GENERAL CATALOG

DISOLA POWER® / DISOLA PACK® / DISOLA Cloud®

Solar Inverter

DISOLA®

DAIHEN

http://www.daihen.co.jp

DAIHEN

Solar inverter **DISOLA®** SERIES

DISOLA POWER® SERIES

P1~P13

500MV-HEX/500HV-HEX/
500HV1-HEX

500kW
Salinity tolerance
Outdoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

250T-HEX

※The photograph is the one under development.

250kW
Salinity tolerance
Outdoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

500MV

500kW
Indoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

333MV/250MV

333kW
250kW
Indoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

250T/250L

250kW
Indoor
Remote Output Control Supported

100

100kW
Indoor

DISOLA PACK® シリーズ

P14~P17

EXTRA-HIGH DISOLA PACK NEO

500kW/1000kW
Salinity tolerance
Outdoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

DISOLA PACK NEO

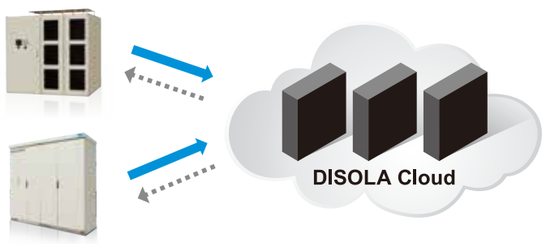
500kW/1000kW/
1500kW/2000kW
Salinity tolerance
Outdoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

DISOLA PACK

500~2000kW
Salinity tolerance
Outdoor
FRT Requirements Supported (JEAC9701-2012)
Remote Output Control Supported

DISOLA Cloud®

P18~P19



Remote control service
Preventive maintenance service

Solar inverter of DAIHEN Information on a maintenance plan

P20~P21

Solar inverter

DISOLA POWER®

SERIES

“Air-conditioner-Free” Solar inverter

DISOLA POWER®

500MV-HEX/500HV-HEX/500HV1-HEX

P500JHL2-B01/P500JHL2-A01/P500JJL2-B01

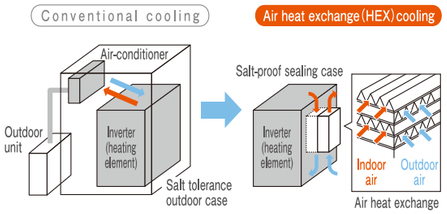
500kW | Salinity tolerance | Outdoor | FRT Requirements Supported (JEAC9701-2012) | Remote Output Control Supported

In the year 2015 Energy Conservation Award (Product-Business model category)

Features

- 98.8% of conversion efficiency of the industry highest is realized. (P500JHL2-A01)
- Accepts various systems by 3 different models of operation direct-current voltage range.
- An air heat exchange (HEX) cooling method is adopted.
  Large energy saving is realized as compared with the conventional air-conditioner system.
  (Energy Conservation grand-prix [Energy Conservation Center chairman prize] award in the year 2015)
- Replacement parts were minimized
  ·Longer life parts were adopted to a main circuit.
  ·A protection against dust filter became unnecessary by sealing up structure.
- Adoption of the sealing case made from stainless steel excellent in weather resistance enabled to install in salt damage area.

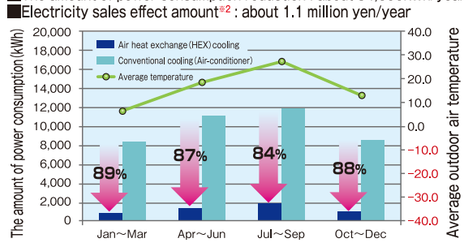
Comparison of cooling systems



Energy saving (power consumption)

About 87% of power consumption/year reduction※1!

■The amount of power consumption reduction : about 34,600kWh/year
■Electricity sales effect amount※2 : about 1.1 million yen/year



※1 Data based on our trial calculation
※2 Based on the fixed purchase price system of the renewable energy of the Ministry of Economy, Trade and Industry establishment, it was calculated at purchase prices of 32 yen/kWh of the sunlight (not less than 10 kW) for non-residences in 2014 fiscal year.

◆ Trial calculation conditions
·Installation location : Tokyo annual average temperature (the 2012 Meteorological Agency public data)
·Inverter output : 500kW
·Inverter efficiency : 96%
·Conventional cooling (air-conditioner) : Air-conditioner freezing capacity 12.5kW×2 units, COP2.5
·Air heat exchange (HEX) cooling : 190W/K×4 units

Maintainability

Conventional cooling (air-conditioner)	Air heat exchange (HEX) cooling
·Parts exchange every several years ·Several times of air-conditioner exchange and construction are needed in a fixed price purchase period (20 years).	·Only an exchange of a fan and peripheral components (substrate, etc.) are needed in the 10th year.

Air heat exchange (HEX) cooling

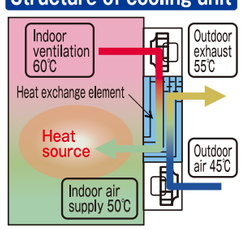
Features of HEX

① **Energy saving as there is no compressor.**
As a compressor is not used, it is highly efficient. Since it is cooled with a sensible heat exchange element, energy-saving operation is possible.

② **Energy saving by DC fan motor loading.**
It is efficient and energy can be saved by DC fan motor loading of low power consumption.

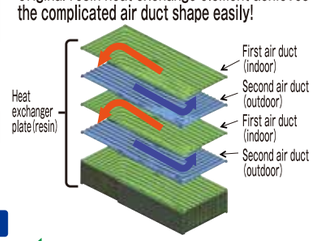
③ **Energy saving by automatic operation of sensor control.**
A temperature sensor detects outdoor and indoor temperature, and energy saving operation suitable for temperature is possible.

Structure of cooling unit



Heat exchange element

Original resin heat exchange element achieves the complicated air duct shape easily!

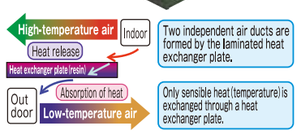


Energy saving

Energy saving operation by highly efficient sensible heat exchange element

High reliability

Invasion of dust, humidity and damage from salt prevention airtight performance are secured without introducing outdoor air.

