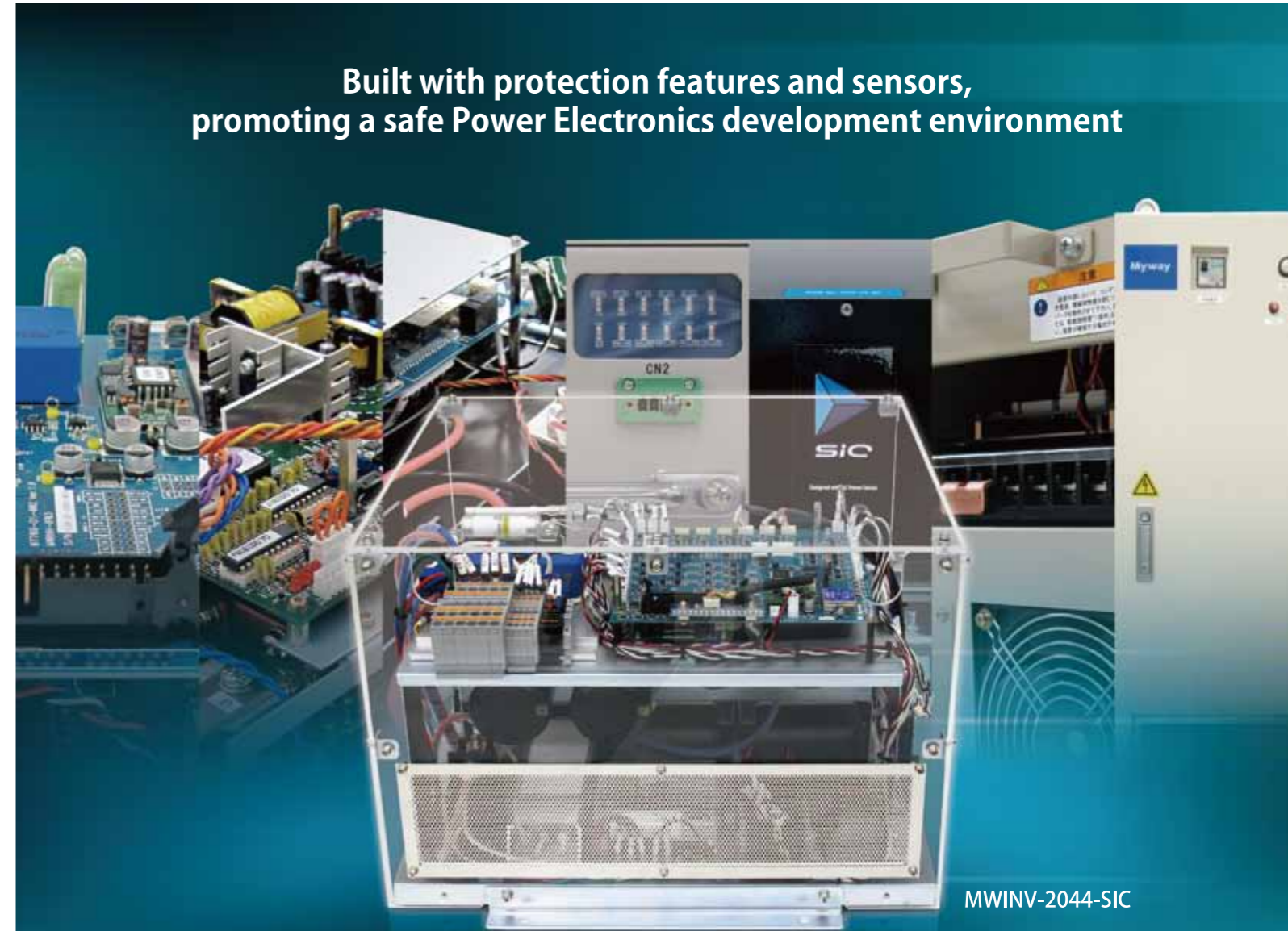
Inverter Unit

Inverter Unit

# PE-Inverter

PE-Inverter series is designed for research, development, testing and assembly. The units contains various protective features, voltage and current sensors to speed up development efforts.

Built with protection features and sensors,  
promoting a safe Power Electronics development environment



MWINV-2044-SIC

Seamless connection between PE-Expert4 and PE-Inverter series  
giving heads start to your development!

Merits

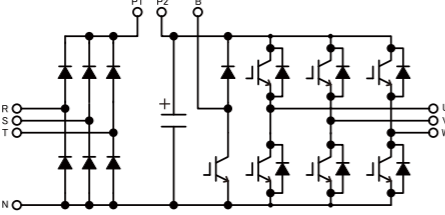
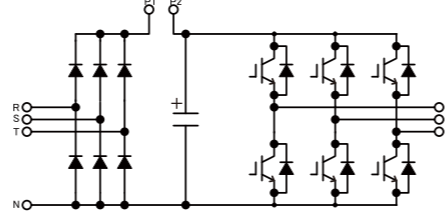
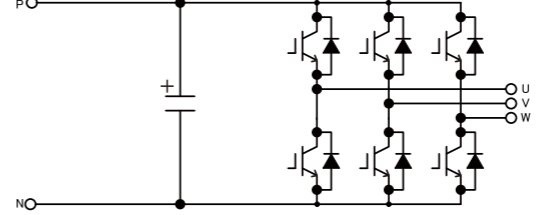
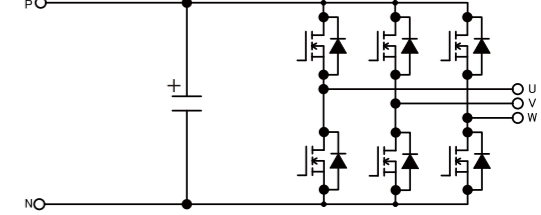












- Complete isolation between main circuit and control system
- Built in with necessary voltage and current sensors
- Protection features promoting a safe and reliable development environment
- I/O connection available for all testing platforms

Myway Plus Latest Updates

[www.myway.co.jp/en/](http://www.myway.co.jp/en/)

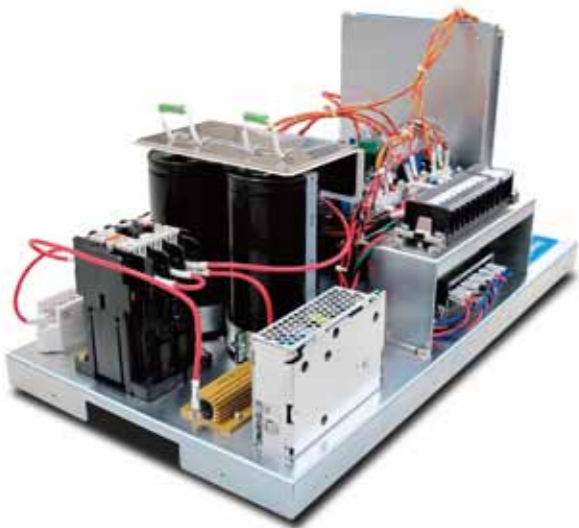
# Selection Map

Choose a suitable inverter according to input voltage and capacity

Circuit Schematics							
Maximum Input Voltage	AC	230 [Vrms]	440 [Vrms]	230 [Vrms]	—	—	—
	DC	400 [V]	700 [V]	400 [V]	850 [V]	60 ~ 80 [V]	800 [V]
Capacity (Rated O/P current)	1 [kVA]	2.88 Arms  <b>P10</b> MWINV-1R022	—	—	—	—	—
	5 [kVA]	14.4 Arms  <b>P12</b> MWINV-5R022	—	—	—	—	—
	7 [kVA]	—	—	—	—	100 Arms  <b>P20</b> MWINV-7R006A	—
	9.1 [kVA]	26.3 Arms  <b>P14</b> MWINV-9R122C	13.2 Arms  <b>P24</b> MWINV-9R144	—	—	—	—
	10~12.5 [kVA]	—	—	—	—	300 Arms  <b>P22</b> MWINV-1203	14.5 Arms  <b>P4</b> MWINV-1044-SIC
	20 [kVA]	—	—	58.4 Arms  <b>P16</b> MWINV-2022A	—	—	30 Arms  <b>P6</b> MWINV-2044-SIC
	50 [kVA]	—	—	146 Arms  <b>P18</b> MWINV-5022B	—	—	72.2 Arms  <b>P8</b> MWINV-5044-SIC
	340 [kVA]	—	—	—	450 Arms  <b>P26</b> MWINV-34044	—	—

# MWINV-1044-SiC

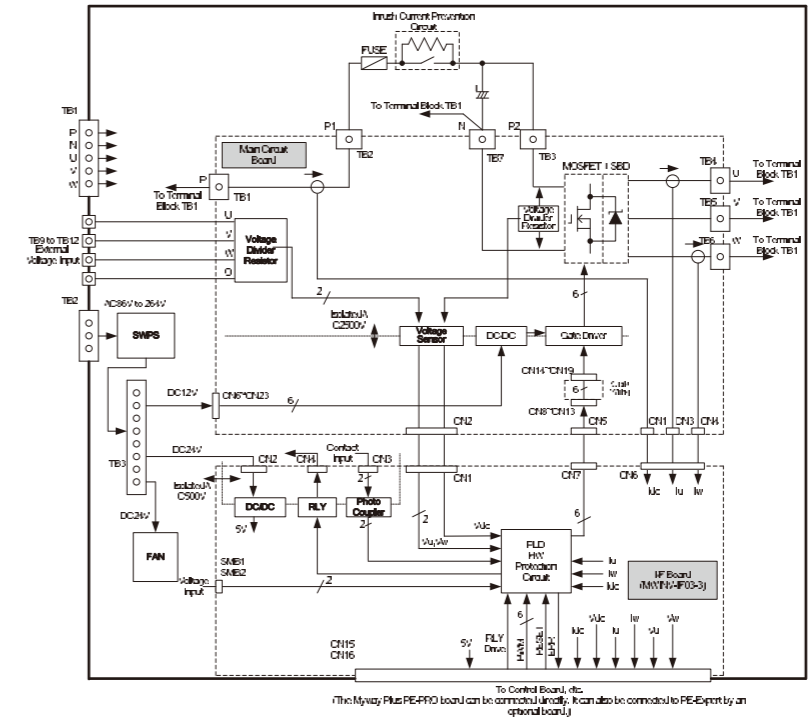
SiC device inverter (10kVA)



