

# DARDA®

Digitalized product

## Operation manual



Digital modified sine wave inverter



Before installing the product, read this manual thoroughly to install and use safely.  
Test reports for each model are included (4p~9p).

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## Operation manual procedure

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### Product features

- Product Configuration : It is a cutting-edge device configured with original technologies of circuit-operation and connection parts with various patents and licences.
- High stability with 95% maximum efficiency (DC 24V) and 85% of max output efficiency.
- Highly competitive Prices : parallel output operation by original technology.
- Main feature : Smart auto protect controlled by software, High efficiency power by an parallel output circuit, Auto input (DC)/output (AC) control circuits, Auto surge output control by output(AC) sensor

### Product basic

1. It is a **modified sine wave** digital power inverter. You can use this inverter for various appliances within the input range of DC 12V, 24V, 48V and the output range of 220V to 240V /AC 100V to 127V.
2. Before installation, refer to instructions in the page of 10 to 14.
3. Make sure the battery connection is stable and secured. Improper connection or installation can harms users and deteriorate performance of the product.
4. **If you don't read the warnings or connect the product improperly, it will damage the product. Especially if you provide household electricity to the outlet of this inverter, it could damage the circuit to the level of useless.**

### Battery current & charging system

- Quality charging system can keep your battery's life span.
- Improper battery charging or lousy charging devices will run down your battery faster.
- Battery should be charged before it drained to below **10.5V to 11V (DC 12 V), 20.5V to 21.5V(DC 24V), 42V to 43V (DC 48V)**. Then the battery life can be prolonged.

NO.	PARAMETER	DP-2000AQ	SI-1700AQ	DP-3000AQ	SI-22012AQ	LIMIT	
1	DC input voltage	12V				DC12V~16.8V	
2	DC voltage standard	13.4V				±5%	
3	AC voltage standard	AC228V				220V ±5%	
4	Max output power time 15~60min	2000W	2500W	3000W	3500W	±10%	
5	Output power continuous	1500W	1800W	2200W	2600W	±5%	
6	Surge rating	4000W	5000W	6000W	7000W	±10%	
7	Efficiency et rated power	89%				±3%	
8	Efficiency et max power	83%				±3%	
9	THD [max]	25%				MAX	
10	No load current	no fan	0.58A	0.61A	0.61A	0.63A	±0.1A
		on fan	0.98A	1.00A	1.13A	1.15A	
11	Low battery shut down	10.0V				±0.5V	
12	Low battery return on power	11.2V				±0.5V	
13	High battery shut down	17.0V				±1V	
14	High battery return on power	15.0V				±0.8V	
15	Frequency[50/60] selection	60Hz/50Hz	60Hz(50hz/60hz select switch)			±0.8Hz	
16	Regulation	MAX ±10%				±10%	
17	Over temperature protection	-25°C~+76°C				80°C~±5°C	
18	Over temperature power on	58°C				60°C~±5°C	
19	Output wave form	Modified sine wave				Stair-Waveform	
20	Cooling fan [auto fan]	Fan on temperature 41°C				±5°C	
21	Insulation transformer Withstand voltage	2KV~2.5KV				±1KV	
22	Over load protection	input sensor	NO	100A	100A	100A	PL cable type
		input fuse	40A(5EA)	40A(6EA)	40A(7EA)	40A(8EA)	Car fuse type
		output sensor	CT/20A	20A(Sensor)	20A(Sensor)	20A(Sensor)	Terminal type
		output circuit breaker	10A(SS-001)	12A(SS-001)	15A(SS-001)	16A(SS-001)	SS-001/DCP-PR PSH(PAHH)
		AC outlet/terminal	2P Outlet 16A				Output socket Terminal
23	Dimensions[mm](DxHxW)	202x71x385	225x89x405	225x89x420	225x89x514	±3mm	
	Weight[kg]	3.3Kg	4.0Kg	4.5Kg	5.7Kg	±200g	

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Generator replacement ◆ Power Tools  
 ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump ◆ Compressors/Cutters  
 ◆ TV/Monitor ◆ Other electric products

Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

※ Based on the models, the use might be different from the device.

☞ Specification of the product may change without notification for the improvement of performance. ☞