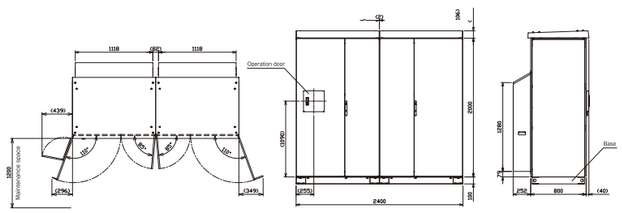


Standard specification

Type		P500JHL2-A01	P500JHL2-B01	P500JJL2-B01
D.C.Input	Rated input voltage	DC500V	DC500V	DC600V
	Operating voltage range	DC460~850V	DC430~850V	DC530~1,000V
A.C.Output	Number of phase	Three-phase three-wire type		
	Rated output capacity	500kW		
	Rated output voltage	AC300V (utility interactive operation range within +5%/w -10%)	AC290V (utility interactive operation range within +5%/-10%)	AC360V (utility interactive operation range within +5%/-10%)
	Rated output current	AC962A	AC995A	AC802A
	Rated frequency	50/60Hz (utility interactive operation range±1.5Hz)	50/60Hz (utility interactive operation range±1.5Hz)	50/60Hz (utility interactive operation range ±1.5Hz)
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)		
	Maximum conversion efficiency (※1) / Euro efficiency (※2)	98.8% (Excluding auxiliary equipment loss) / 98.3% (Excluding auxiliary equipment loss)	98.3% (Excluding auxiliary equipment loss) / 98.1% (Excluding auxiliary equipment loss)	98.6% (Excluding auxiliary equipment loss) / 98.5% (Excluding auxiliary equipment loss)
	Rated conversion efficiency (※3) / Euro efficiency	97.7%／96.7%	97.7%／96.7%	97.5%／97.1%
Structure	Cooling type method	Air heat exchange method		
	Exterior	Stainless (SUS304)		
	Protection level	IP55 (IEC60529:2013 and JIS C0920:2003)		
	Dimensions (W×D×H)	2,400×1,092×2,206mm		
	Approximate mass	1,950kg		
	Insulation system	Transformer-less type (An insulating transformer for exclusive use is required outside.)		
Usage environment	Ambient temperature	-20~45℃		
	Ambient humidity	15~95% (But, no condensation)		
	Altitude	1,000 or less		
	Service space	Outdoor (However, do not exist things such as inflammable and corrosive liquid, a solid, gas, etc.)		
	Salt damage	Based on the salt damage test standard-proof of the air conditioning equipment (JRA9002-1991)		
	Snow accumulation	Ceiling part snow 1.3m or less (there should be no snow accumulation around a case)		
Isolated operation detection	Passive method	Frequency rate of change detection		
	Active method	Frequency shift method		
Noise (at the rated output)		78dB or less (position 1 m away from the center of the back) [reference value]		
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)		
External communication system		Ethernet		
Others	FRT requirements	FRT requirements based on interconnection rule (JEAC9701-2012) are applied.		
	Remote output control function	Supported depending on micro server (※4)		
	Recording function	Yes (※5)		

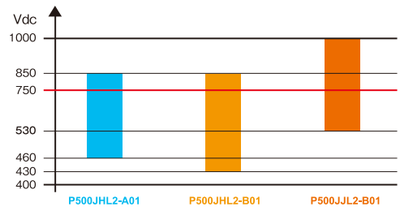
※1 Reference value. Including tolerance based on JEC2410. ※2. Partial load efficiency. The total numerical value which weighted to each load factor.
※3.Including tolerance based on JEC 2410. ※4 Standard installation. We take measures to the software after decision about specifications of electric power company.
※5 The system state and apparatus state of a time zone before and after detecting failure are saved in the inside of a inverter. (The manufacturer exclusive function)

Outline drawing

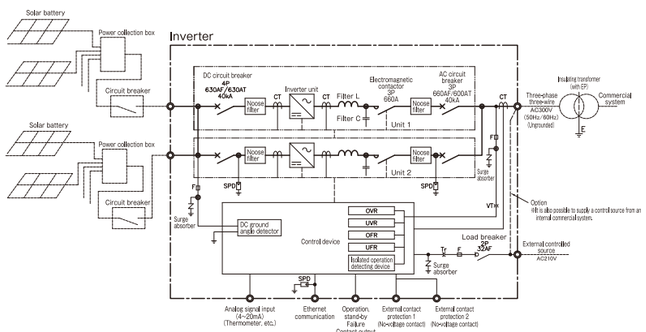


Operating-range comparison

Direct current voltage

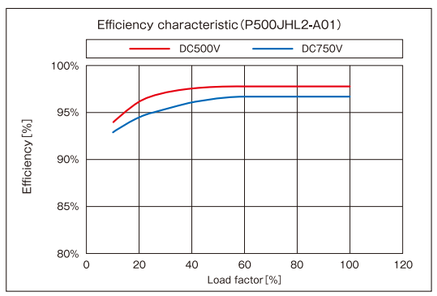


Single-line diagram (P500JHL2-A01)



Efficiency characteristic diagram (P500JHL2-A01, including auxiliary equipment loss)

Load factor [%]	Output power [kW]	Efficiency [%]	
		DC500V	DC750V
100	500	97.9%	97.1%
75	375	97.8%	97.1%
50	250	97.6%	96.8%
25	125	96.5%	95.2%
12.5	62.5	94.0%	92.9%



※This efficiency value is a reference value and is not a guaranteed value. And, there will be possibility of change from now on.

“Air-conditioner-Free” Solar inverter

DISOLA POWER®

250T-HEX P250JDT2-A01

NEW

250kW

Salinity tolerance

Outdoor

FRT Requirements Supported (JEAC9701-2012)

Remote Output Control Supported

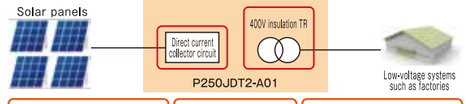
Features

- ☐ Since an insulated transformer and direct-current collection electrical machinery function are built-in the main part of inverter, interconnection with the low-voltage system (400V system) of the premises of a customer and connection with a solar panel are easy.
- ☐ Two or more sets of power conditioners to one booster transformer. Parallel operation is possible.
- ☐ Minimization of the inverter by an air heat exchange (HEX) cooling system Furthermore, running cost is reduced largely by the minimization of maintenance replacement parts.

Interconnection with a low-pressure system

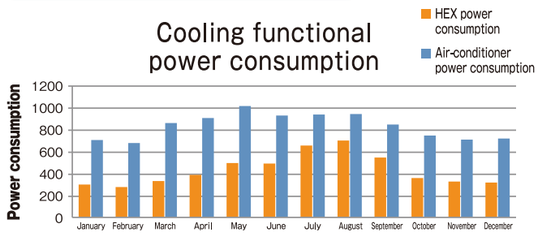
Interconnection with a premise low voltage system by a general inverter.

Interconnection with a premise low voltage system by a 250kW “air-conditioner-Free.”



Special equipment arrangements are unnecessary | Space-saving | System construction is easy

Power consumption comparison



Cooling	Annual power consumption	Power consumption charges for 20 years [*0000 Yen]
HEX	5,300	340
Air-conditioner	10,100	650

Power consumption is reduced sharply by air heat exchange (HEX) cooling method!※

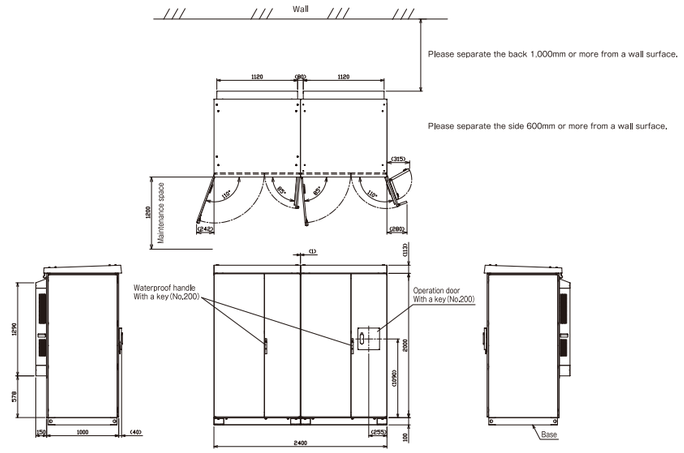
※Purchase price is 32 yen, the test calculation of the 500kW system by sunlight data of our possession. That doesn't guarantee the selling amount of the customer.

