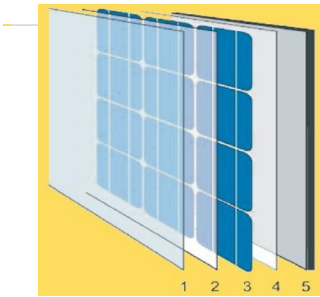


## ALM-190D-24

### Mono-Crystalline Solar Modules



RINA



#### Companies Profile

Alex solar will be Vertical Integration, from ingots, wafer, cells and modules all reach 1GW in 2011. Besides we produce our own junction box as well as frame ... We are also project developer.

#### Characteristics

- High cell efficiency to ensure stability and reliability
- High performing modules have an industry low tolerance of 3%
- High reliable schottky bypass diode minimizes power drop by shade.
- Bad weather withstand Junction BOX, Crosslink cable and low connection losses connectors
- Can withstand high wind-pressure, snow load and extreme temperature  
Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally

#### Composition

- 1、Tempered Glass
- 2、EVA
- 3、Solar Cell
- 4、EVA
- 5、Triple-layer back sheet

#### Quality and Warranty

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel

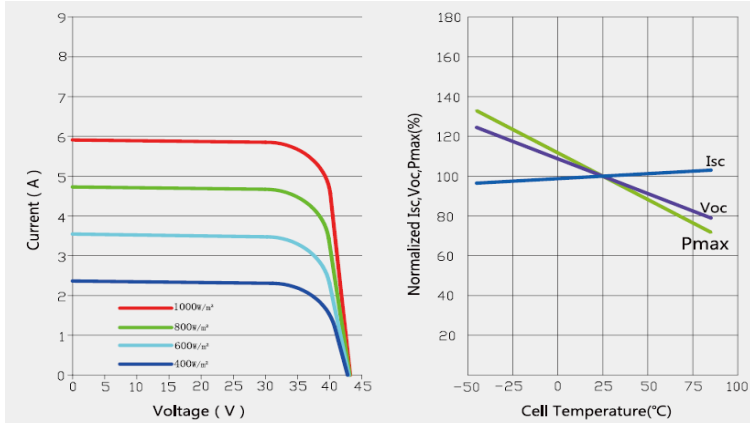
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## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALM-185D-24	ALM-187D-24	ALM-190D-24	ALM-195D-24
Maximum power (Pmax)	185W	187W	190W	195W
Power Tolerance	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	44.50V	44.60V	44.70V	44.90V
Short Circuit Current (Isc)	5.58A	5.64A	5.70A	5.82A
Maximum Power Voltage (Vmp)	35.60V	35.60V	36.00V	36.40V
Maximum Power Current(Imp)	5.2A	5.25A	5.29A	5.38A
Cell Efficiency	17.29%	17.3%	17.57%	18.03%
Module Efficiency	14.49	14.65	14.88	15.27
Max. System Voltage	1000VDC			
Cell Size and Series	5" (125mm)*5" (125mm) mono 72pcs(6*12)			
Bypass Diodes	3pcs 9A			
Temperature Coefficients of Pmax	-0.431%/°C			
Temperature Coefficients of Voc	-0.375%/°C			
Temperature Coefficients of Isc	+0.055%/°C			
NOTC- Nominal Operating Cell Temperature	47°C (±2)			
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C			