NO.	PARAMETER	SI-2700AQ	DP-44012AQ	DP-6000AQ	SI-5400AQ	LIMIT	
1	DC input voltage	12V				DC12V~16.8V	
2	DC voltage standard	13.4V				±5%	
3	AC voltage standard	AC228V				220V ±5%	
4	Max output power time 15~60min	4000W	5000W	6500W	8000W	±10%	
5	Output power continuous	3000W	3600W	4900W	6000W	±5%	
6	Surge rating	8000W	10KW	13KW	16KW	±10%	
7	Efficiency et rated power	89%				±3%	
8	Efficiency et max power	83%				±3%	
9	THD [max]	25%				MAX	
10	No load current	no fan	0.66A	0.80A	1.10A	1.27A	±0.1A
		on fan	1.22A	1.75A	1.97A	2.00A	
11	Low battery shut down	10.0V				±0.5V	
12	Low battery return on power	11.2V				±0.5V	
13	High battery shut down	17.0V				±1V	
14	High battery return on power	15.0V				±0.8V	
15	Frequency[50/60] selection	60Hz(50hz/60hz select switch)				±0.8Hz	
16	Regulation	MAX ±10%				±10%	
17	Over temperature protection	-25°C~+76°C				80°C~±5°C	
18	Over temperature power on	58°C				60°C~±5°C	
19	Output wave form	Modified sine wave				Stair-Waveform	
20	Cooling fan [auto fan]	Fan on temperature 41°C				±5°C	
21	Insulation transformer Withstand voltage	2KV~2.5KV				±1KV	
22	Over load protection	input sensor	100A	100A	100A	100A	PL cable type
		input fuse	40A(9EA)	40A(10EA)30A(2EA)	40A(14EA)	40A(18EA)	Car fuse type
		output sensor	20A(Sensor)	20A RMS~60A Peak	50A(Sensor)	50A(Sensor)	Terminal type
		output circuit breaker	20A(SS-001)	25AH(DCP-PR)	30AH(DCP-PR)	35A(40A)(DCP-PR)	SS-001/DCP-PR
				17A(SS-001)	17A(SS-001)	17A(SS-001)	PSH(PAHH)
AC outlet/terminal	2P Outlet 16A	2P-16A Outlet/1P-13A		2P-16A Outlet/1P-13A	Output socket		
			3P-30A Terminal	3P-(2C)50A Terminal	Terminal		
23	Dimensions[mm](DxHxW)	225x89x540	225x154x405	225x154x470	225x154x540	±3mm	
	Weight[kg]	5.9Kg	7.4Kg	8.5Kg	10.0Kg	±200g	

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Generator replacement ◆ Power Tools  
 ◆ Medium-term vehicle air-conditioning ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump  
 ◆ Compressors/Cutters ◆ Welder(5KW or more) ◆ Other electric products

Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

※ Based on the models, the use might be different from the device.

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NO.	PARAMETER	DP-25024BQ	SI-2200BQ	DP-3000BQ	DP-40024BQ	SI-32024BQ	LIMIT	
1	DC input voltage	24V					DC21V~30V	
2	DC voltage standard	26.8V					±5%	
3	AC voltage standard	AC228V					220V ±5%	
4	Max output power time 15~60min	2500W	3000W	3500W	4000W	4300W	±10%	
5	Output power continuous	2000W	2400W	2800W	3200W	3500W	±5%	
6	Surge rating	5000W	6000W	7000W	8000W	8600W	±10%	
7	Efficiency et rated power	91%					±3%	
8	Efficiency et max power	88%					±3%	
9	THD [max]	25%					MAX	
10	No load current	no fan	0.36A	0.36A	0.38A	0.40A	0.42A	±0.1A
		on fan	0.60A	0.70A	0.72A	0.82A	0.85A	
11	Low battery shut down	20.0V					±1.0V	
12	Low battery return on power	22.0V					±1.0V	
13	High battery shut down	31.0V					±1.5V	
14	High battery return on power	28.0V					±1.0V	
15	Frequency[50/60] selection	60Hz/50Hz	60Hz(50hz/60hz select switch)				±0.8Hz	
16	Regulation	MAX ±10%					±10%	
17	Over temperature protection	-25°C~+76°C					80°C~±5°C	
18	Over temperature power on	58°C					60°C~±5°C	
19	Output wave form	Modified sine wave					Stair-Waveform	
20	Cooling fan [auto fan]	Fan on temperature 41°C					±5°C	
21	Insulation transformer Withstand voltage	2KV~2.5KV					±1KV	
22	Over load protection	input sensor	NO	100A	100A	100A	100A	PL cable type
		input fuse	40A(2EA)30A(1EA)	40A(3EA)	40A(4EA)	40A(4EA)25A(1EA)	40A(5EA)	Car fuse type
		output sensor	CT/20A	20A(Sensor)	20A(Sensor)	20A(Sensor)	20A(Sensor)	Terminal type
		output circuit breaker	12A(SS-001)	15A(SS-001)	16A(SS-001)	20A(SS-001)	20A(SS-001)	SS-001/DCP-PR PSH(PAHH)
		AC outlet/terminal	2P Outlet 16A					Output socket Terminal
23	Dimensions[mm](DxHxW)	202x71x385	225x89x405	225x89x420	225x89x514	225x89x540	±3mm	
	Weight[kg]	3.3Kg	4.0Kg	4.5Kg	4.9Kg	5.6Kg	±200g	

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Medium-term vehicle air-conditioning  
 ◆ Generator replacement ◆ Power Tools ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump  
 ◆ Compressors/Cutters ◆ TV/Monitor ◆ Other electric products

Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

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NO.	PARAMETER	DP-50024BQ	DP-6000BQ	SI-64024BQ	DP-95024BQ	LIMIT		
1	DC input voltage	24V				DC21V~30V		
2	DC voltage standard	26.8V				±5%		
3	AC voltage standard	AC228V				220V ±5%		
4	Max output power time 15~60min	5500W	7000W	8500W	10.5KW	±10%		
5	Output power continuous	4500W	5600W	6800W	8400W	±5%		
6	Surge rating	11KW	14KW	17KW	21KW	±10%		
7	Efficiency et rated power	91%				±3%		
8	Efficiency et max power	88%				±3%		
9	THD [max]	25%				MAX		
10	No load current	no fan	0.59A	0.73A	0.85A	0.98A	±0.1A	
		on fan	1.25A	1.50A	1.63A	1.98A		
11	Low battery shut down	20.0V				±1.0V		
12	Low battery return on power	22.0V				±1.0V		
13	High battery shut down	31.0V				±1.5V		
14	High battery return on power	28.0V				±1.0V		
15	Frequency[50/60] selection	60Hz(50hz/60hz select switch)				±0.8Hz		
16	Regulation	MAX ±10%				±10%		
17	Over temperature protection	-25°C~+76°C				80°C~±5°C		
18	Over temperature power on	58°C				60°C~±5°C		
19	Output wave form	Modified sine wave				Stair-Waveform		
20	Cooling fan [auto fan]	Fan on temperature 41°C				±5°C		
21	Insulation transformer Withstand voltage	2KV~2.5KV				±1KV		
22	Over load protection	input sensor	100A	100A	100A	100A	PL cable type	
		input fuse	40A(6EA)	40A(8EA)	40A(10EA)	40A(12EA)	Car fuse type	
		output sensor	20A RMS~60A Peak	50A(Sensor)	50A(Sensor)	50A(Sensor)	Terminal type	
		output circuit breaker	25AH(DCP-PR)	35AH(DCP-PR)	40AH(DCP-PR)	50AH(DCP-PR)	SS-001(DCP-PR)	PSH(PAHH)
			17A(SS-001)				20A(SS-001)	
AC outlet/terminal	2P-16A Outlet/1P-13A		2P-16A Outlet/1P-13A(EU/US)			Output socket		
	3P-30A Terminal		3P-(2C)50A Terminal			Terminal		
23	Dimensions[mm](DxHxW)	225x154x405	225x154x470	225x154x540	225x154x560	±3mm		
	Weight[kg]	7.3Kg	8.5Kg	10.0Kg	13.0Kg	±200g		

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Generator replacement ◆ Power Tools  
 ◆ Medium-term vehicle air-conditioning ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump  
 ◆ TV/Monitor ◆ Compressors/Cutters ◆ Welder(5KW or more) ◆ Other electric products

Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

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NO.	PARAMETER	DP-25048Q	DP-35048Q	DP-40048Q	DP-55048Q	LIMIT	
1	DC input voltage	DC48V				DC42V~60V	
2	DC voltage standard	DC53.0V				±3%	
3	AC voltage standard	AC228V				220V ±5%	
4	Max output power time 15~60min	2500W	3500W	4000W	5500W	±10%	
5	Output power continuous	1800W	2600W	3200W	4500W	±5%	
6	Surge rating	5000W	7000W	8000W	11KW	±10%	
7	Efficiency et rated power	91%				±3%	
8	Efficiency et max power	87%				±3%	
9	THD [max]	25%				MAX	
10	No load current	no fan	0.17A	0.19A	0.21A	0.30A	±0.1A
		on fan	0.34A	0.38A	0.42A	0.64A	
11	Low battery shut down	DC40.0V				±1.0V	
12	Low battery return on power	DC44.0V				±1.0V	
13	High battery shut down	DC60.8V				±1.5V	
14	High battery return on power	DC56.0V				±1.0V	
15	Frequency[50/60] selection	60Hz/50Hz	60Hz(50hz/60hz select switch)			±0.8Hz	
16	Regulation	Output 220Vac MAX ±10%				±10%	
17	Over temperature protection	-25°C~+76°C				80°C~±5°C	
18	Over temperature power on	58°C				60°C~±5°C	
19	Output wave form	Modified sine wave				Stair-Waveform	
20	Cooling fan [auto fan]	Fan on temperature 41°C (±5%)				±5°C	
21	Insulation transformer Withstand voltage	2KV~2.5KV				±1KV	
22	Over load protection	input sensor	NO	100A	100A	100A	PL cable type
		input fuse	30A(2EA)	40A(2EA)	40A(2EA)25A(1EA)	40A(3EA)	Car fuse type
		output sensor	CT/20A	20A(Sensor)	20A(Sensor)	20A RMS~60A Peak	Terminal type
		output circuit breaker	12A(SS-001)	16A(SS-001)	20A(SS-001)	25AH(DCP-PR) 17A(SS-001)	SS-001/DCP-PR PSH(PAHH)
		AC outlet/terminal	2P Outlet 16A			2P-16A Outlet/1P-13A 3P-30A Terminal	Output socket Terminal
23	Dimensions[mm](DxHxW)	202x71x385	225x89x420	225x89x514	225x154x405	±3mm	
	Weight[kg]	3.3Kg	4.5Kg	4.8Kg	7.3Kg	±200g	