Standard specification

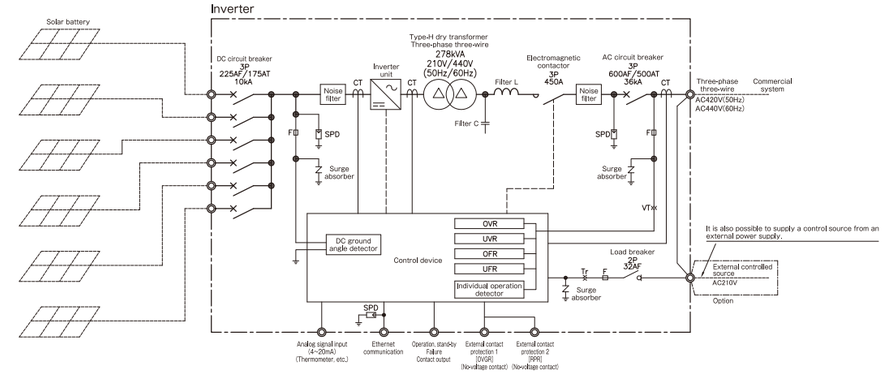
Type		P250JDT2-A01 (※1)
DC input	Operating voltage range	DC320~750V
AC output	Number of phase	Three-phase three-wire type
	Rated output capacity	250kW
	Rated output voltage	AC420V [50Hz] ／AC440V [60Hz] (utility interactive operation range within ±10%)
	Rated output current	AC344A [50Hz] ／AC328A [60Hz]
	Rated frequency	50/60Hz (utility interactive operation range within ±1.5Hz)
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)
	Maximum conversion efficiency (※2)	96.6% (Excluding auxiliary equipment loss)
	Rated conversion efficiency (※2)	95.3% (Excluding auxiliary equipment loss)
Structure	Cooling type	Air heat exchange method
	Exterior	Stainless (SUS304)
	Protection level	IP55 (IEC60529:2013 and JIS C0920:2003)
	Dimensions (W×D×H)	2,400×1,190×2,210mm
	Approximate mass	2,800kg
	Insulation system	Utility frequency link type
Usage environment	Ambient temperature	-20~45℃
	Ambient humidity	15~95% (But, no condensation)
	Altitude	1,000m or less
	Service space	Outdoor (However, do not exist things such as inflammable and corrosive liquid, a solid, gas, etc.)
	Salt damage	Based on the salt damage test standard-proof of the air conditioning equipment (JRA9002-1991)
	Snow accumulation	Ceiling part snow 1.3m or less (there should be no snow accumulation around a case)
Isolated operation	Passive method	Frequency rate of change detection method
	Active method	Frequency shift method
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)
External communication		Ethernet
Others	FRT requirements	FRT requirements based on interconnection rule (JEAC9701-2012) are applied.
	Remote output control function	Supported depending on micro server (※3)
	Recording function	Yes (※4)
	Current collecting function	6 circuits

※1 Since it is a product under development, specification is subject to change without a preliminary announcement. ※2 The degree of tolerance based on JEC 2410 is included.
※3 Standard installation. We take measures to the software after decision about specifications of electric power company.
※4 The system state and the apparatus state of a time zone before and after detecting the failure are saved in the inside of a inverter. (The function only for a maker)

Outline drawing



Single-line diagram



“Air-conditioner-Free” Solar inverter

DISOLA POWER®

500MV P500JFL1-A02

500kW

Indoor

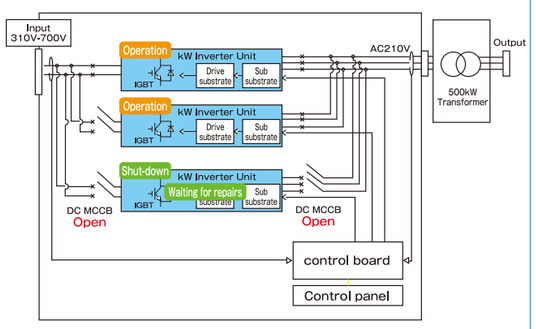
FRT Requirements Supported (JEAC9701-2012)

Remote Output Control Supported

Features

- ☐ As a middle solar electric generation, 98.4% of conversion efficiency of industry top class was realized.
- ☐ The power generation loss is reduced with the original converter plural unit configurations.
- ☐ The industry's first recorder function is equipped with. System states are always monitored.

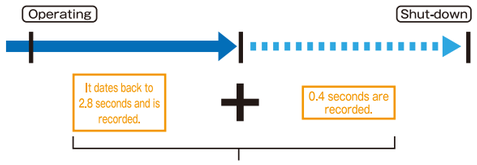
Unit separation operation is possible.



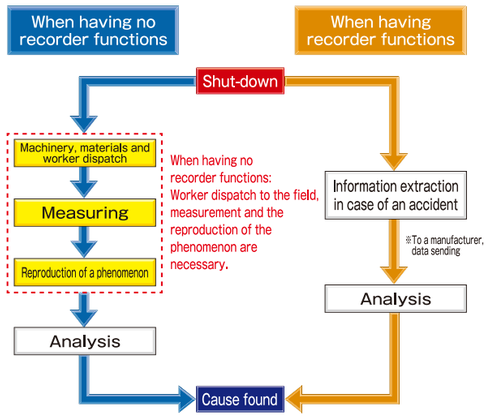
Operation of a unit in good condition is possible!
Risk reduction of the generation chance loss by failure.

The recording function is equipped with.

Fault detection



Data for 3.2 seconds is saved inside the inverter.