## Characteristics

- Rated Capacity 10kVA
- Rated Output Current AC14.5Arms
- Input Voltage DC0 ~ 800V
- Control Power AC85 ~ 264Vrms
- Built In Sensor Vdc, Idc, Iu, Iw, Vuv, Vvw
- Protection Features Overcurrent, Overvoltage
- External Dimensions W300×D560×H300 (mm)

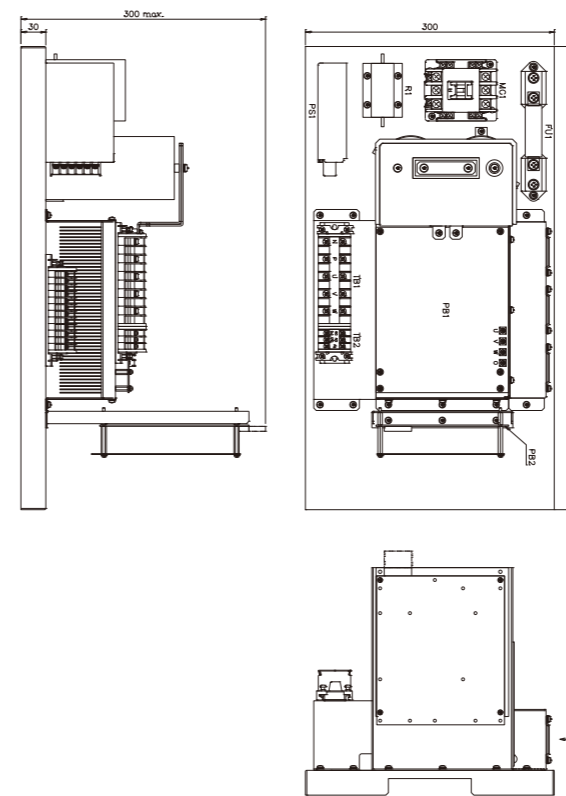
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	10.0kVA	When AC400V output
	Rated voltage	AC400Vrms	
	Rated current	AC14.5Arms	
DC Input	Rated voltage	DC700V	
	Rated current	DC15.1A	Calculated assuming 95% efficiency
	Maximum current	DC18.6A	AC400Vrms, 10kVA (DC565V), assuming 95% efficiency
	Input voltage range	DC0 ~ 800V	
Cooling method		Forced air cooling	
Switching frequency		~ 200kHz	Derating necessary above 100kHz
Dead time		200nsec or more	
Sensors	DC voltage (Vdc)	+1016V / ±5V	
	DC current (Idc)	±31.25A / ±5V	
	U phase / W phase current (Iu/Iw)	±31.25A / ±5V	
	U phase voltage (Vu)	±1016V / ±5V	
	W phase voltage (Vw)	±1016V / ±5V	
Control power supply voltage		AC85 ~ 264Vrms	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
		AC2500V / minute	Main circuit-pair control circuit & FG in batch
Dielectric strength voltage		AC1000V / minute	Control circuit-pair main circuit & FG in batch
Weight		14kg	

## Dimensions

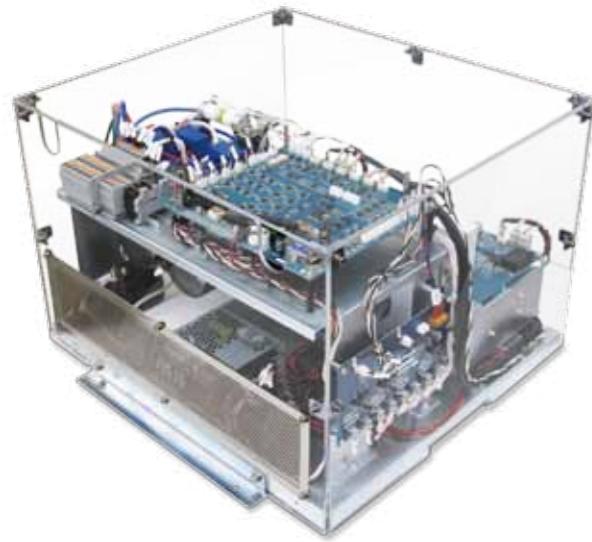


## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [±5V]
6	O	Outputs analog value of Vvw [±5V]
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [-5V]
10	O	Outputs analog value of Idc [±5V]
11	O	Outputs analog value AN0 from SMB1
12	O	Outputs analog value AN1 from SMB2
13	—	—
14	I	H/W error reset signal (active LOW)
15	I	Relay drive signal (active LOW)
16	—	—
17	O	Reset signal (active LOW)
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-2044-SiC NEW

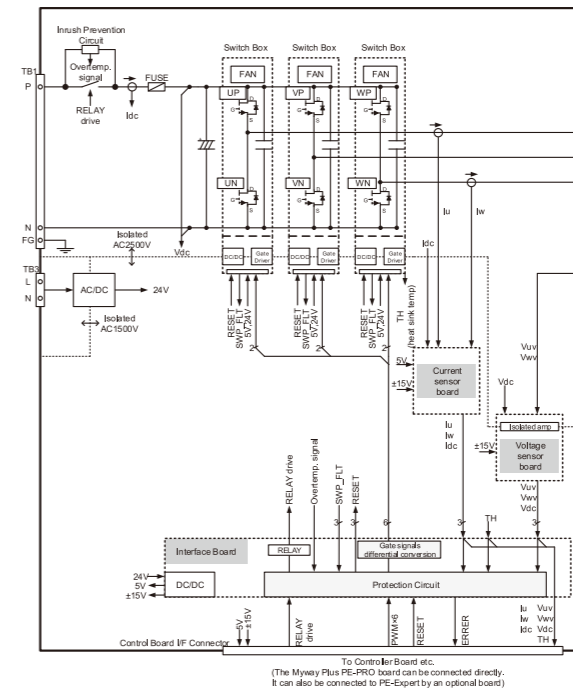
SiC device modular inverter (20.7kVA)



## Characteristics

- Rated Capacity 20.7kVA
- Rated Output Current AC30Arms
- Input Voltage DC0 ~ 800V
- Control Power AC90 ~ 240Vrms
- Built In Sensor Vdc, Vu, Vw, Idc, lu, lw, TH
- Protection Features Overcurrent, Overvoltage, Overtemperature
- External Dimensions W438×D450×H309.5 (mm)

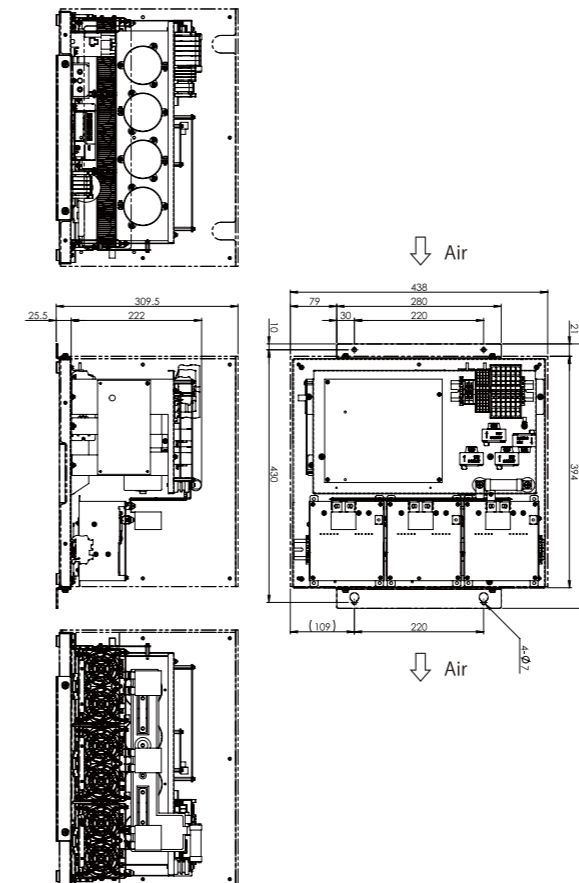
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	20.7kVA	
	Rated voltage	AC400Vrms	
	Rated current	AC30Arms	Max AC40Arms (@DC400V)
DC Input	Rated voltage	DC700V	
	Rated current	DC31A	Calculated assuming 95% efficiency
	Maximum current	DC39A	AC400Vrms, AC35Arms, DC650V, assuming 95% efficiency
	Input voltage range	DC0 ~ 800V	
Cooling method		Forced air cooling	
Switching frequency		~ 200kHz	Derating necessary above 50kHz. Rated frequency is 50kHz.
Dead time		500nsec or more	
Sensors	DC voltage (Vdc)	+1000V / ±5V	
	DC current (Idc)	±50A / ±5V	
	U phase / W phase current (lu/lw)	±50A / ±5V	
	U phase voltage (Vu)	±1000V / ±5V	
Control power supply voltage		AC90 ~ 240Vrms	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Dielectric strength voltage		AC2500V / minute	Main circuit-pair control circuit & FG in batch
		AC500V / minute	Control circuit-pair main circuit & FG in batch
Weight		18kg	