### TYPICAL ELECTRICAL CHARACTERISTICS



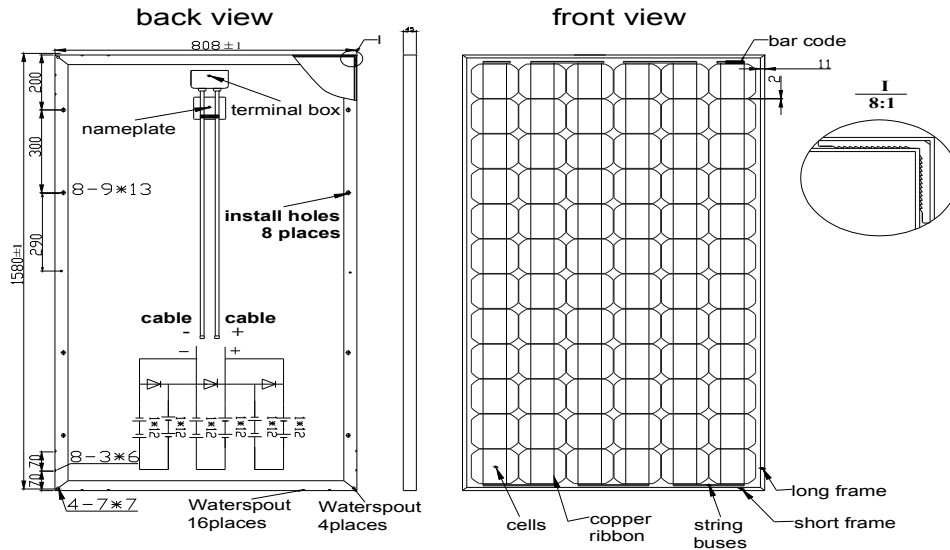
### MECHANICAL CHARACTERISTICS

Surface Maximum Load	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1,580mm(L)×808mm(W)×40mm(H)
Weight(kg)	16 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

### PACKAGE INFORMATION

Carton	26pcs/ctn
Pallet	52pcs/plt
20"GP	7plts (300pcs)
40"GP	14plts (728pcs)

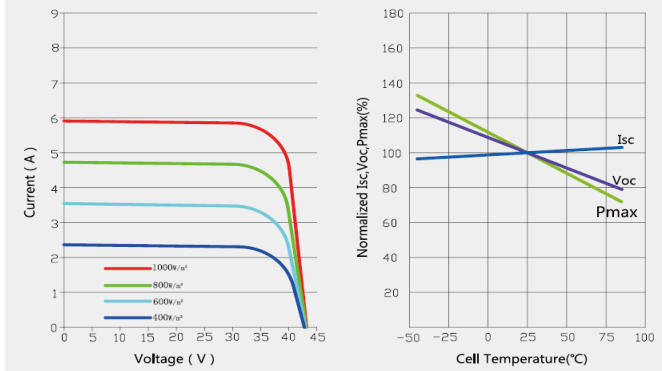
### DIMENSIONS



## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALM-185D-24	ALM-187D-24	ALM-190D-24	ALM-195D-24	ALM-200D-24	ALM-205D-24
Maximum power (Pmax)	185W	187W	190W	195W	200W	205W
Power Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	44.50V	44.60V	44.70V	44.90V	45.1V	45.3V
Short Circuit Current (Isc)	5.58A	5.64A	5.70A	5.82A	5.9A	5.96A
Maximum Power Voltage (Vmp)	35.60V	35.60V	36.00V	36.40V	36.8V	37.2V
Maximum Power Current(Imp)	5.2A	5.25A	5.29A	5.38A	5.43A	5.51A
Cell Efficiency	17.29%	17.3%	17.57%	18.03%	18.5%	18.96%
Module Efficiency	14.49%	14.65%	14.88%	15.27%	15.67%	16.06%
Max. System Voltage	1000VDC					
Cell Size and Series	5" (125mm)*5" (125mm) mono 72pcs(6*12)					
Bypass Diodes	3pcs 9A					
Temperature Coefficients of Pmax	-0.431%/°C					
Temperature Coefficients of Voc	-0.375%/°C					
Temperature Coefficients of Isc	+0.055%/°C					
NOTC- Nominal Operating Cell Temperature	47°C (±2)					
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C					