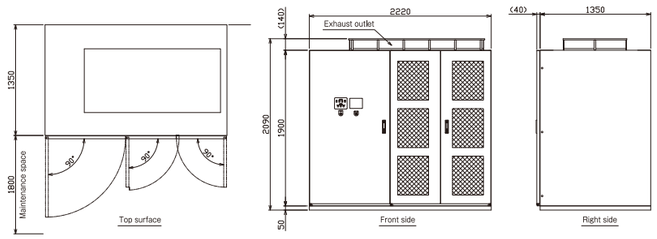
Substantial time reduction of a failure elucidation by a recorder function

Standard specification

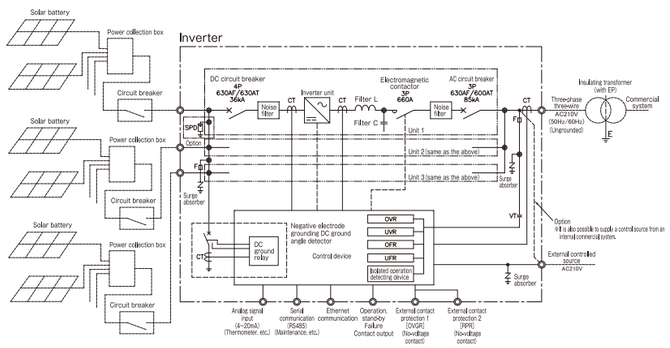
Type		P500JFL1-A02
DC input	Rated input voltage	DC350V
	Operating possible voltage range	DC310~700V (at the time of negative electrode grounding : DC310V~600V)
AC output	Number of phase	Three-phase three-wire type
	Rated output capacity	500kW
	Rated output voltage	AC210V (utility interactive operation range within+5%/-10%)
	Rated output current	AC1,375A
	Rated frequency	50/60Hz (utility interactive operation range within ±1%)
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)
	Maximum conversion efficiency(※1)/Euro efficiency (※2)	98.4% (Excluding auxiliary equipment loss)／98.0% (Excluding auxiliary equipment loss)
	Rated conversion efficiency(※3)/Euro efficiency	97.5%／97.2%
Structure	Cooling method	Forced cooling
	Dimension (W×D×H)	2,220×1,390×2,090mm
	Approximate mass	2,000kg
	Insulation system	Transformer-less type (An insulating transformer for exclusive use is required outside.)
Usage environment	Ambient temperature	-10~45℃
	Ambient humidity	30~90% (But, no condensation)
	Altitude	1,000m or less
	Service space	Indoor (In the case of outdoor installation, an exclusive storage board of an option is required.)
Isolated operation	Passive method	Frequency rate of change detection method
	Active method	Frequency shift method
Noise (at rated output)		76dB or less (about 1m away from the center of the front) [reference value]
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)
External communication		Ethernet
Others	FRT requirements	FRT requirements based on interconnection rule (JEAC9701-2012) are applied.
	Remote output control function	Supported by micro server(※4)
	Recording function	Yes(※5)

※1 Reference value. Including tolerance based on JEC 2410. ※2 Partial load efficiency. The total numerical value which weighted to each load factor. ※3 Including tolerance based on JEC 2410. ※4 Standard installation from the second half year production of 2015. We take measures to the software after decision about specifications of electric power company.
※5 The system state and apparatus state of a time zone before and after detecting failure are saved in the inside of a inverter. (The manufacturer exclusive function)

Outline drawing

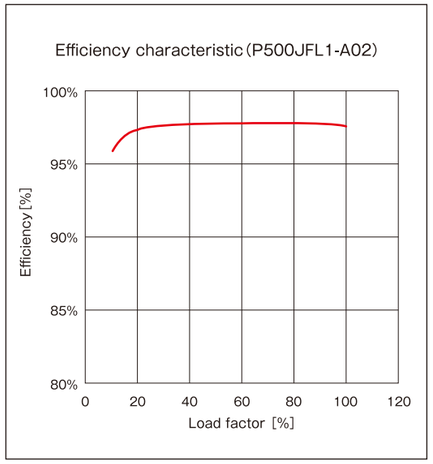


Single-line diagram



Efficiency characteristic diagram (including auxiliary equipment loss)

Load factor [%]	Output power [kW]	Efficiency [%]
		DC350V
100	500	97.6%
75	375	97.8%
50	250	97.7%
25	125	97.3%
12.5	62.5	95.9%



※This efficiency value is a reference value and is not a guaranteed value. And, there will be possibility of change from now on.

Solar inverter

DISOLA POWER®

333MV P333JFL1-A01

333kW

Indoor

FRT Requirements Supported (JEAC9701-2012)

Remote Output Control Supported

Features

- ☐ As a middle solar electric generation, 98.4% of conversion efficiency of industry top class was realized.
- ☐ The opportunity loss of power generation decreases by original converters of two or more unit configurations.
- ☐ The first recorder function in the industry is equipped with and the system state is always monitored.

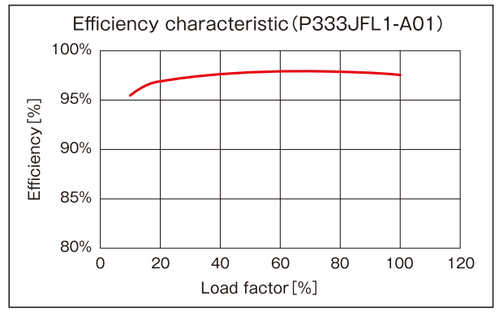
Standard specification

Type		P333JFL1-A01
DC input	Rated input voltage	DC350V
	Operating possible voltage range	DC310~700V (At negative electrode grounding DC310V~600V)
AC output	Number of phase	Three-phase three-wire type
	Rated output capacity	333kW
	Rated output voltage	AC210V (utility interactive operation range within +5%/-10%)
	Rated output current	AC916A
	Rated frequency	50/60Hz (utility interactive operation range within±1%)
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)
	Maximum conversion efficiency(※1)／Euro Efficiency(※2)	98.4% (Excluding auxiliary equipment loss)／98.1% (Excluding auxiliary equipment loss)
	Rated conversion efficiency(※3)／Euro Efficiency	97.3%／97.1%
Structure	Cooling type	Forced air cooling method
	Dimensions (W×D×H)	1,720×1,390×2,090mm
	Approximate mass	1,500kg
	Insulation system	Transformer-less type (An insulating transformer for exclusive use is required outside.)
Usage environment	Ambient temperature	-10~45℃
	Ambient humidity	30~90% (But, no condensation)
	Altitude	1,000m or less
	Service space	Indoor (In the case of outdoor installation, an exclusive storage board of an option is required.)
Isolated operation detection	Passive method	Frequency rate of change detection method
	Active method	Frequency shift method
Noise (at rated output)		76dB or less (about 1m away from the center of the front) [reference value]
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)
External communication		Ethernet
Others	FRT requirements	FRT requirements based on interconnection rule (JEAC9701-2012) are applied.
	Remote output control function	Supported by micro serve(※4)
	Recorder function	Yes(※5)

※1 Reference value. Including tolerance based on JEC 2410. ※2 Partial load efficiency. The total numerical value which weighted to each load factor. ※3 Including tolerance based on JEC 2410. ※4 Standard installation from the second half year production of 2015. We take measures to the software after decision about specifications of electric power company.
※5 The system state and apparatus state of a time zone before and after detecting failure are saved in the inside of a inverter. (The manufacturer exclusive function)

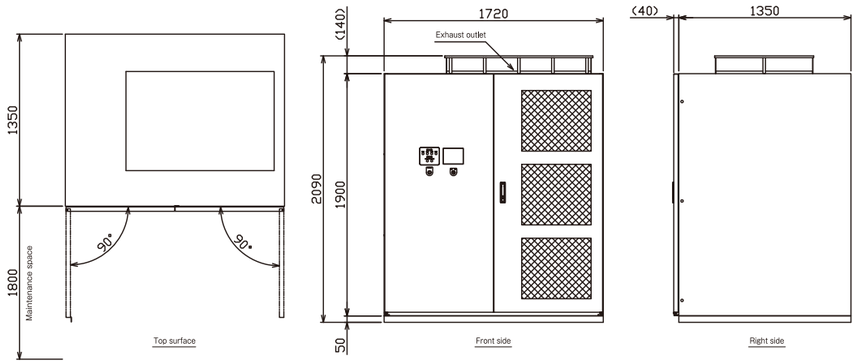
Efficiency characteristic diagram (including auxiliary equipment loss)