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1~14	—	—
15, 16	—	Ground
17	O	Supplies -15V to the control board
18, 19	—	Ground
20	O	Supplies +15V to the control board
21	O	Outputs analog value of VuV [±5V]
22	O	Outputs analog value of VwV [±5V]
23	O	Outputs analog value of lu [±5V]
24	O	Outputs analog value of lw [±5V]
25	O	Outputs analog value of Vdc [±5V]
26	O	Outputs analog value of Idc [±5V]
27	O	Outputs temperature of heatsink at U-phase [±5V]
28, 29	—	—
30	I	H/W error reset input signal (active LOW)
31	I	Relay drive input signal (active LOW)
32	—	—
33	O	Reset output signal (active LOW)
34	O	H/W error output signal (active LOW)
35	I	U-phase P arm gate signal (active LOW)
36	I	U-phase N arm gate signal (active LOW)
37	I	V-phase P arm gate signal (active LOW)
38	I	V-phase N arm gate signal (active LOW)
39	I	W-phase P arm gate signal (active LOW)
40	I	W-phase N arm gate signal (active LOW)
41~46	—	—
47, 48	O	Supplies +5V to the control board
49, 50	—	Ground

# MWINV-5044-SiC

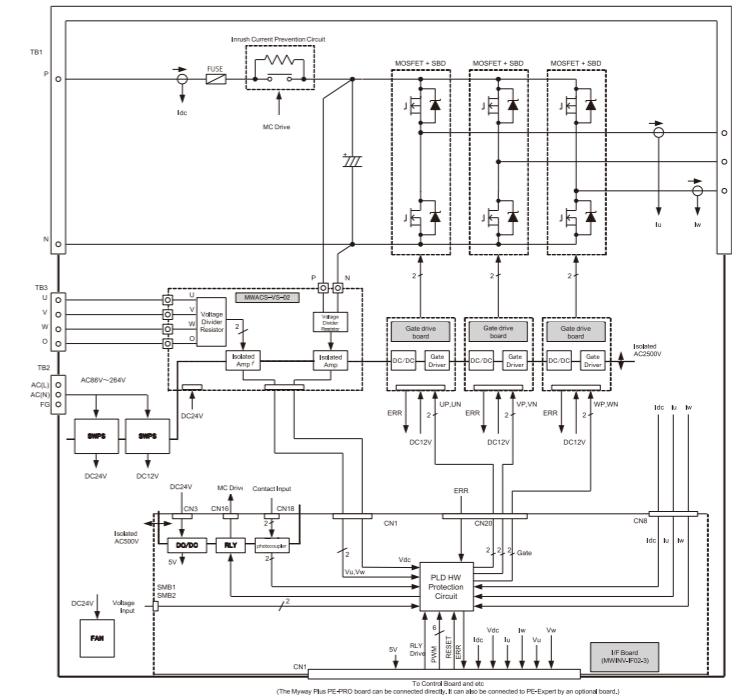
SiC device inverter (50kVA)



## Characteristics

- Rated Capacity 50kVA
- Rated Output Current AC72.2Arms
- Input Voltage DC0 ~ 800V
- Control Power AC85 ~ 264Vrms
- Built In Sensor Vdc, Vu, Vw, Idc, Iu, Iw
- Protection Features Overcurrent, Overvoltage, Arm shortcircuit
- External Dimensions W420×D700×H350 (mm)

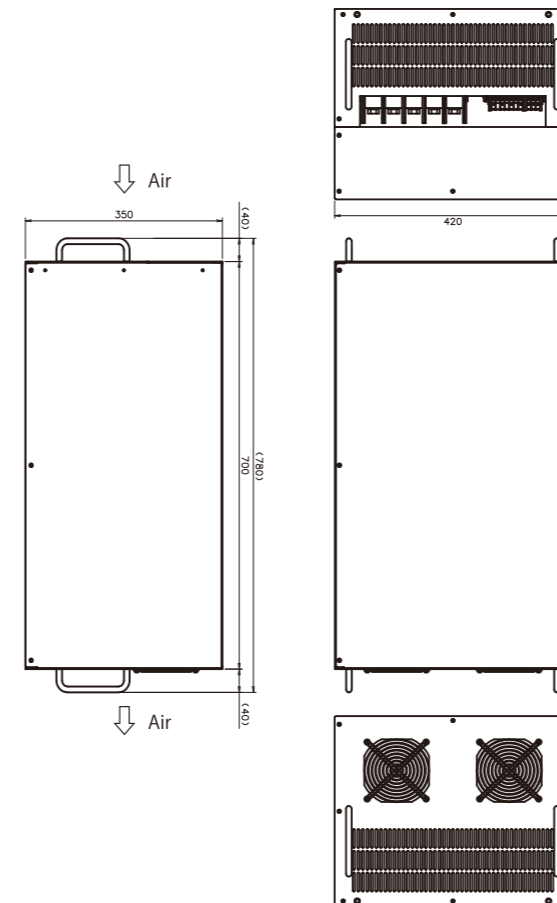
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	50kVA	When AC400V output
	Rated voltage	AC400Vrms	
	Rated current	AC72.2Arms	
DC Input	Rated voltage	DC700V	
	Rated current	DC75.2A	Calculated assuming 95% efficiency
	Maximum current	DC93.1A	AC400Vrms, 50kVA (DC565V), assuming 95% efficiency
	Input voltage range	DC0 ~ 800V	
Cooling metho		Forced air cooling	
Switching frequency		~ 200kHz	Derating necessary above 40kHz
Dead time		300nsec or more	
Sensors	DC voltage (Vdc)	+1000V / ±5V	
	DC current (Idc)	±147.06A / ±5V	
	U phase / W phase current (Iu/Iw)	±147.06A / ±5V	
	U phase voltage (Vu)	±1000V / ±5V	
Control power supply voltage		AC85Vrms ~ 264Vrms	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Dielectric strength voltage		AC2500V / minute AC1000V / minute	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Weight		53kg	

## Dimensions

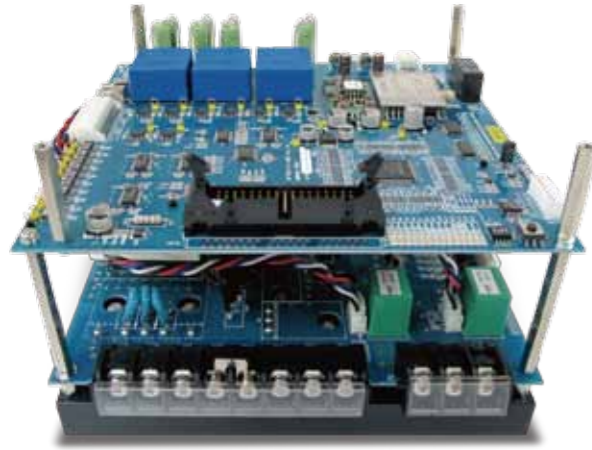


## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [±5V]
6	O	Outputs analog value of Vvw [±5V]
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [+5V]
10	O	Outputs analog value of Idc [±5V]
11	—	—
12	—	—
13	—	—
14	I	H/W error reset signal
15	I	Relay RLY2 drive signal
16	I	Relay RLY1 drive signal
17	—	—
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-1R022

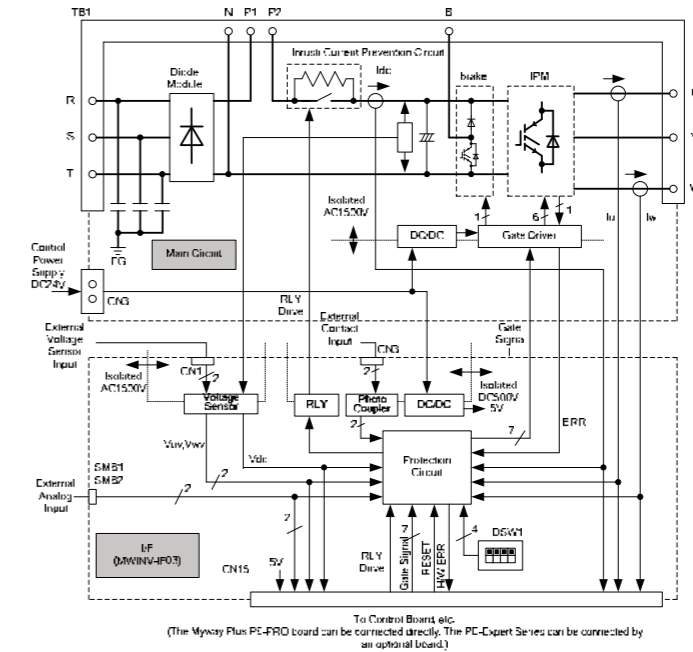
Inverter unit (1kVA)



## Characteristics

- **Rated Capacity** 1kVA (Output AC200Vrms)
- **Rated Output Current** AC2.88Arms
- **Input Voltage** AC0 ~ 230Vrms / DC0 ~ 400V
- **Control Power** DC24V
- **Breaker** Built In
- **Built In Sensor** Vdc, Idc, Iu, Iw, Vuv, Vvw
- **Protection Features** Overcurrent, Overvoltage
- **External Dimensions** W180×D160×H126.8 (mm)