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Medium-term vehicle air-conditioning  
 ◆ Generator replacement ◆ Power Tools ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump  
 ◆ Compressors/Cutters ◆ TV/Monitor ◆ Other electric products

Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

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NO.	PARAMETER	DP-70048Q	SI-85048Q	DP-95048Q	LIMIT	
1	DC input voltage		DC48V		DC42V~60V	
2	DC voltage standard		DC53.0V		±3%	
3	AC voltage standard		AC228V		220V ±5%	
4	Max output power time 15~60min	7000W	8500W	10.5KW	±10%	
5	Output power continuous	5300W	6600W	8400W	±5%	
6	Surge rating	14KW	17KW	21KW	±10%	
7	Efficiency et rated power		91%		±3%	
8	Efficiency et max power		87%		±3%	
9	THD [max]		25%		MAX	
10	No load current	no fan	0.31A	0.40A	0.48A	±0.1A
		on fan	0.72A	0.82A	0.94A	
11	Low battery shut down		DC40.0V		±1.0V	
12	Low battery return on power		DC44.0V		±1.0V	
13	High battery shut down		DC60.8V		±1.5V	
14	High battery return on power		DC56.0V		±1.0V	
15	Frequency[50/60] selection		60Hz(50hz/60hz select switch)		±0.8Hz	
16	Regulation		Output 220Vac MAX ±10%		±10%	
17	Over temperature protection		-25°C~+76°C		80°C~±5°C	
18	Over temperature power on		58°C		60°C~±5°C	
19	Output wave form		Modified sine wave		Stair-Waveform	
20	Cooling fan [auto fan]		Fan on temperature 41°C (±5%)		±5°C	
21	Insulation transformer Withstand voltage		2KV~2.5KV		±1KV	
22	Over load protection	input sensor	100A	100A	100A	PL cable type
		input fuse	40A(4EA)	40A(4EA)25A(2EA)	40A(6EA)	Car fuse type
		output sensor	50A(Sensor)	50A(Sensor)	50A(Sensor)	Terminal type
		output circuit breaker	35AH(DCP-PR)	40AH(DCP-PR)	50AH(DCP-PR)	SS-001/DCP-PR
			17A(SS-001)	17A(SS-001)	20A(SS-001)	PSH(PAHH)
AC outlet/terminal	2P-16A Outlet/13A(EU/US)	2P-16A Outlet/1P-13A(EU/US)		Output socket		
	3P-30A Terminal	3P-(2C)50A Terminal		Terminal		
23	Dimensions[mm](DxHxW)	225x154x470	225x154x540	225x154x560	±3mm	
	Weight[kg]	8.5Kg	10.0Kg	13.0Kg	±200g	

Product in use ◆ Specially equipped vehicles ◆ Construction Power ◆ Generator replacement ◆ Power Tools  
 ◆ Medium-term vehicle air-conditioning ◆ Solar Energy ◆ Refrigerator ◆ Hammer drill ◆ Motor pump  
 ◆ TV/Monitor ◆ Compressors/Cutters ◆ Welder(5KW or more) ◆ Other electric products

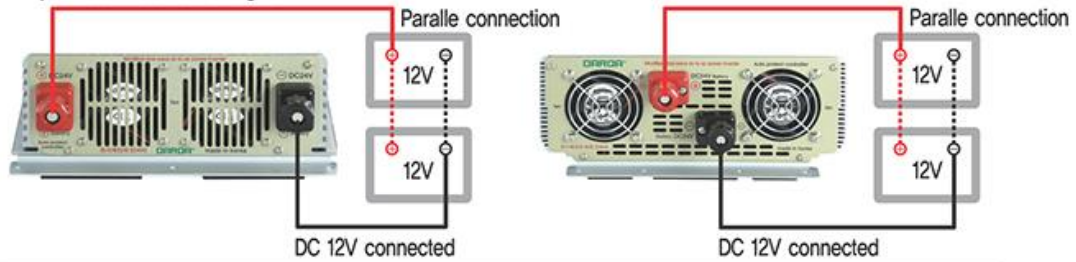
Optional specifications ◆ Input DC70V~DC120V ◆ Output AC100V~120V

※ Based on the models, the use might be different from the device.