### TYPICAL ELECTRICAL CHARACTERISTICS



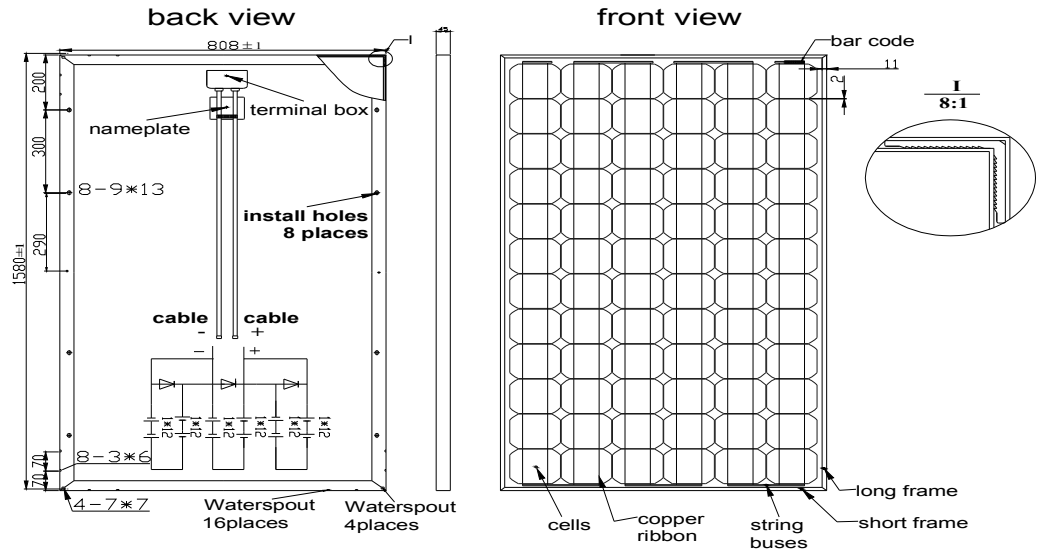
### MECHANICAL CHARACTERISTICS

Surface Maximum Load Capacity	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1,580mm(L)×808mm(W)×40mm(H)
Weight(kg)	16 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

### PACKAGE INFORMATION

Carton	26pcs/ctn
Pallet	52pcs/plt
20"GP	7plts (300pcs)
40"GP	14plts (728pcs)

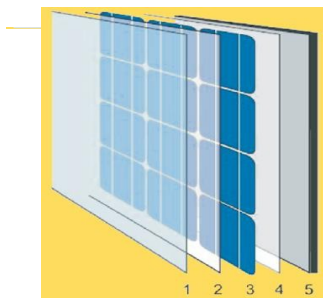
### DIMENSIONS



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## ALM-260D-36

### Mono-Crystalline Solar Modules



#### Companies Profile

Alex solar will be Vertical Integration, from ingots, wafer, cells and modules all reach 1GW in 2011. Besides we produce our own junction box as well as frame ... We are also project developer.

#### Characteristics

- High cell efficiency to ensure stability and reliability
- High performing modules have an industry low tolerance of 3%
- High reliable schottky bypass diode minimizes power drop by shade.
- Bad weather withstand Junction BOX, Crosslink cable and low connection losses connectors
- Can withstand high wind-pressure, snow load and extreme temperature  
Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally

#### Composition

- 1、Tempered Glass
- 2、EVA
- 3、Solar Cell
- 4、EVA
- 5、Triple-layer back sheet

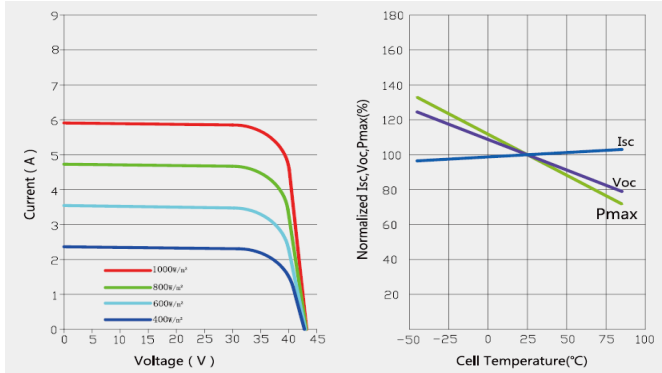
#### Quality and Warranty

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel

## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALM-250D-36	ALM-255D-36	ALM-260D-36	ALM-265D-36	ALM-270D-36	ALM-275D-36
Maximum power (Pmax)	250W	255W	260W	265W	270W	275W
Power Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	58.8V	59V	59.2V	59.4V	59.6V	59.8V
Short Circuit Current (Isc)	5.68A	5.74A	5.8A	5.96A	6.06A	6.16A
Maximum Power Voltage (Vmp)	47.35V	47.5V	47.65V	47.8V	47.95V	48.1V
Maximum Power Current(Imp)	5.21A	5.28A	5.37A	5.54A	5.63A	5.72A
Cell Efficiency	17.34%	17.68%	18%	18.40%	18.73%	19.00%
Module Efficiency	14.69%	14.99%	15.28%	15.57%	15.87%	16.16%
Max. System Voltage	1000VDC					
Cell Size and Series	5" (125mm)*5" (125mm) mono 96pcs(8*12)					
Bypass Diodes	4pcs 9A					
Temperature Coefficients of Pmax	-0.431%/°C					
Temperature Coefficients of Voc	-0.375%/°C					
Temperature Coefficients of Isc	+0.055%/°C					
NOTC- Nominal Operating Cell Temperature	47°C (±2)					
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C					