## Block Diagram

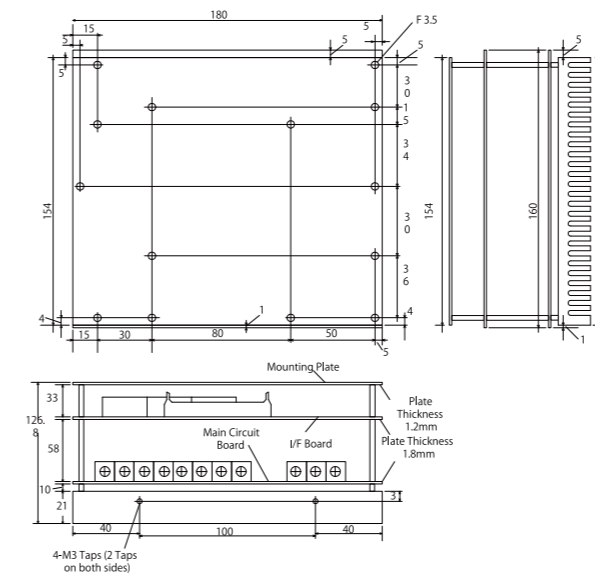


## Specifications

Items		Specifications	Reference
Output	Rated capacity	1kVA (Output AC200V) 1.1kVA (Output AC220V)	At switching frequency of 15kHz during forced air cooling*1 Max Capacity 1.1kVA
	Rated current	AC2.88Arms	
	Voltage Range	AC0 ~ 230Vrms	Input voltage depend on PWM modulation
Input	Rated voltage	AC200Vrms	
	Rated current	AC3.2Arms	
	Voltage Range (AC)	AC0 ~ 230Vrms	
	Voltage Range (DC)	DC0 ~ 400V	
Cooling method	Forced air cooling	*1	
Overload capacity	120%/ minute		
Switching frequency	~ 20kHz		
Dead time	3.0μsec or more		
Sensors	DC voltage (Vdc)	+500V / +5V	
	DC current (Idc)	±6.25A / ±5V	
	U phase / W phase current (Iu/Iw)	±6.25A / ±5V	
	UV / WV inter voltage (Vuv / Vvw)	±500V / ±5V	
Control power supply voltage	DC24V Input	DC22.8 ~ 25.2V Recommended power 24V 1.5A and above	
Interface Power Supply	DC5V output	Supply current to control board 2.0A	
	DC±15V output	Supply current to control board 0.15A	
Dielectric resistance	100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch	
Dielectric strength voltage	AC1500V / minute	Main circuit-pair control circuit & FG in batch	
	AC500V / minute	Control circuit-pair main circuit & FG in batch	
Weight	2.0kg		

\*1 Fan is not built-in. Please attach cooling fan if necessary

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [ ± 5V]
6	O	Outputs analog value of Vvw [ ± 5V]
7	O	Outputs analog value of Iu [ ± 5V]
8	O	Outputs analog value of Iw [ ± 5V]
9	O	Outputs analog value of Vdc [+5V]
10	O	Outputs analog value of Idc [ ± 5V]
11	O	Outputs analog value AN0 from SMB1
12	O	Outputs analog value AN1 from SMB2
13	—	—
14	I	H/W error reset signal
15	O	Relay drive signal
16	I	Break drive signal
17	O	Reset signal (active LOW)
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25 ~ 30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-5R022

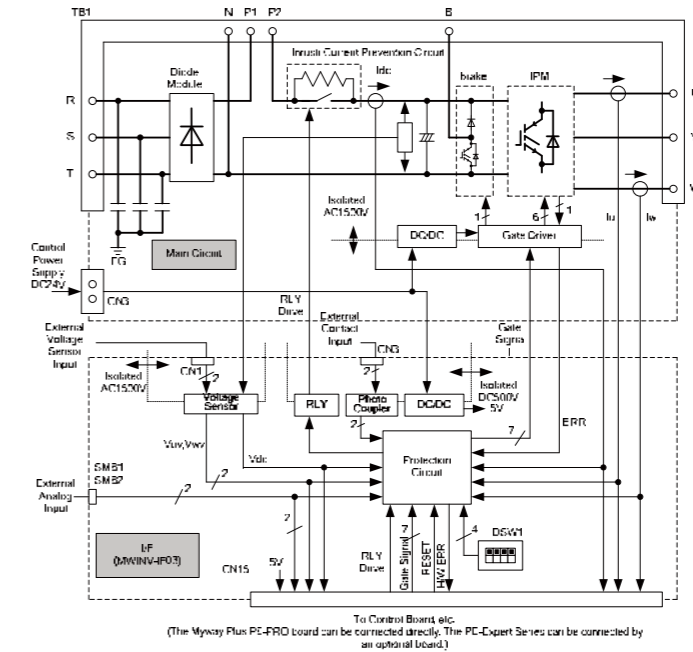
Inverter unit (5kVA)



## Characteristics

- **Rated Capacity** 5kVA (Output AC200Vrms)
- **Rated Output Current** AC14.4Arms
- **Input Voltage** AC0 ~ 230Vrms / DC0 ~ 400V
- **Control Power** DC24V
- **Breaker** Built In
- **Built In Sensor** Vdc, Idc, Iu, Iw, Vuv, Vvw
- **Protection Features** Overcurrent, Overvoltage
- **External Dimensions** W180×D160×H126.8 (mm)

## Block Diagram

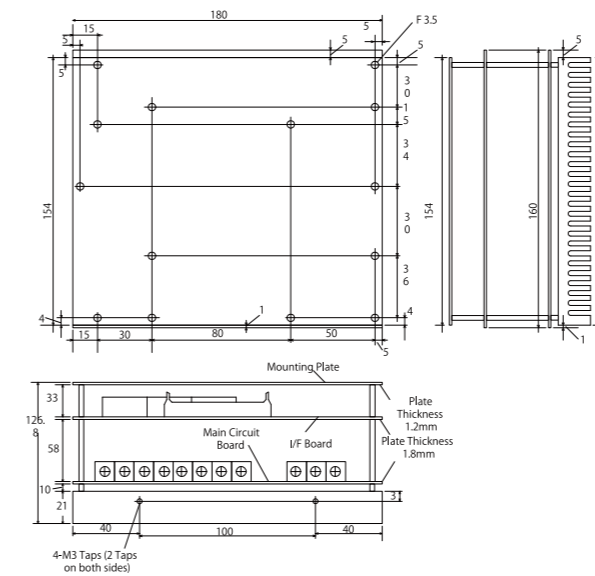


## Specifications

Items		Specifications	Reference
Output	Rated capacity	5kVA (Output AC200V) 5.5kVA (Output AC220V)	At switching frequency of 15kHz during forced air cooling*1 Max Capacity 5.5kVA
	Rated current	AC14.4Arms	
	Voltage Range	AC0 ~ 230Vrms	Input voltage depend on PWM modulation
Input	Rated voltage	AC200Vrms	
	Rated current	AC16.0Arms	
	Voltage Range (AC)	AC0 ~ 230Vrms	
	Voltage Range (DC)	DC0 ~ 400V	
Cooling method	Forced air cooling	*1	
Overload capacity	120%/ minute		
Switching frequency	~ 20kHz		
Dead time	3.0μsec or more		
Sensors	DC voltage (Vdc)	+500V / +5V	
	DC current (Idc)	±31.25A / ±5V	
	U phase / W phase current (Iu/Iw)	±31.25A / ±5V	
	UV / WV inter voltage (Vuv / Vvw)	±500V / ±5V	
Control power supply voltage	DC24V Input	DC22.8 ~ 25.2V Recommended power 24V 1.5A and above	
Interface Power Supply	DC5V output	Supply current to control board 2.0A	
	DC±15V output	Supply current to control board 0.15A	
Dielectric resistance	100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch	
Dielectric strength voltage	AC1500V / minute	Main circuit-pair control circuit & FG in batch	
	AC500V / minute	Control circuit-pair main circuit & FG in batch	
Weight	2.0kg		

\*1 Fan is not built-in. Please attach cooling fan if necessary

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [ ± 5V]
6	O	Outputs analog value of Vvw [ ± 5V]
7	O	Outputs analog value of Iu [ ± 5V]
8	O	Outputs analog value of Iw [ ± 5V]
9	O	Outputs analog value of Vdc [ ± 5V]
10	O	Outputs analog value of Idc [ ± 5V]
11	O	Outputs analog value AN0 from SMB1
12	O	Outputs analog value AN1 from SMB2
13	—	—
14	I	H/W error reset signal
15	O	Relay drive signal
16	I	Break drive signal
17	O	Reset signal (active LOW)
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25 ~ 30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-9R122C NEW

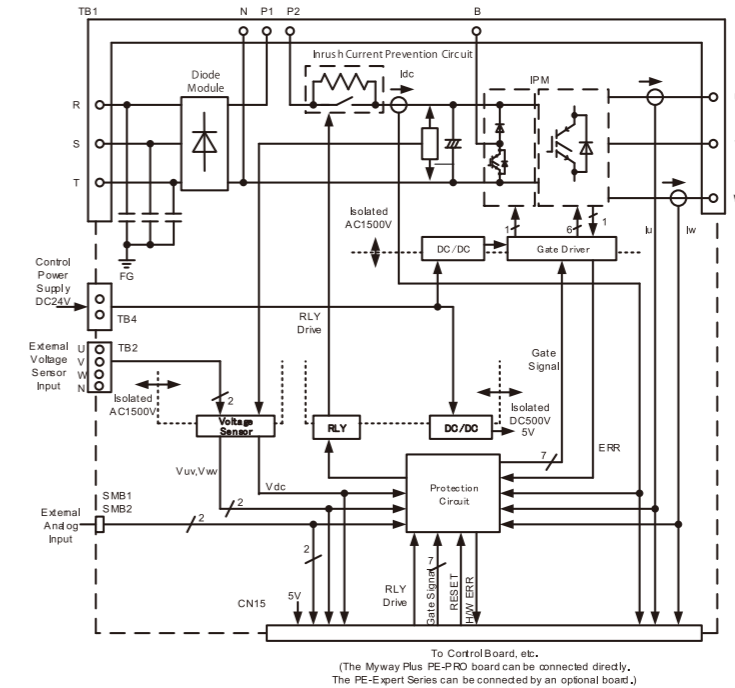
Inverter unit (9.1kVA)



## Characteristics

- **Rated Capacity** 9.1kVA (Output AC200Vrms)
- **Rated Output Current** AC26.3Arms
- **Input Voltage** AC0~230Vrms / DC0~400V
- **Control Power** DC24V
- **Breaker** Built In
- **Built In Sensor** Vdc, Idc, Iu, Iw, Vu, Vw
- **Protection Features** Overcurrent, Overvoltage
- **External Dimensions** W330×D262×H105 (mm)