Load factor [%]	Efficiency [%] DC350V
100	97.4%
75	97.6%
50	97.6%
25	97.3%
12.5	96.1%

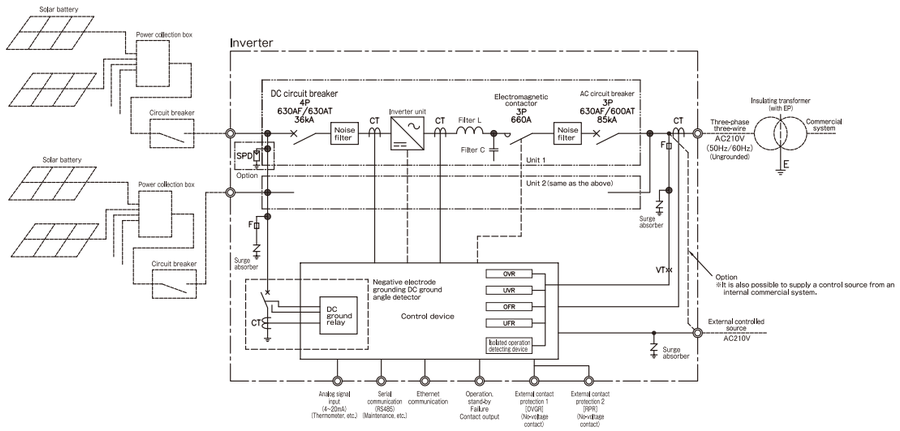


※This efficiency value is a reference value and is not a guaranteed value.
And, there will be possibility of change from now on.

Outline drawing



Single-line diagram



Solar inverter
DISOLA POWER®
250MV P250JFL1-A01

250kW

Indoor

FRT Requirements Supported (JEAC9701-2012)

Remote Output Control Supported

Features

- ☐ As a middle solar electric generation, 98.4% of conversion efficiency of industry top class was realized.
- ☐ The opportunity loss of power generation decreases by original converters of two or more unit configurations.
- ☐ The first recorder function in the industry is equipped with and the system state is always monitored.
- ☐ The rated output is also possible at the time of the low power rate, and the selling amount of power is raised substantially.

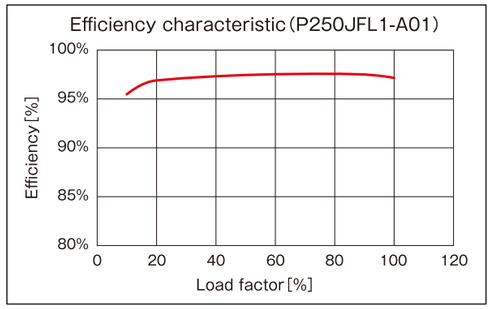
Standard specification

Type		P250JFL1-A01
DC input	Rated input voltage	DC350V
	Operating possible voltage range	DC310~700V (At negative electrode grounding DC310V~600V)
AC output	Number of phase	Three-phase three-wire type
	Rated output capacity	250kW/294kVA (Power rate 0.85, at rated voltage) [250kW/313kVA (Power rate 0.80, at rated voltage)
	Rated output voltage	AC210V (Utility interactive operation range within +5%/-10%)
	Rated output current	AC687A
	Rated frequency	50/60Hz (Utility interactive operation range within±1%)
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)
	Maximum conversion efficiency(※1) / Euro Efficiency(※2)	98.4% (Excluding auxiliary equipment loss) / 98.1% (Excluding auxiliary equipment loss)
	Rated conversion efficiency(※3) / Euro Efficiency	97.3% / 97.0%
Structure	Cooling type	Forced air cooling method
	Dimensions (W×D×H)	1,720×1,390×2,090mm
	Approximate mass	1,500kg
	Insulation system	Transformer-less type (An insulating transformer for exclusive use is required outside.)
Usage environment	Ambient temperature	-10~45℃
	Ambient humidity	30~90% (But, no condensation)
	Altitude	1,000m or less
	Service space	Indoor (In the case of outdoor installation, an exclusive storage board of an option is required.)
Isolated operation detection	Passive method	Frequency rate of change detection method
	Active method	Frequency shift method
Noise (at rated output)		76dB or less (About 1m away from the center of the front) [reference value]
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)
External communication		Ethernet
Others	FRT requirements	FRT requirements based on interconnection rule (JEAC9701-2012) are applied.
	Remote output control function	Supported by micro server(※4)
	Recorder function	Yes(※5)

※1 Reference value. Including tolerance based on JEC 2410. ※2 Partial load efficiency. The total numerical value which weighted to each load factor. ※3 Including tolerance based on JEC 2410. ※4 Standard installation from the second half year production of 2015. We take measures to the software after decision about specifications of electric power company.
※5 The system state and apparatus state of a time zone before and after detecting failure are saved in the inside of a inverter. (The manufacturer exclusive function)

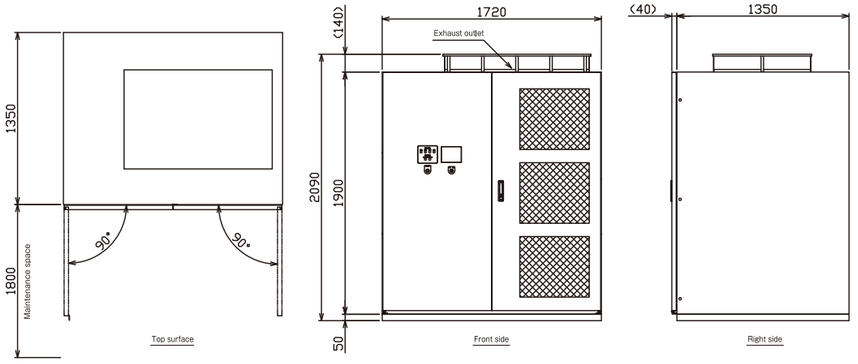
Efficiency characteristic diagram (including auxiliary equipment loss)

Load factor [%]	Efficiency [%]
	DC350V
100	97.6%
75	97.8%
50	97.6%
25	97.0%
12.5	95.4%

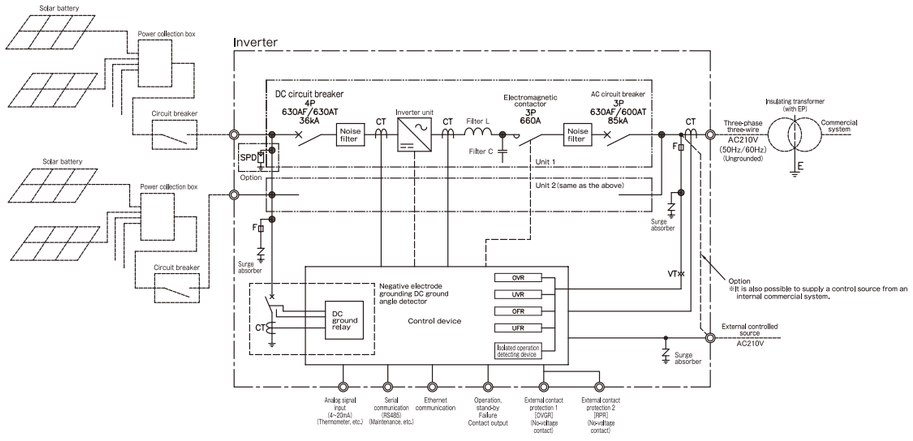


※This efficiency value is a reference value and is not a guaranteed value.
And, there will be possibility of change from now on.