### TYPICAL ELECTRICAL CHARACTERISTICS



### MECHANICAL CHARACTERISTICS

Surface Maximum Load Capacity	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1602mm(L)×1062mm(W)×50mm(H)
Weight(kg)	20 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

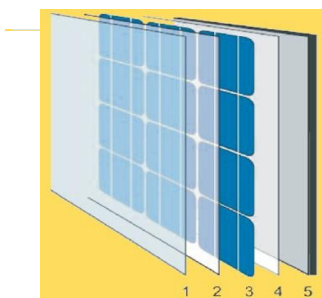
### PACKAGE INFORMATION

Carton	2pcs/ctn
Pallet	40pcs/plt
20"GP	6plts (240pcs)
40"GP	14plts (560pcs)

### DIMENSIONS

## ALM-290D-24

### Mono-Crystalline Solar Modules



RINA



#### Companies Profile

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#### Characteristics

- High cell efficiency to ensure stability and reliability
- High performing modules have an industry low tolerance of 3%
- High reliable schottky bypass diode minimizes power drop by shade.
- Bad weather withstand Junction BOX, Crosslink cable and low connection losses connectors
- Can withstand high wind-pressure, snow load and extreme temperature  
Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally

#### Composition

- 1、Tempered Glass
- 2、EVA
- 3、Solar Cell
- 4、EVA
- 5、Triple-layer back sheet

#### Quality and Warranty

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel

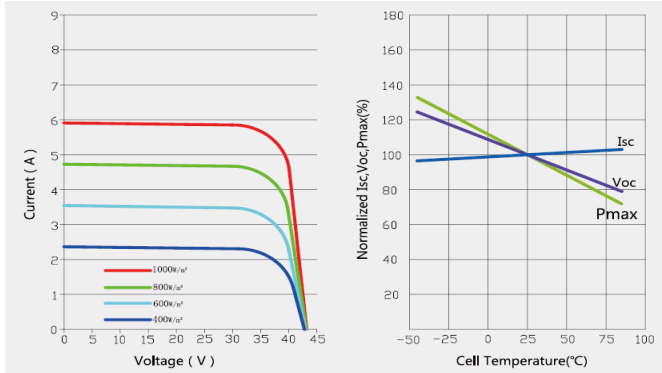
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## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALM275D-24	ALM280D-24	ALM285D-24	ALM290D-24	ALM295D-24	ALM300D-24
Maximum power (Pmax)	275W	280W	285W	290W	295W	300W
Power Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	44.75V	44.8V	44.85V	44.9V	44.95V	45V
Short Circuit Current (Isc)	8.26A	8.33A	8.4A	8.46A	8.53A	8.59A
Maximum Power Voltage (Vmp)	35.1V	35.2V	35.3V	35.4V	35.5V	35.6V
Maximum Power Current(Imp)	7.83A	7.95A	8.07A	8.19A	8.3A	8.43A
Cell Efficiency	16.5%	16.8%	17.1%	17.4%	17.7%	18%
Module Efficiency	13.97%	14.23%	14.48%	14.74%	14.99%	15.24%
Max. System Voltage	1000VDC					
Cell Size and Series	6" (156mm)*6" (156mm) mono 72pcs(6*12)					
Bypass Diodes	3pcs 15A					
Temperature Coefficients of Pmax	-0.488%/°C					
Temperature Coefficients of Voc	-0.346%/°C					
Temperature Coefficients of Isc	+0.065%/°C					
NOTC- Nominal Operating Cell Temperature	47°C (±2)					
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C					

### TYPICAL ELECTRICAL CHARACTERISTICS



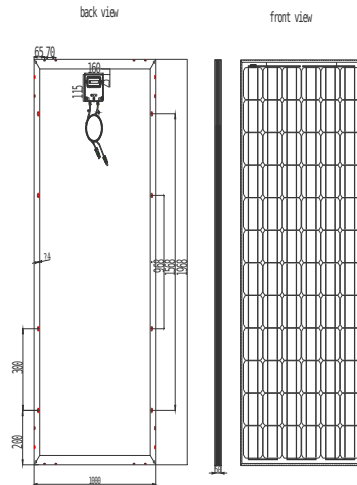
### MECHANICAL CHARACTERISTICS

Surface Maximum Load Capacity	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1968mm(L)×1000mm(W)×50mm(H)
Weight(kg)	23 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