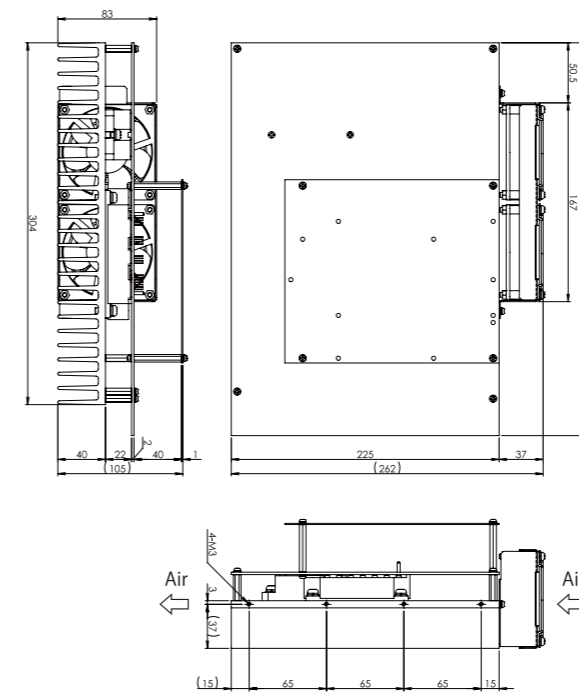
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	9.1kVA (Output AC200V) 10.0kVA (Output AC220V)	At switching frequency of 15kHz
	Rated Current	AC26.3Arms	
	Voltage Range	AC0~230Vrms	Dependent on input voltage
DC Input	Rated Voltage	DC282V	
	Rated Current	DC35.9A	
	Voltage Range	DC0~400V	
AC Input	Rated Voltage	AC200Vrms	
	Rated Current	AC29.2Arms	
	Voltage Range	AC0~230Vrms	
Cooling method		Forced air cooling	
Overload capacity		120%/ minute	
Switching frequency		~20kHz	Derating necessary for 15kHz and above
Dead time		3.5 μsec or more	
Sensors	DC voltage (Vdc)	+400V / 5V	
	DC current (Idc)	±50A / ±5V	
	U phase / W phase current (Iu/Iw)	±50A / ±5V	
	UV / WV inter voltage (Vuv / Vvw)	±400V / ±5V	
Control power supply voltage	DC24V input	DC22.8V~25.2V. Recommended P/S: 24V 1.5A and above	
Power Supply to Interface	DC5V output	Supplies to the control board 5V 2.0A	
	DC±15V output	Supplies to the control board ±15V 0.15A	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
	Dielectric strength voltage	AC1500V/minute	Main circuit-pair control circuit & FG in batch
AC500V/minute		Control circuit-pair main circuit & FG in batch	
Weight		4.9Kg	

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [±5V]
6	O	Outputs analog value of Vvw [±5V]
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [+5V]
10	O	Outputs analog value of Idc [±5V]
11	O	Outputs analog value AN0 from SMB1
12	O	Outputs analog value AN1 from SMB2
13	—	—
14	I	H/W error reset input signal (active LOW)
15	I	Relay drive input signal (active LOW)
16	I	Break drive input signal
17	O	H/W error reset output signal (active LOW)
18	O	Inverted H/W error reset output signal (active HIGH)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground



# PE-Inverter Series

## MWINV-2022A

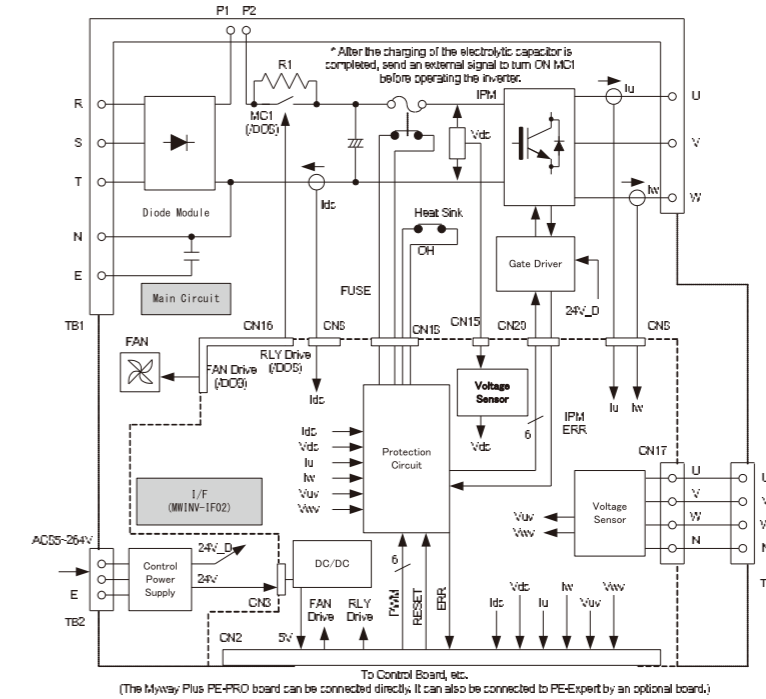
Inverter unit (20kVA)



### Characteristics

- Rated Capacity 20.2kVA (Output AC200Vrms)
- Rated Output Current AC58.4Arms
- Input Voltage AC0 ~ 230Vrms / DC0 ~ 400V
- Control Power AC85 ~ 264Vrms
- Built In Sensor Vdc, Idc, Iu, Iw, Vuv, Vvw
- Protection Features Overcurrent, Overvoltage
- External Dimensions W242×D390×H299 (mm)

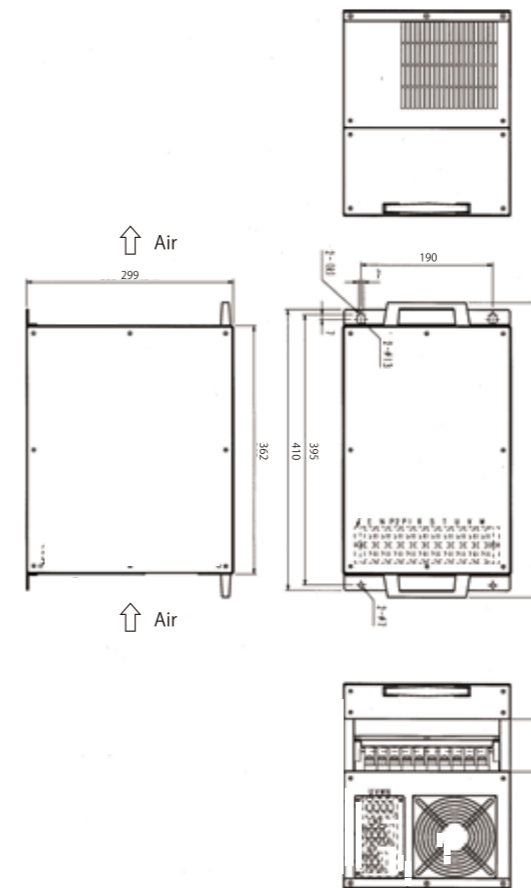
### Block Diagram



### Specifications

Items		Specifications	Reference
AC Output	Rated capacity	20.2kVA(Output AC200V)	
	Rated current	58.4Arms	
	Voltage Range	AC0 ~ 230Vrms	Input voltage depend on PWM modulation
DC Input	Voltage Range	DC0 ~ 400V	
	Rated current	DC64A	Average value in DC315V
AC Input	Rated Voltage	AC200Vrms	
	Voltage Range	AC0 ~ 230Vrms	
Cooling method		Forced air cooling	
Overload capacity		120%/ minute	
Switching frequency		~ 20kHz	Derating necessary for 15kHz and above
Dead time		3.5μsec or more	
Sensors	DC voltage (Vdc)	+500V / +5V	
	DC current (Idc)	±250A / ±5V	
	U phase / W phase current (Iu/Iw)	±250A / ±5V	
	UV / WV inter voltage (Vuv / Vvw)	±500V / ±5V	
Control power supply voltage		AC85 ~ 264V	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Dielectric strength voltage		AC2500V / minute	Main circuit-pair control circuit & FG in batch
		AC500V / minute	Control circuit-pair main circuit & FG in batch
Weight		21.5kg	

### Dimensions



### Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [±5V]
6	O	Outputs analog value of Vvw [±5V]
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [+5V]
10	O	Outputs analog value of Idc [±5V]
11	—	—
12	—	—
13	—	—
14	I	H/W error reset signal
15	I	MC1 Relay drive signal
16	I	FAN drive signal
17	—	—
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-5022B

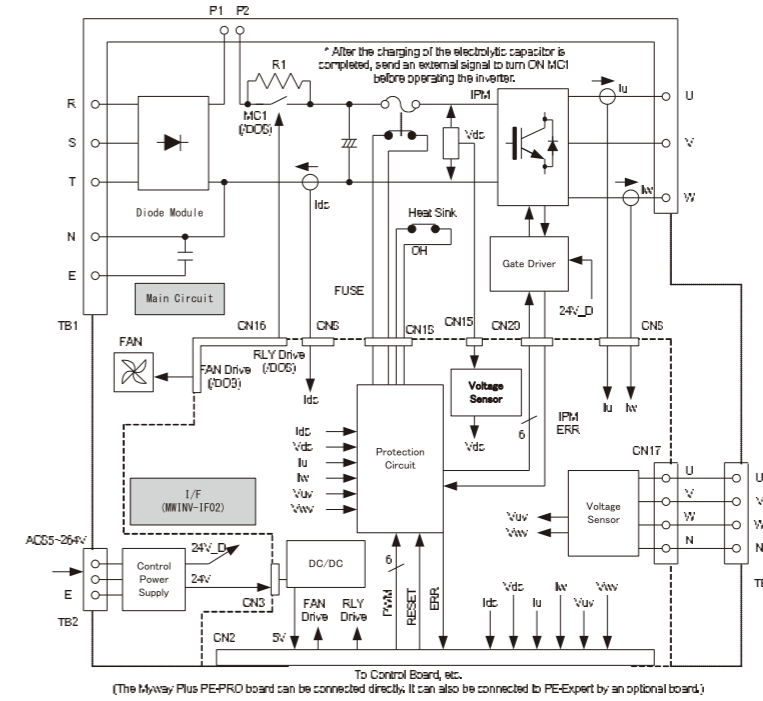
Inverter unit (50kVA)