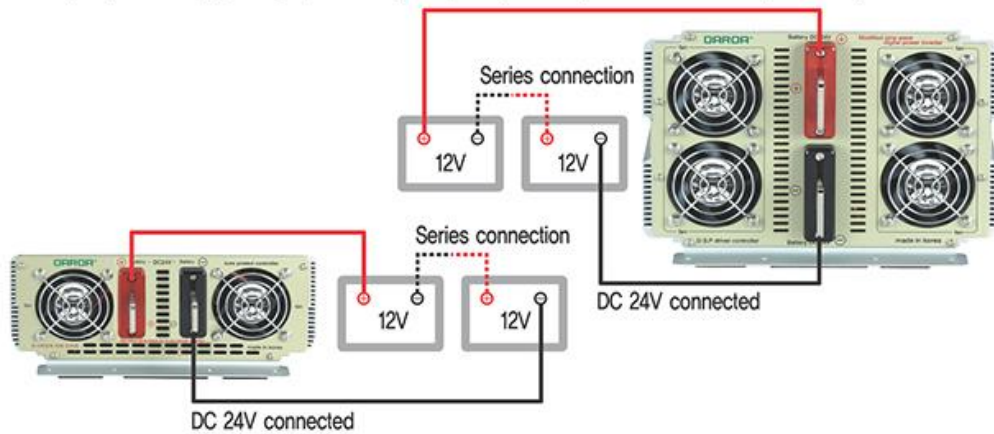
① Specification of the product may change without notification for the improvement of performance. ②

■ Input(Battery) / Equipment(Output power) Connection (DC12V)

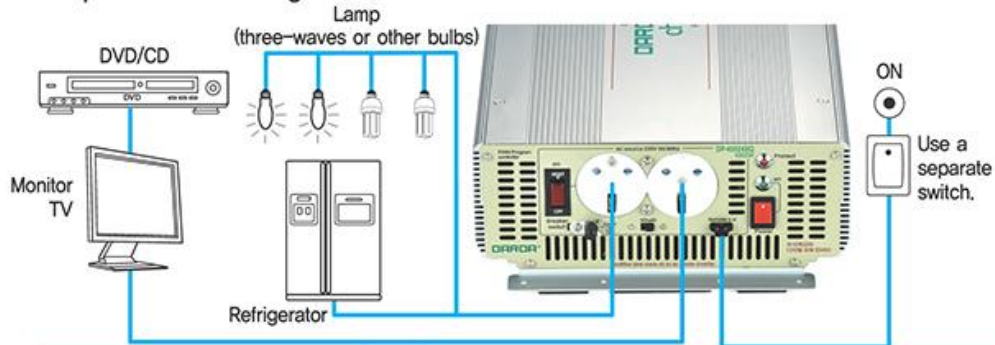
● Input connection diagram



■ Input(Battery) / Equipment(Output power) Connection (DC24V)



● Output connection diagram



**Caution**

Avoid installing this inverter in a sealed area, or an area with poor ventilation /excessive heat