### PACKAGE INFORMATION

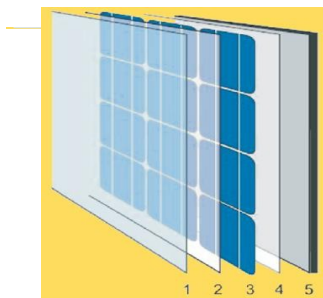
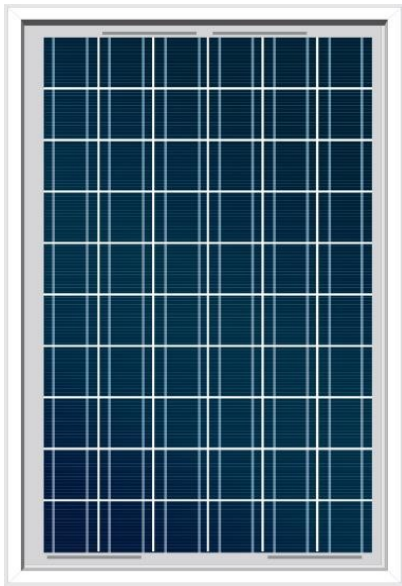
Carton	2pcs/ctn
Pallet	22pcs/plt
20"GP	6plts (220pcs)
40"GP	12plts (528pcs)

### DIMENSIONS



## ALP-230D-18

### Poly-Crystalline Solar Modules



RINA



#### Companies Profile

Alex solar will be Vertical Integration, from ingots, wafer, cells and modules all reach 1GW in 2011. Besides we produce our own junction box as well as frame ... We are also project developer.

#### Characteristics

- High cell efficiency to ensure stability and reliability
- High performing modules have an industry low tolerance of 3%
- High reliable schottky bypass diode minimizes power drop by shade.
- Bad weather withstand Junction BOX, Crosslink cable and low connection losses connectors
- Can withstand high wind-pressure, snow load and extreme temperature  
Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally

#### Composition

- 1、Tempered Glass
- 2、EVA
- 3、Solar Cell
- 4、EVA
- 5、Triple-layer back sheet

#### Quality and Warranty

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel

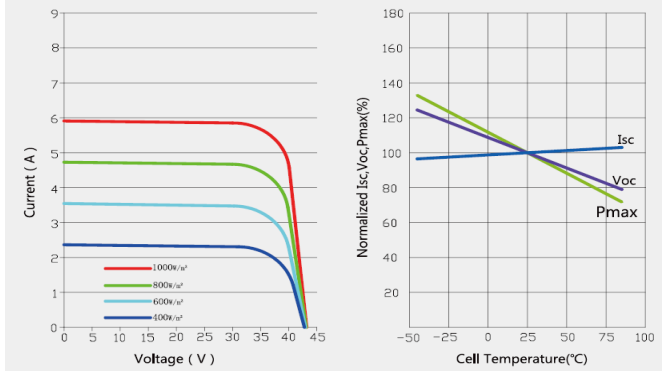
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www.alex-solar.com sales@alex-solar.com

## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALP215D-18	ALP220D-18	ALP225D-18	ALP230D-18	ALP235D-18	ALP240D-18
Maximum power (Pmax)	215W	220W	225W	230W	235W	240W
Power Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	36.3V	36.4V	36.5V	36.6V	36.65V	36.7V
Short Circuit Current (Isc)	8.02A	8.14A	8.26A	8.38A	8.5A	8.62A
Maximum Power Voltage (Vmp)	29.5V	29.6V	29.8V	30V	30.1V	30.2V
Maximum Power Current(Imp)	7.29A	7.43A	7.55A	7.67A	7.81	7.95A
Cell Efficiency	14.8%	15.53%	15.8%	16.2%	16.59%	16.94%
Module Efficiency	13.16%	13.47%	13.62%	13.92%	14.23%	14.53%
Max. System Voltage	1000VDC					
Cell Size and Series	6" (156mm)*6" (156mm) poly 60pcs(6*10)					
Bypass Diodes	3pcs 15A					
Temperature Coefficients of Pmax	-0.488%/°C					
Temperature Coefficients of Voc	-0.346%/°C					
Temperature Coefficients of Isc	+0.065%/°C					
NOTC- Nominal Operating Cell Temperature	47°C (±2)					
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C					