## Characteristics

- **Rated Capacity** 50.6kVA (Output AC200Vrms)
- **Rated Output Current** AC146Arms
- **Input Voltage** AC0 ~ 230Vrms / DC0 ~ 400V
- **Control Power** AC85 ~ 264Vrms
- **Built In Sensor** Vdc, Idc, Iu, Iw, Vuv, Vvw
- **Protection Features** Overcurrent, Overvoltage
- **External Dimensions** W402×D532×H329 (mm)

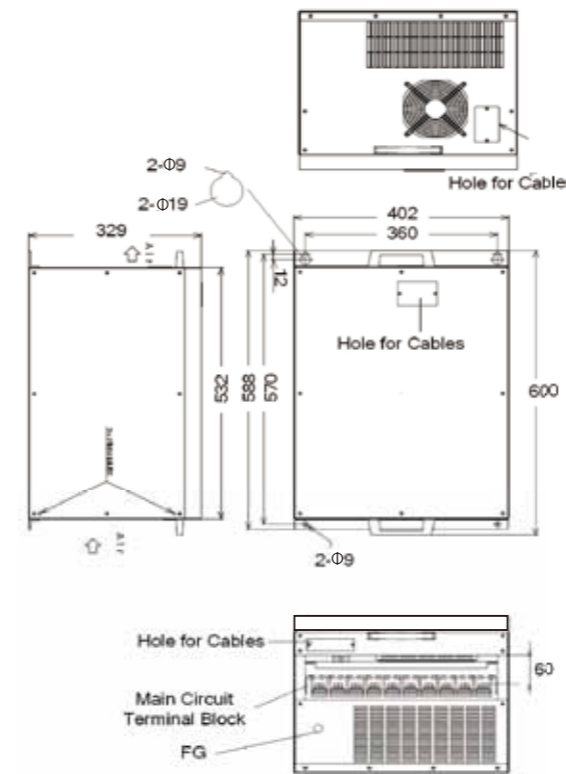
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	50.6kVA(Output AC200V)	
	Rated current	AC146Arms	
	Voltage Range	AC0 ~ 230Vrms	Input voltage depend on PWM modulation
DC Input	Voltage Range	DC0 ~ 400V	
	Rated current	DC160A	Average value in DC315V
AC Input	Rated Voltage	AC200Vrms	
	Voltage Range	AC0 ~ 230Vrms	
Cooling method		Forced air cooling	
Overload capacity		120%/ minute	
Switching frequency		~ 20kHz	Derating necessary for 15kHz and above
Dead time		3.5μsec or more	
Sensors	DC voltage (Vdc)	+500V / +5V	
	DC current (Idc)	±625A / ±5V	
	U phase / W phase current (Iu/Iw)	±625A / ±5V	
	UV / WV inter voltage (Vuv / Vvw)	±500V / ±5V	
Control power supply voltage		AC85 ~ 264V	
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Dielectric strength voltage		AC2500V / minute AC500V / minute	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Weight		45.5kg	

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [±5V]
6	O	Outputs analog value of Vvw [±5V]
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [+5V]
10	O	Outputs analog value of Idc [±5V]
11	—	—
12	—	—
13	—	—
14	I	H/W error reset signal
15	I	MC1 Relay drive signal
16	I	FAN drive signal
17	—	—
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-7R006A

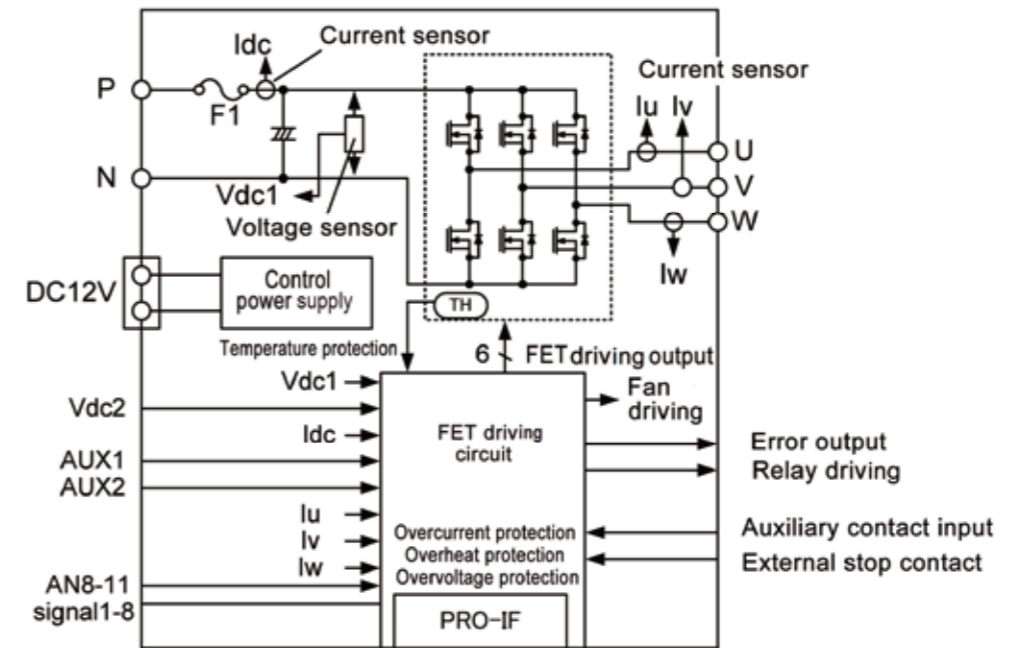
Inverter unit (7kVA)



## Characteristics

- Rated Capacity 7.0kW
- Rated Output Current AC100Arms
- Input Voltage DC10 ~ 80V
- Control Power DC12V
- Built In Sensor Vdc, Idc, Iu, Iv, Iw
- Protection Features Overcurrent, Overvoltage, Temperature
- External Dimensions W203×D275×H200 (mm)

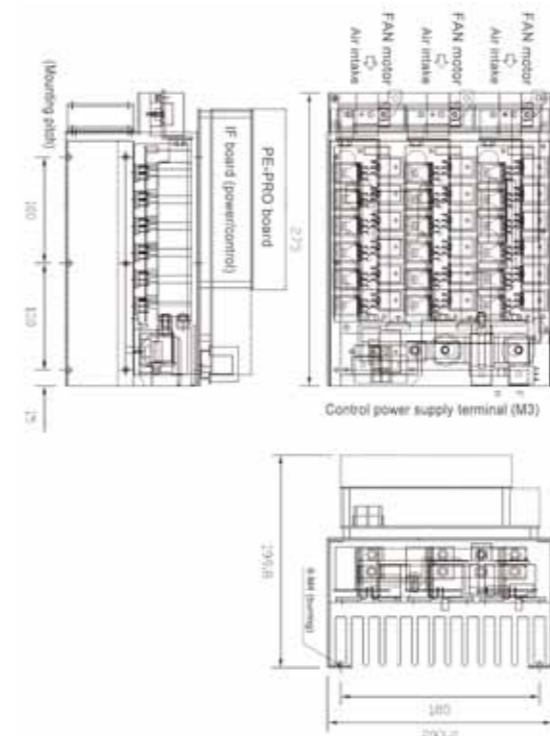
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	7.0kW	
	Rated current	AC100Arms	Sine wave
	Output Frequency	DC ~ 440Hz	
DC Input	Rated Voltage	60V	
	Voltage Range	DC10 ~ 80V	
Cooling method	Forced air cooling	Fan operation by the temperature detection	
Overload capacity	120Arms / minute	Input DC60V	
	200Apeak / sec	Input DC60V	
Switching frequency	10 ~ 40kHz		
Sensors	DC voltage (Vdc1)	+100V / ±5V	
	U / V / W phase current (Iu/Iv/Iw)	±300A / ±5V	
	DC current (Idc)	±300A / ±5V	
	External voltage (Vdc2)	+100V / ±5V	
Control power supply voltage	DC12V (9.6 ~ 14.4V)		
Dielectric resistance	100MΩ or more	Main circuit-pair control circuit & FG in batch	
Dielectric strength voltage	AC1500V / minute	Main circuit-pair control circuit & FG in batch	
	AC500V / minute	Control circuit-pair main circuit & FG in batch	
Weight	7.5kg		

## Dimensions



## Interface Connection

Pin No	I / O	Description
1~8	—	External input/output signal (Connector relay only)
9~10	—	Ground
11	—	Analog input(Connector relay only)
12	—	Analog input(Connector relay only)
13	—	Analog input(Connector relay only)
14	—	Analog input(Connector relay only)
15~16	—	Ground
17	O	Supplies -15V to the control board
18~19	O	Ground
20	O	Supplies +15V to the control board
21	O	Outputs analog value CH0 (AUX1) [±5V]
22	O	Outputs analog value CH4 (AUX2) [±5V]
23	O	Outputs analog value CH1 (Iu) [±5V]
24	O	Outputs analog value CH5 (Iw) [±5V]
25	O	Outputs analog value CH2 (Vdc1) [±5V]
26	O	Outputs analog value CH6 (Idc) [±5V]
27	O	Outputs analog value CH3 (Iv) [±5V]
28	O	Outputs analog value CH7 (Vdc2) [±5V]
29	—	—
30	I	Reset signal/DO16
31	I	RLY1 Relay drive signal/DO8
32	I	FAN drive signal/DO9
33	O	Outputs analog external auxiliary signal DI14
34	O	External error signal/DI15
35	I	U-phase P arm gate signal
36	I	U-phase N arm gate signal
37	I	V-phase P arm gate signal
38	I	V-phase N arm gate signal
39	I	W-phase P arm gate signal
40	I	W-phase N arm gate signal
41~46	—	—
47~48	O	Supplies +5V to the control board
49~50	O	Ground