Outline drawing



Single-line diagram



Solar inverter
DISOLA POWER®
250T/250L

P250JDT1-A02/P250JCL1-A01

250kW | Remote Output Control Supported | Indoor

Features

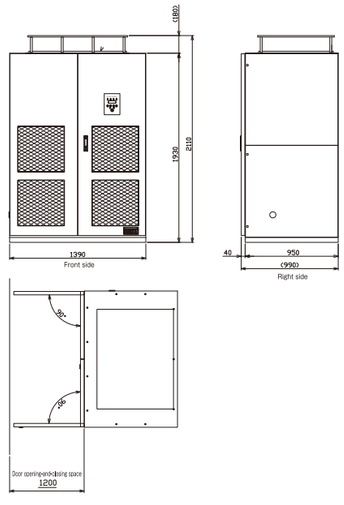
- ☐ The delivery track record of 3,000 or more cumulative shipments. It operates by1,000 sites in Japan.
- ☐ By our original circulating current control technology, a maximum of eight parallel running per one set of the interconnection transformer is possible.

Standard specification

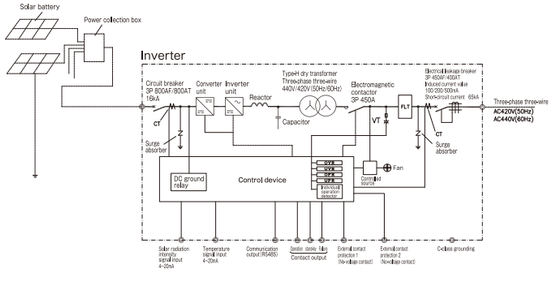
Type		P250JDT1-A02	P250JCL1-A01
DC input	Rated input voltage	DC450V	DC600V
	Operating possible voltage range	DC270~700V (At negative electrode grounding DC250V~600V)	DC150~700V (At negative electrode grounding DC150V~600V)
AC output	The number of phase	Three-phase three-wire	Three-phase three-wire
	Rated output capacity	250kW	250kW
	Rated output voltage	AC420V [50Hz] /AC440V [60Hz] (Utility interactive operation range within±10%)	AC440V (Utility interactive operation range within +10%/-15%)
	Rated output current	AC344A [50Hz] /AC328A [60Hz]	AC328A
	Rated frequency	50/60Hz (Utility interactive operation range within±1%)	50/60Hz (Utility interactive operation range within±1%)
	Power factor setting range	0.85~1.00 (0.01 step)	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)
	Maximum conversion efficiency(※1)	95.7%	97.1%
	Rated conversion efficiency(※2)	94.5%	96.0%
Structure	Cooling type	Forced air cooling method	Forced air cooling method
	Dimensions (W×D×H)	1,390×990×2,110mm	1,390×990×2,110mm
	Approximate mass	2,300kg	1,300kg
	Insulation system	Utility frequency link type	Transformer-less type (An insulating transformer for exclusive use is required outside.)
Usage environment	Ambient temperature	-10~45℃	
	Ambient humidity	30~90% (But, no condensation)	
	Altitude	1,000m or less	
	Service space	Indoor (In the case of outdoor installation, an exclusive storage board of an option is required.)	
Isolated operation detection	Passive method	Voltage phase jump detection method	
	Active method	Reactive power change system	
Noise (at rated output)		76dB or less (About 1m away from the center of the front)	
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)	
External communication		RS-485	
Others	Remote output control function	Supported by a connection device(※3)	

※1 Reference value. Including tolerance based on JIS C8961. ※2 Including tolerance based on JIS C8961.
※3 Provided by a communication manufacturer. We take measures to the software after decision about specifications of the electric power company.

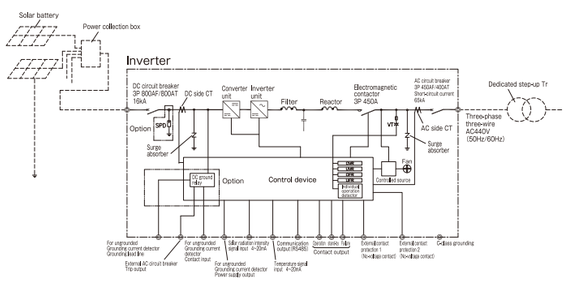
Outline drawing



Single-line diagram (P250JDT1-A02)



Single-line diagram (P250JCL1-A01)



Solar inverter
DISOLA POWER®
100 P100JAT1-A01/P100JDT1-A01

100kW | Indoor

Features

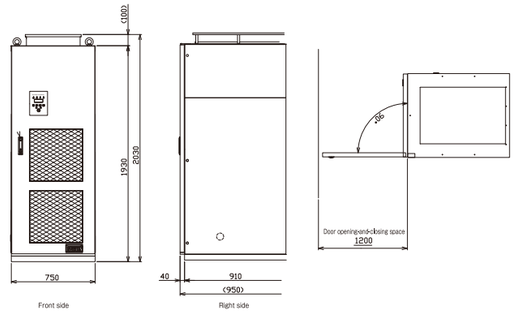
- ☐ A maximum of ten parallel running per one set of the interconnection transformer is possible.
- ☐ Parallel running is possible (P100JDT1-A01) in combination with 250kW machine (P250JDT1-A02).

Standard specification

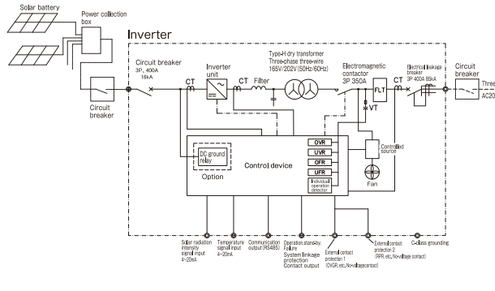
Type		P100JAT1-A01	P100JDT1-A01
DC input	Rated input voltage	DC300V	
	Operating possible voltage range	DC270~600V	
	The number of phase	Three-phase three-wire type	
AC output	Rated output capacity	100kW	
	Rated output voltage	AC202V (utility interactive operation range within ±10%)	AC420V [50Hz] /AC440V [60Hz] (utility interactive operation range Within 1 %)
	Rated output current	AC286A	AC137A [50Hz] /AC131A [60Hz]
	Rated frequency	50/60Hz (utility interactive operation range within±1%)	
	Power factor setting range	0.85~1.00 (0.01 step, change in the range of 0.80-1.00 is possible by request.)	
	Maximum conversion efficiency(※1)	95.8%	
	Rated conversion efficiency(※2)	94.5%	
Structure	Cooling type	Forced air cooling method	
	Dimensions (W×D×H)	750×950×2,030mm	
	Approximate mass	950kg	
	Insulation system	Utility frequency link type	
Usage environment	Ambient temperature	-10~45℃	
	Ambient humidity	30~90% (But, no condensation)	
	Altitude	1,000m or less	
	Service space	Indoor (In the case of outdoor installation, an exclusive storage board of an option is required.)	
Isolated operation	Passive method	Voltage phase jump detection method	
	Active method	Reactive power change system	
Noise (at rated output)		70dB or less (About 1m away from the center of the front)	
Interactive protection element		Overvoltage (OV), under-voltage (UV), frequency rise (OF) and frequency decline (UF)	
External communication		RS-485	