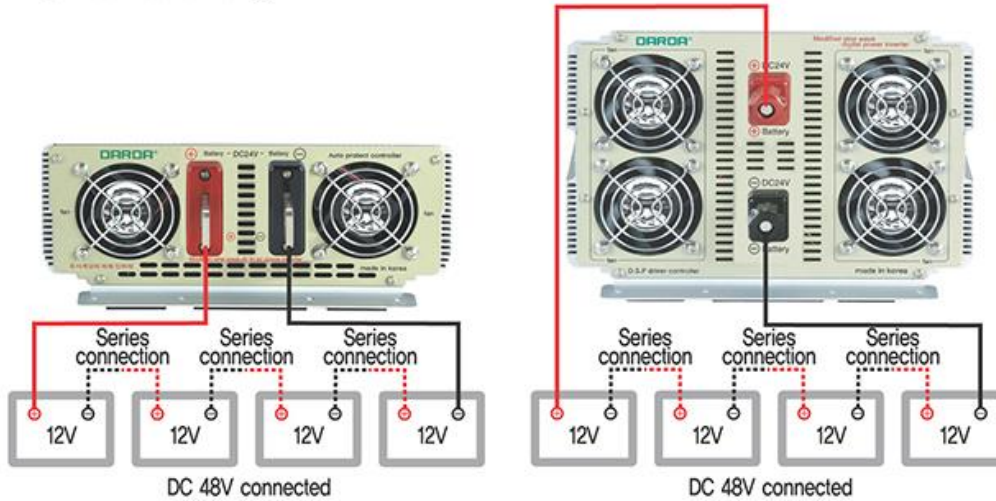


**Warning**

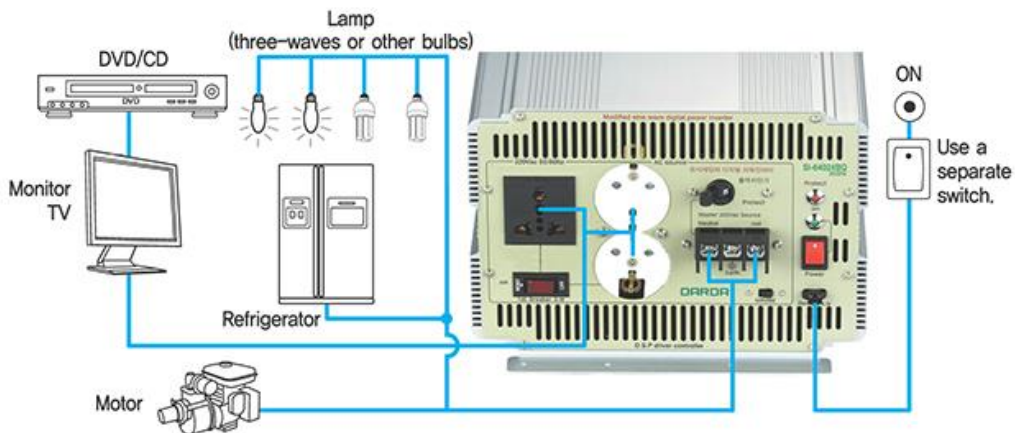
This product contains battery connections and sparks can easily occur. To prevent fire or other accidents, do not install this inverter in a small or partitioned area with flammable materials. Wet or moist environments are fatal to this inverter. Special care shall be taken, **keep inverter out of direct sunlight.**

■ Input(Battery) / Equipment(Output power) Connection (DC48V)

● Input connection diagram



● Output connection diagram

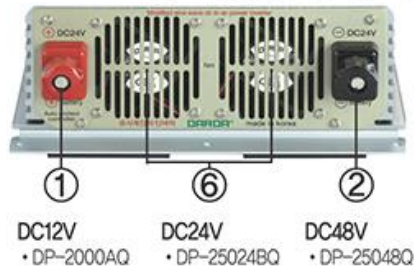
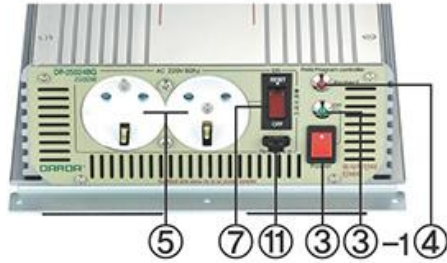


**Caution**  
 Avoid installing this inverter in a sealed area, or an area with poor ventilation /excessive heat

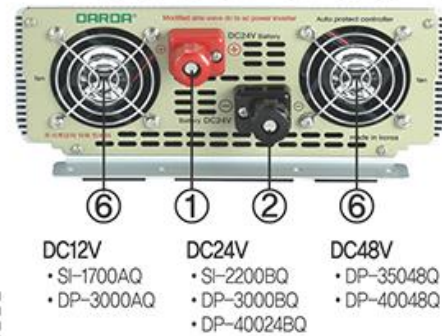
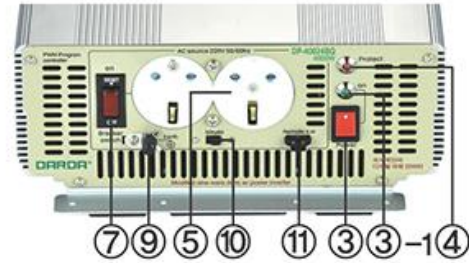
**Warning**  
 This product contains battery connections and sparks can easily occur. To prevent fire or other accidents, do not install this inverter in a small or partitioned area with flammable materials. Wet or moist environments are fatal to this inverter. Special care shall be taken, keep inverter out of direct sunlight.



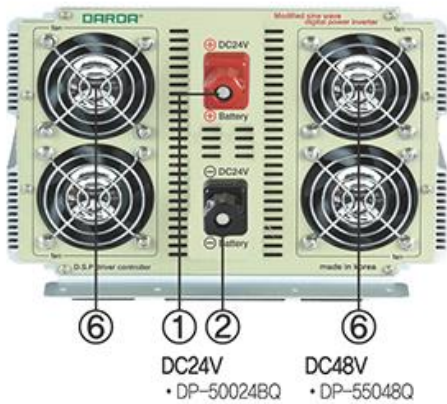
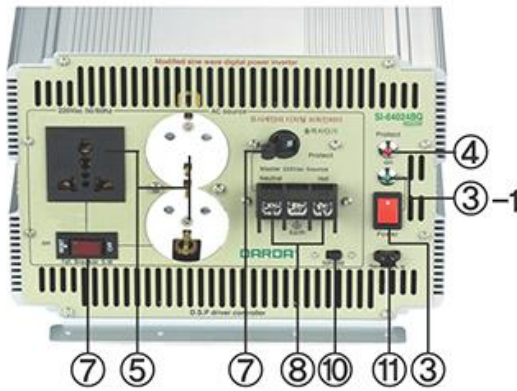
■ Function code