# MWINV-1203 NEW

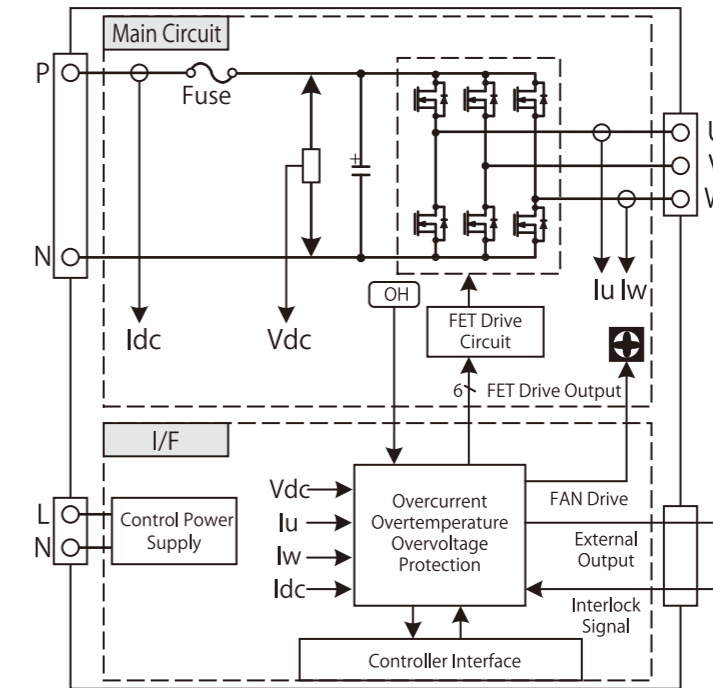
Low voltage high current inverter (12.5kVA)



### Characteristics

- Rated Capacity 12.5kVA
- Rated Output Current AC300Arms
- Input Voltage DC0 ~ 60V
- Control Power AC90 ~ 240Vrms
- Built In Sensor Vdc, Idc, Iu, Iw
- Protection Features Overcurrent, Overvoltage, Overtemperature, Interlock
- External Dimensions W450×D702×H210 (mm)

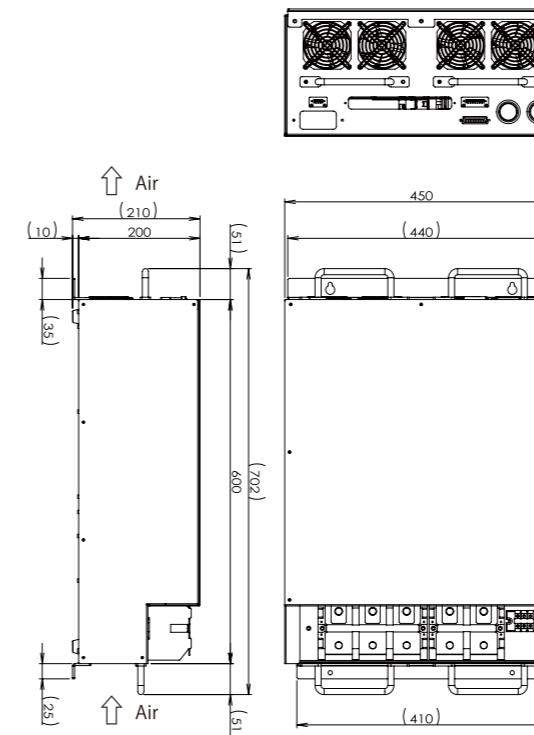
### Block Diagram



### Specifications

Items	Specifications	Reference
AC Output	Rated capacity	12.5kVA
	Rated current	AC300Arms
DC Input	Rated voltage	DC48Vdc
	Input voltage range	DC0 ~ 60V
Cooling method	Forced air cooling	
Overload capacity	AC360Arms/3min	
Switching frequency	Below 20kHz	
Dead time	2.5μsec or more	
Sensors	DC voltage (Vdc)	+80V/+5V
	DC current (Idc)	±1000A/±5V
	U phase / W phase current (Iu/Iw)	±1000A/±5V
Control power supply voltage	AC90 ~ 240Vrms	
Dielectric resistance	100MΩ or more	Main circuit-pair control circuit & FG in batch
Dielectric strength voltage	AC500V/1min	Main circuit-pair control circuit & FG in batch
		Control circuit-pair main circuit & FG in batch
Weight	35kg	

### Dimensions



### Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	—	—
6	—	—
7	O	Outputs analog value of Iu [±5V]
8	O	Outputs analog value of Iw [±5V]
9	O	Outputs analog value of Vdc [±5V]
10	O	Outputs analog value of Idc [±5V]
11	—	—
12	—	—
13	—	—
14	I	H/W error reset input signal (active LOW)
15	I	Relay drive input signal (active LOW)
16	I	FAN drive input signal (active LOW)
17	O	Reset output signal (active LOW)
18	O	H/W error output signal (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25~30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-9R144

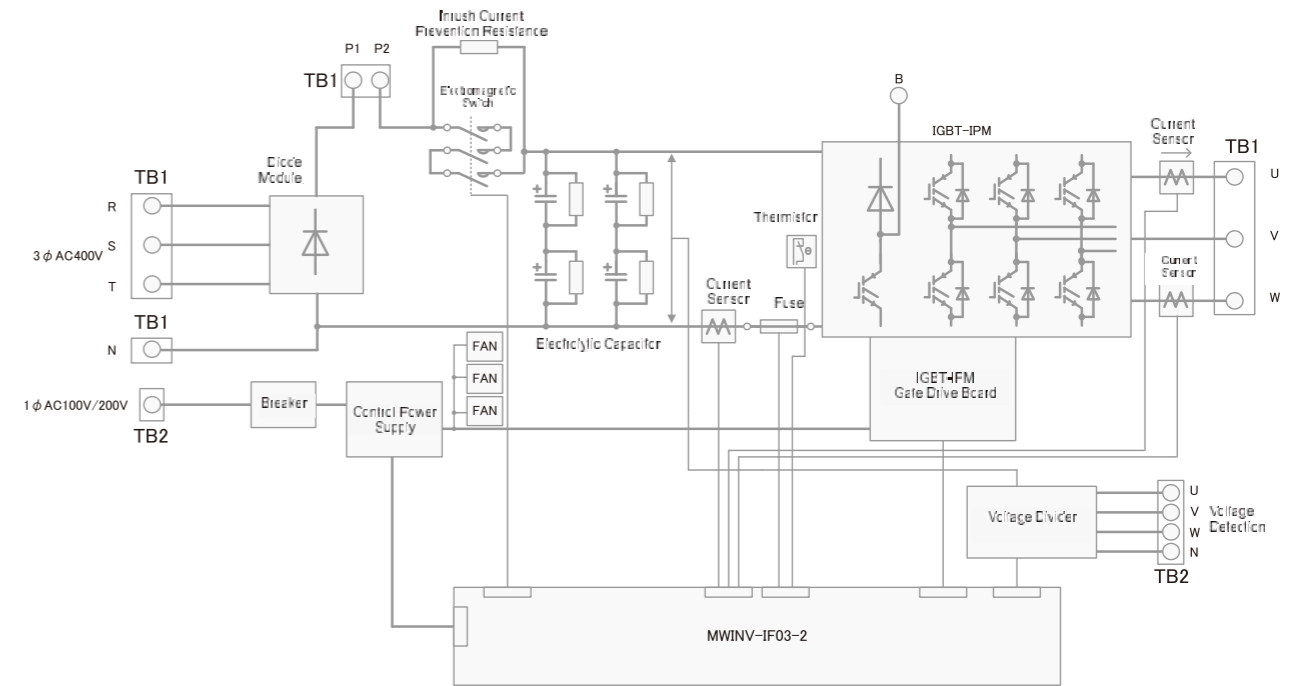
Inverter unit (9.1kVA)



## Characteristics

- **Rated Capacity** 9.1kVA (Output AC400Vrms)
- **Rated Output Current** AC13.2Arms
- **Input Voltage** AC0 ~ 440Vrms / DC0 ~ 700V
- **Control Power** AC85 ~ 264Vrms
- **Breaker** Built In
- **Built In Sensor** Vdc, Idc, Iu, Iw, Vuv, Vvw
- **Protection Features** Overcurrent, Overvoltage, Temperature
- **External Dimensions** W400×D360×H170 (mm)