※1 Reference value. Including tolerance based on JIS C8961. ※2 Including tolerance based on JIS C8961.

Outline drawing



Single-line diagram (P100JAT1-A01)



Transforming equipment package for photovoltaic systems

DISOLA PACK®

SERIES

Transforming equipment package for photovoltaic systems

Extra-high DISOLA PACK NEO

500kW/1000kW | Salinity tolerance※1 | Outdoor

FRT Requirements Supported (JEAC9701-2012) | Remote Output Control Supported

Inverter with "Air conditioner-Free"
- As an air conditioner is unnecessary, the substantial running cost is reduced.
- Excellent weather-resistant stainless sealed housing is adopted.
- As long-life parts are adopted in a main circuit, replacement parts are minimized.

Extra-high switchgear panel
- Compact ring main unit adoption.
- Loop connection by T type connector is possible.
- Possible to combine LSB and VCB optionally.

Extra-high transformer
- High efficiency (98.9% or more※2) is realized.
- Sharing transformer adoption which built in the transformer for auxiliary machinery power supplies.
- The maximum output is possible at rated operation.
- The compact design which adopted the spring-on bush on the extra-high side.

※The picture shows the one of 1,000 kw system.

Features

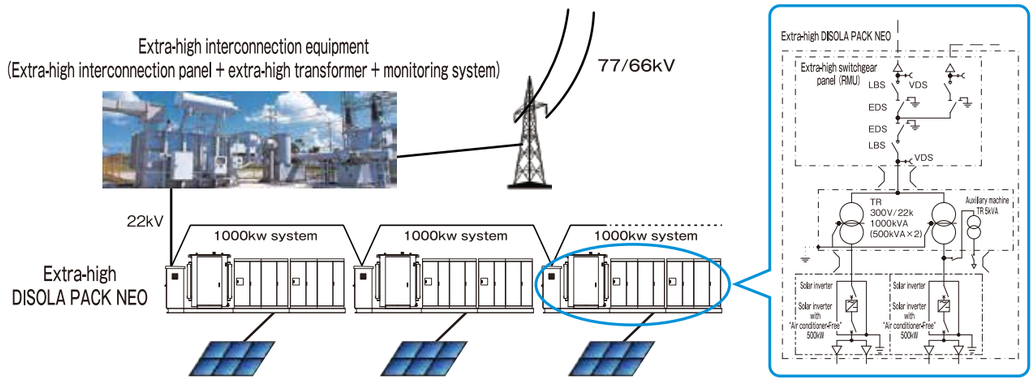
- ☐ High efficiency of industry top class is realized in system total.
- ☐ It can be installed in the shortest half day. (Installation and wiring work are simplified by exclusive space adoption.)
- ☐ The minimum space in the industry is realized. (The installation area including the maintenance space is reduced by half.※3)
- ☐ It's also relief from salt, dust and insect damage. (PCS is a salt-proof sealed housing made from stainless steel.)
- ☐ It supports remote output control as a standard (standard installation of DISOLA Cloud).

Standard specification

Product name	Extra-high DISOLA PACK NEO		
Loaded PCS type	P500JHL2-A01	P500JHL2-B01	P500JJL2-B01
Installation location	Outdoor		
Rated output voltage	22kV		
Frequency	50/60Hz		
Operating direct-current voltage range	460~850Vdc	430~850Vdc	530~1000Vdc
Solar inverter power conversion efficiency (Maximum efficiency)※4	98.8%	98.3%	98.6%
Dimensions (W)×(D)×(H)	7960×1850×2765mm (1000kW at 22kV)		
Approximate Mass	11550kg (1000kW at 22kV)		

System configuration example

Please leave a set of suggestion to us even including the extra-high system interconnection.



※1 Periodical painting maintenance becomes the condition. ※2 Rated output voltage 22kV/hour. ※3 Compared to our conventional product.
※4 Excluding auxiliary machine loss. This information is as the one of March, 2016. Some written contents are subject to change without notice.

Transforming equipment package for photovoltaic systems

DISOLA PACK NEO

500kW/1000kW/1500kW/2000kW

Salinity tolerance※1 | Outdoor | FRT Requirements Supported (JEAC9701-2012) | Remote Output Control Supported

Inverter with "Air conditioner-Free"

- ●98.8% of the highest conversion efficiency is realized. (The highest top class in the industry.)※2
- ●In an air heat exchange (HEX) system, an air-conditioner is unnecessary with its salt-proof sealing structure. (The running cost is reduced sharply)
- ●Stainless sealed housing is adopted. (Excellent in weather resistance)
- ●Longer life parts were adopted to a main circuit. (Replacement parts are minimized)

High voltage interconnection board

- ●A set of apparatus required for interconnection is loaded.
- ●It's directly connected with a transformer by a duct.

Smart Solar Transformer

- ●The conventional step-up transformer for solar power generation "SOLATRA" has become more slim shape.
- ●By the design which considered workability, construction time is shortened sharply.
- ●The oil temperature is measured and the state of a transformer can be monitored (option).

The system configuration including DC power collection box (option)

Standard specification

Product name	DISOLA PACK NEO		
Loaded PCS type	P500JHL2-A01	P500JHL2-B01	P500JJL2-B01
Rated output capacity	500kW/1000kW/1500kW/2000kW		
Installation location	Outdoor		
Rated output voltage	6.6kV		
Frequency	50/60Hz		
Operating direct-current voltage range	460~850Vdc	430~850Vdc	530~1000Vdc
Solar inverter power conversion efficiency (Maximum efficiency)※4	98.8%	98.3%	98.6%
Dimensions (W)×(D)×(H)	8780×1840×2410mm (1000kW)		
Approximate Mass	10400kg (1000kW)		

Features

- ☐ High efficiency of industry top class is realized in system total.
- ☐ Can be installed in the shortest half day. (Installation and wiring work are simplified by exclusive space adoption.)
- ☐ It's also relief from salt, dust and insect damage. (Inverter is a salt-proof sealed housing made from stainless steel.)
- ☐ Large space-saving and slimming are realized. (Compared to the conventional products※3, installation area 53% and mass 34% are reduced.)
- ☐ It supports remote output control as a standard (standard installation of DISOLA Cloud).