DC12V • DP-2000AQ    DC24V • DP-25024BQ    DC48V • DP-25048Q



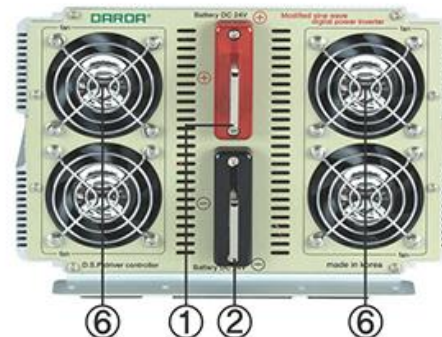
DC12V • SI-1700AQ • DP-3000AQ    DC24V • SI-2200BQ • DP-3000BQ • DP-40024BQ    DC48V • DP-35048Q • DP-40048Q



DC24V • DP-50024BQ    DC48V • DP-55048Q



DC12V • SI-22012AQ • SI-2700AQ    DC24V • SI-32024BQ



DC12V • DP-44012AQ • DP-6000AQ • SI-5400AQ    DC24V • DP-6000BQ • SI-64024BQ • DP-95024BQ    DC48V • DP-70048Q • SI-85048Q • DP-95048Q

## Use the function description

**1. DC input power ⊕ red terminal 12V/24V/48V**

12V/24V/48V DC input power ⊕ terminal. Connect the included red cable (2.7m) to the terminal. Refer to the connection diagrams in the attached paper and according to order, connect the cables. Check ⊕ red polarity and secure connection. This terminal should be clamped tightly to work without failure because this terminal generate high current and overheat.

※Even slight loosening between bolts and nuts in the terminal and the cable will generate heat and make a play, which leads to failure of the product or dramatically drains battery life..

**1-1. Input power fuse inside the product**

An internal input fuse is located at ⊕ red wiring. It is for the safety reasons. Be careful when changing shorted fuses.

※As for the single layer model, open the upper cover you can change inside fuse.

※As for the double layer model, loosen the screw from both panels and lift the upper panel lightly, and you can change a fuse.

※When you need to change fuses, consult an expert.

**2. DC input power ⊖ black terminal 12V/24V/48V**

12V/24V/48V DC input power ⊖ connection terminal. Connect the included black cable (2.7M) to the terminal. Refer to the connection diagrams in the attached paper and according to order, connect the cables. Check ⊕ red polarity and secure connection. This terminal should be clamped securely to work without failure because this connection terminal generate high current and overheat

※Even slightly loosening between bolts and nuts in the terminal and the cable will generate heat and make a play, which leads to failure of the product or dramatically drains battery life.

**3. Power switch**

In the control circuit, DC input and AC output switches start simultaneously. The Power Switch turns the product on/off. Switch off when not in use.

※This switch is the only power switch on the inverter.

**3-1. Power LED**

This LED always light up when the power switch is on or this inverter is in operation.

**4. Warning LED**

Overheating or exceeding maximum capacity will shut down the product to protect and operation will be restored when the state is stabled and normalized. Before the shutdown, buzz noise will warn you. When you hear the sound, turn off the power switch, and then 3 or 4 minute later, turn on the switch back. If the product works properly, it is in normal condition. If the product sounds alarm, sent the product to our company's warranty service center to check.

※Functions of warning lamp (red LED)

- |                                 |                       |
|---------------------------------|-----------------------|
| A. Low battery                  | D. Over load LED      |
| B. High battery                 | E. Surge protection   |
| C. Over temperature protection) | F. Output short light |

As for the warning LED operation to stop each function, refer to cautions on the page 15.



### 5. 220V 60hz/50hz power outlet

It is 220V AC power outlet. It can be connected to devices needed 16A to 20A (according to models), and 4500W or less. [Universal socket](#) is only available for over-5KW model.

※Universal socket: both American flat pin (ac 110v) and European 2 rounds can be used. Korean one can be used, but unearthed.

※Capacity (current) on the product greater than the indicated one will deform the outlet.

### 6. Automatic fan operation

When the internal temperature increases (40 to 48°C), ventilation automatically starts until cooling down to under 40°C. The direction of ventilation could be different according to model.

※Over-4kw models have the fan on the inside.

### 7. Output protection switch (circuit breaker switch)

Dramatic change and overload on output power outlet or terminal make the circuit breaker cause shutdown. When you turn the switch on under normal condition of input power, the output is turned off again. Check if it is overpower or failure.

※Over-5kw models have main and outlet circuit breakers and below-4,5kw models have only outlet circuit breaker.