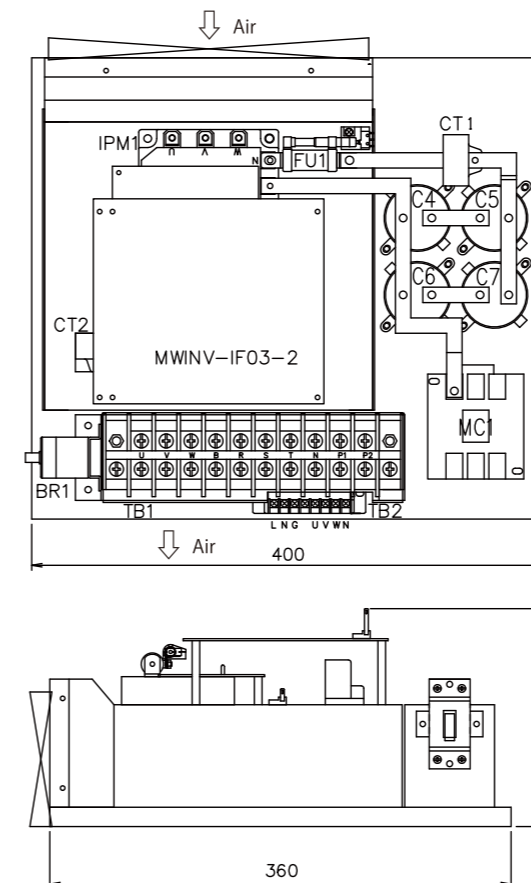
## Block Diagram



## Specifications

Items		Specifications	Reference
AC Output	Rated capacity	9.1kVA (Output AC400V) 10.0kVA (Output AC440V)	At switching frequency of 15kHz during forced air cooling
	Rated current	AC13.2Arms	
	Voltage Range	AC0 ~ 440Vrms	Depend on input voltage
DC Input	Rated Voltage	DC700V	
	Rated Current	DC14.5A	Calculated assuming 90% efficiency
	Voltage Range	DC0 ~ 700V	
AC Input	Rated Voltage	AC400Vrms	
	Rated Current	AC14.6Arms	Calculated assuming 90% efficiency
	Voltage Range	AC0 ~ 440Vrms	
Cooling method		Forced air cooling	
Overload capacity		120%/minute	
Switching frequency		~ 20kHz	Derating necessary for 15kHz and above
Dead time		4.0μsec or more	
Sensors	DC voltage (Vdc)	+1000V / ±5V	
	DC current (Idc)	±62.5A / ±5V	
	U phase / W phase current (Iu/Iw)	±31.25A / ±5V	
	UV / VW inter voltage (Vuv / Vvw)	±1000V / ±5V	
Control power supply voltage		AC85 ~ 264Vrms DC24V (22.8 ~ 25.2V)	Supplies to the control board
Dielectric resistance		100MΩ or more	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Dielectric strength voltage		AC2500V / minute AC500V / minute	Main circuit-pair control circuit & FG in batch Control circuit-pair main circuit & FG in batch
Weight		12.5kg	

## Dimensions



## Interface Connection

Pin No.	I / O	Description
1	O	Supplies -15V to the control board
2, 3	—	Ground
4	O	Supplies +15V to the control board
5	O	Outputs analog value of Vuv [ ± 5V]
6	O	Outputs analog value of Vvw [ ± 5V]
7	O	Outputs analog value of Iu [ ± 5V]
8	O	Outputs analog value of Iw [ ± 5V]
9	O	Outputs analog value of Vdc [ ± 5V]
10	O	Outputs analog value of Idc [ ± 5V]
11	O	Outputs analog value AN0 from SMB1
12	O	Outputs analog value AN1 from SMB2
13	—	—
14	I	H/W error reset signal
15	I	Drive signal of electromagnetic switch for inrush current prevention
16	I	Break drive signal
17	O	Reset signal (active LOW)
18	O	H/W error (active LOW)
19	I	U-phase P arm gate signal (active LOW)
20	I	U-phase N arm gate signal (active LOW)
21	I	V-phase P arm gate signal (active LOW)
22	I	V-phase N arm gate signal (active LOW)
23	I	W-phase P arm gate signal (active LOW)
24	I	W-phase N arm gate signal (active LOW)
25 ~ 30	—	—
31, 32	O	Supplies +5V to the control board
33, 34	—	Ground

# MWINV-34044

Inverter unit (343kVA)



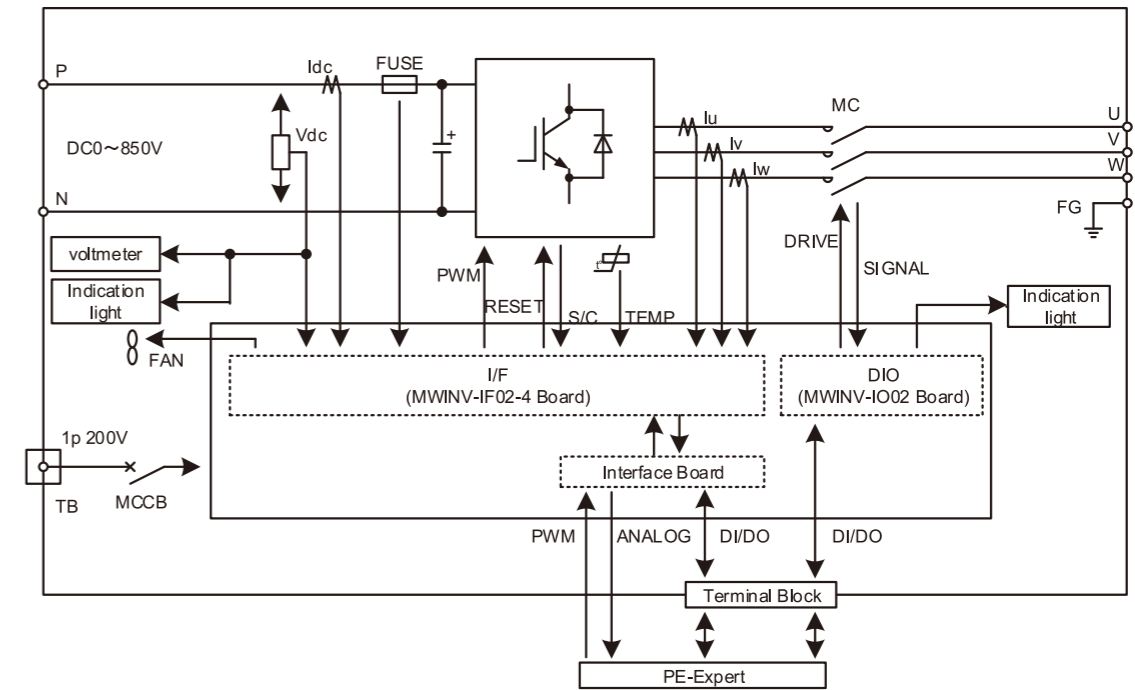
### Characteristics

- Rated Capacity 343kVA
- Rated Output Current AC450Arms
- Input Voltage DC0 ~ 850V
- Control Power AC180 ~ 230Vrms
- Built In Sensor Vdc, Idc, Iu, Iv, Iw
- Protection Features Overcurrent, Overvoltage, Temperature, Arm shortcircuit
- External Dimensions W880×D680×H1600 (mm)

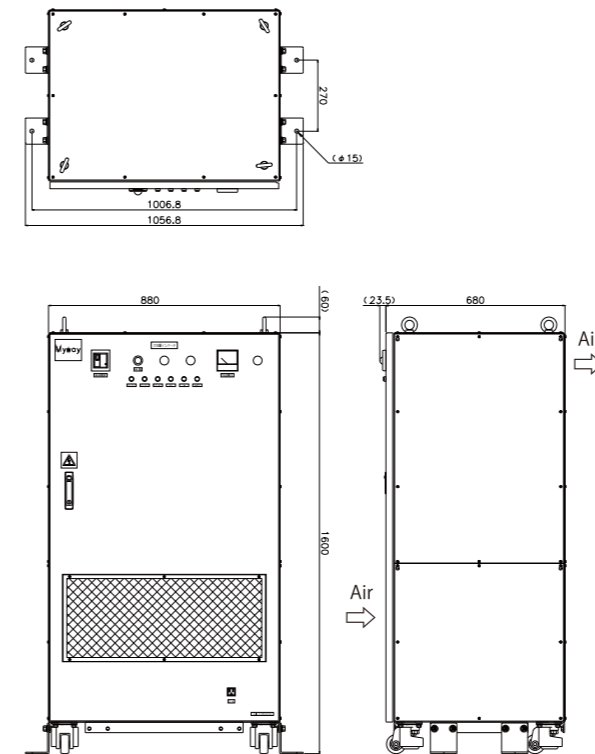
### Specifications

Items	Specifications	Reference
AC Output	Rated capacity	200kW/343kVA
	Rated current	AC450Arms
	Voltage Range	AC0 ~ 440Vrms Switching frequency = 6kHz Dependent on input voltage and PWM modulation
DC Input	Rated Voltage	DC750V
	Voltage Range	DC0 ~ 850V
Cooling method	Forced air cooling	
Overload capacity	600Arms(10sec)	Switching frequency = 6kHz Vdc: 750V
	490Arms(120sec)	
Switching frequency	1k ~ 20kHz	Derating necessary for 6kHz and above
Dead time	3.5μsec or more	
Sensors	DC voltage (Vdc)	1040V / 5V
	DC current (Idc)	±1000A / ±5V
	U / V / W phase current (Iu/Iv/Iw)	±1000A / ±5V
Control power supply voltage	AC180 ~ 230Vrms	
Dielectric resistance	100MΩ or more	
Dielectric strength voltage	AC2500V / minute	Main circuit vs FG
		Main circuit vs control circuit
		Main circuit vs commercial power supply
	AC1500V / minute	Commercial power supply vs control circuit
AC500V / minute	Commercial power supply vs FG	
	Control circuit vs FG	
Weight	350kg	

### Block Diagram



### Dimensions



### Interface Connection

[Interface Board]			[Terminal Block]		
Pin No.	I/O	Description	Pin No.	I/O	Description
1	O	Supplies +15V to the control board	1~8	—	—
2, 3	—	Ground	9	I	Output MC Drive Signal (active LOW)
4	O	Supplies +15V to the control board	10	I	Ground_24V
5	O	Outputs analog value of Vuv	11	O	+24V
6	O	Outputs analog value of Vvw	12	O	Output MC Response Signal (active LOW)
7	O	Outputs analog value of Iu	13~19	—	—
8	O	Outputs analog value of Iv	20	—	Earth terminal
9	O	Outputs analog value of Vdc			
10	O	Outputs analog value of Idc			
11	O	Outputs analog value of Iv			
12	—	—			
13	—	—			
14	I	H/W error reset input signal (active LOW)			
15	I	Gate power input signal			
16	I	FAN drive input signal			
17	—	—			
18	O	H/W error output signal (active LOW)			
19	I	U-phase P arm gate signal (active LOW)			
20	I	U-phase N arm gate signal (active LOW)			
21	I	V-phase P arm gate signal (active LOW)			
22	I	V-phase N arm gate signal (active LOW)			
23	I	W-phase P arm gate signal (active LOW)			
24	I	W-phase N arm gate signal (active LOW)			
25~30	—	—			
31, 32	O	Supplies +5V to the control board			
33, 34	—	Ground			