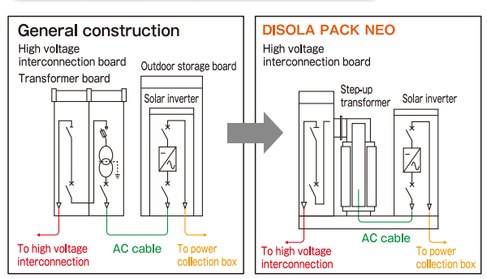
Conventional products Installation area (about 19.7m²)

DISOLA PACK NEO Installation area (about 9.3m²)

In case of 500kW

Installation area 53% reduced!

System configuration comparison



※1 Periodical painting maintenance becomes the condition. ※2 P500JHL2-A01 ※3 DISOLA PACK salt-proof specification ※4 Excluding auxiliary machine loss.

Transforming equipment package for photovoltaic systems

DISOLA PACK®

500~2000kW

Salinity tolerance※1 | Outdoor | FRT Requirements Supported (JEAC9701-2012) | Remote Output Control Supported

Solar Inverter

The 500kW solar inverter that realized 98.4% of conversion efficiency of top class in Japan is equipped with. (250kW and 330kW are also supported)

High voltage interconnection board

- ● A circuit-breaker and a breaker required for interconnection are equipped with and links directly with a transformer by a duct.
- ● Loading a monitoring instrument terminal is possible. (※Option)

Solar Transformer

- ● The step up transformer which optimally designed for photovoltaic power generation.
- ● An auxiliary machinery power supply transformer is built in and an auxiliary machinery board is omitted.
- ● Solar transformer α with an excitation rush current restrainer has also lined up.

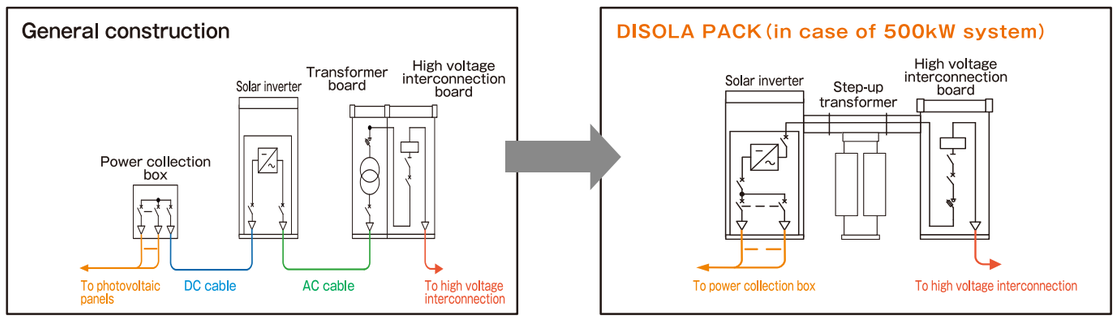
Standard specification

Product name	DISOLA PACK
Rated output	500~2000kW
Installation location	Outdoor
Dimensions (W)×(D)×(H)	9500×2900×2910mm (1000kW)
Approximate mass	17000kg (1000kW)
Insulation system	Transformer-less
Operating direct-current voltage range	DC310V~DC600V
Rated output voltage	6.6kVac
Frequency	50/60Hz
Solar inverter power conversion efficiency (Maximum efficiency)※2	98.4%

Features

- ☐ High efficiency of 95% or more is realized in system total.
- ☐ It can be installed in the shortest half day. Site installation and wiring work are the shortest 1 day.
- ☐ Installation in a salt damage area is also possible.

System configuration comparison



※1 Periodical painting maintenance becomes the condition. ※2 Excluding auxiliary machine loss.

M2M Cloud service for
solar inverter

DISOLA Cloud®

M2M Cloud service for solar inverter

DISOLA Cloud®

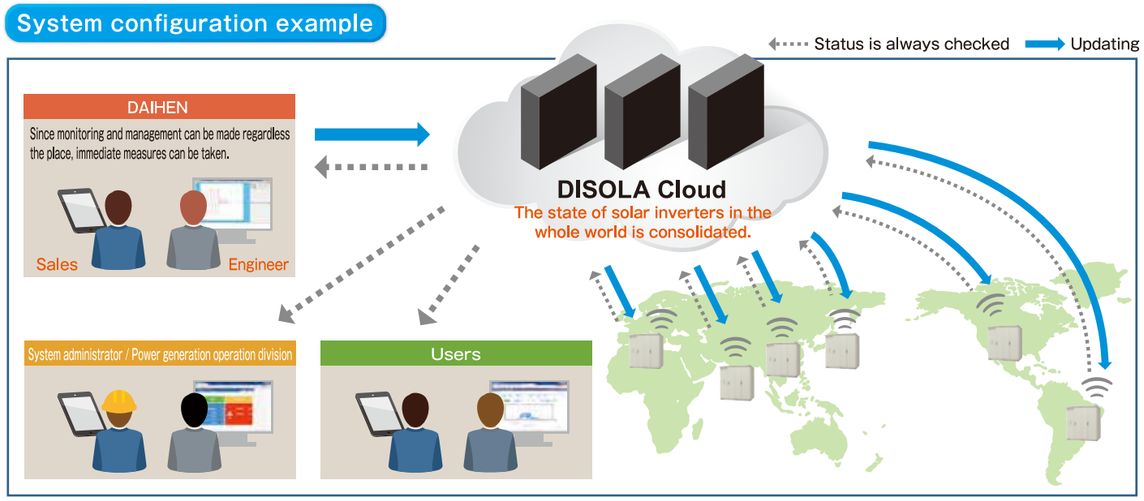
Remote Output Control Supported

The information which a solar inverter holds is shared on Cloud.
Daily maintenance work is made efficient by an operation watch, warning notice and remote control.
DISOLA POWER FRT compatible machines are loaded as a standard.

Features

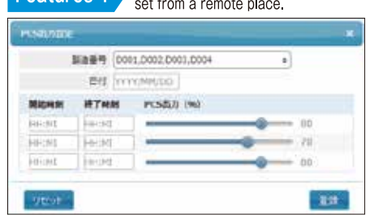
Remote control service	Remote control	From a remote place, control is performed to a solar inverter. (Power conditioning, scheduled operation, reset operation, periodical update of the firmware, etc.)
Preventive maintenance	Operation monitoring	● Operating information on solar inverter and the measurement information on a monitoring point are displayed in a graph. ● Cause investigation of "time of the what-if" is made efficient by accumulation of daily data.
	Warning notification	● When operational status exceeds the range set beforehand, e-mail notifies the situation. ● A notice of immediate e-mail of warning information. Confirmation of warning detailed contents and the log is possible.

System configuration example



画面表示例

Features 1 Output of solar inverter can be freely set from a remote place.



Features 2 It's possible to display the operating conditions of more than one items and the number of warning together.

Features 3 State of each solar inverter is displayed in the time series.

※1 A communication line will be prepared by a customer. When using a mobile terminal (option), an expense is caused separately.