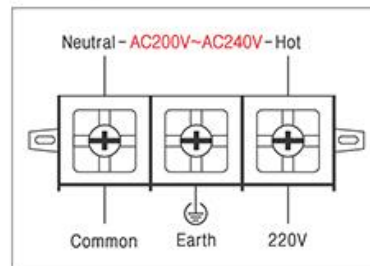
### 8. Output power terminal (only available for over-5kw models)

Over-5kw models have this output power terminal. The outlet use around 4kw output. Devices using over 4kw such as a welder or a motor compressor should not use this terminal (3pin). Consult an expert for wiring.

※For the connection to this terminal (3pin), refer to the figure on the left.

※Neutral and common terminals share the same line on AC in the circuit.

※Caution : Don't connect to the earth terminal.



### 9. Ground terminal

The whole case is grounded. This can be used to ground other devices or equipment.

※3p terminal earth is the same with the ground terminal. You can use either of them.

### 10. Output frequency (60Hz ↔50Hz) select switch

※To change frequency, tune the switch to the frequency you want and turn it off. Wait until the power lamp light is completely out. Turn on the power. The product will work at the desired frequency.

※Adjust 60Hz/50Hz switch (domestic products is setting to 60 Hz as default value)

### 11. Auxiliary power switch outlet (remote power switch connector)

If you want to turn the power switch on/off more than 1m to 2m away from the product, or if you have difficulty in using the switch in the spot where the product was installed, use the included wiring to connect another power switch. The auxiliary power switch can be used only when the power of the product is turned off.



### Check below items before repair report

Problems	Possible causes and check points	Solution
1. Low output voltage ; red LED lit	The device connected to the inverter uses exceeding capacity of the output and causes overload. (Check if it is overload)	<ul style="list-style-type: none"> <li>• Stop the device connected to the inverter.</li> <li>• To check the capacity of the inverter and use less than the capacity</li> </ul>
2. No output voltage even when connected to small power devices	<ul style="list-style-type: none"> <li>To check charging status</li> <li>To check battery life span</li> <li>To check the cable</li> </ul>	<ul style="list-style-type: none"> <li>• To check battery charging</li> <li>• To check the cable gauge</li> </ul>
3. Red LED lit and overload buzzer	<ul style="list-style-type: none"> <li>To check the device connected to the inverter output.</li> <li>To check consumption power of the device.</li> </ul>	<ul style="list-style-type: none"> <li>• To check the quality of the device connected to the inverter.</li> <li>• Motors or freezers should be operated within 50% of the maximum power marked on this inverter</li> </ul>
4. Input fuse open and circuit breaker shut down and sensor shutdown	<ul style="list-style-type: none"> <li>To check wiring</li> <li>To check the device connected to the inverter</li> </ul>	<ul style="list-style-type: none"> <li>• To check polarity of input wire.</li> <li>• To check the power input of the device connected to the inverter</li> </ul>
5. High output voltage dramatically increases output	To check if the battery is 12v or 24v	<ul style="list-style-type: none"> <li>• Use DVM to check battery voltage.</li> </ul>

### General problem

Noise from audio systems: general audio system or related equipment can generate noise signals when the inverter is in operation. It is caused by current at the device interference with the one through the inverter.

TV interference : operation of the power inverter can interfere with television reception on some channels.

- Audio equipment, TV, RF transmitter, should be installed 1.5m away from the inverter.
- Check your system is grounded well at the inverter ground terminal.

### Cautions

- The power level of electric appliances consumed big-watt on the short periods of time like freezer, air-conditioner, electric motor and drill should be between 40 and 50% of maximum power output of inverters to operate properly. check the power requirement of the device and the inverter.
- Especially, the rated capacity of motor should not be consider that of the inverter alike. It will cause failure due to the limited surge capacity of the product
- Use high-quality three-wavelength lamp due to its frequent failure without clear reason.
- Heating appliances like coffee makers, electric heaters, rice cookers can be used at the 80% of maximum capacity of this inverter and at the 70% constant use is possible. These product generate a lot of heat, you should pay attention. If ventilation is insufficient, it will shut down.
- Audio and video devices should be used within the rated power (watt). Exceeding the rated power will temporarily stop the inverter. Safety use is between 80% of indicated power.

## **Warranty**

- This product is compensated according to the Compensation Criteria for Consumers' Damages.
- This product is manufactured based on a strict quality control and inspection process. Any trouble arising from the normal use be repaired free of charge during the warranty period in our A/S center, agencies and distributors, or other service centers.
- **The warranty period is extended to two years in normal year.**
- In the following cases, even within the warranty period, the service fee may be charged:
  - any breakdown which occurs due to remodeling or mishandling failure;
  - any breakdown which occurs due to fire or flood damage;
  - when there is no warranty
- The retention period of repair parts for this product is five (5) years.

Product Name	Digital modified sine wave inverter	Warranty Period	
Model Name		2 Year	
Serial No.			
Date of purchase	Year	Month	Day
Customer	Address		
	Name		
	Phone		

Dealer	Firm Name		
	Address		
	Celluler phone & phone		

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