### TYPICAL ELECTRICAL CHARACTERISTICS



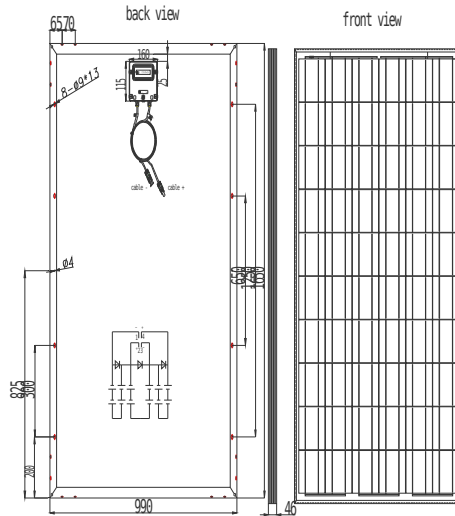
### MECHANICAL CHARACTERISTICS

Surface Maximum Load Capacity	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1650mm(L)×990mm(W)×46mm(H)
Weight(kg)	20 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

### PACKAGE INFORMATION

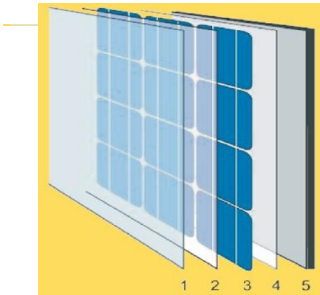
Carton	2pcs/ctn
Pallet	22pcs/plt
20"GP	6plts (264pcs)
40"GP	14plts (616pcs)

### DIMENSIONS



## ALP-270D-24

### Poly-Crystalline Solar Modules



RINA



#### Companies Profile

Alex solar will be Vertical Integration, from ingots, wafer, cells and modules all reach 1GW in 2011. Besides we produce our own junction box as well as frame ... We are also project developer.

#### Characteristics

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Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally

#### Composition

- 1、Tempered Glass
- 2、EVA
- 3、Solar Cell
- 4、EVA
- 5、Triple-layer back sheet

#### Quality and Warranty

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel

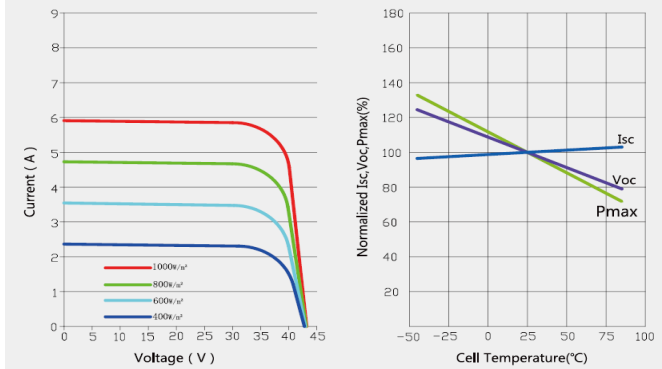
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www.alex-solar.com sales@alex-solar.com

## TYPICAL ELECTRICAL CHARACTERISTICS

Type	ALP255D-24	ALP260D-24	ALP265D-24	ALP270D-24	ALP275D-24	ALP280D-24
Maximum power (Pmax)	255w	260w	265w	270w	275w	280w
Power Tolerance	±3%	±3%	±3%	±3%	±3%	±3%
Open Circuit Voltage(Voc)	43.8V	44V	44.2V	44.5V	44.65V	44.8V
Short Circuit Current (Isc)	8.03A	8.09A	8.15A	8.2A	8.28A	8.33A
Maximum Power Voltage (Vmp)	34.7V	34.8V	34.9V	35V	35.1V	35.2V
Maximum Power Current(Imp)	7.35A	7.47A	7.59A	7.71A	7.83A	7.95A
Cell Efficiency	15%	15.3%	15.6%	15.89%	16.2%	16.5%
Module Efficiency	12.96%	13.21%	13.46%	13.72%	13.97%	14.23.5%
Max. System Voltage	1000VDC					
Cell Size and Series	6" (156mm)*6" (156mm) poly 72pcs(6*12)					
Bypass Diodes	3pcs 15A					
Temperature Coefficients of Pmax	-0.488%/°C					
Temperature Coefficients of Voc	-0.346%/°C					
Temperature Coefficients of Isc	+0.065%/°C					
NOTC- Nominal Operating Cell Temperature	47°C (±2)					
STC Condition	Irradiance level 1,000W/m2, Spectrum AM 1.5, and Cell Temperature 25°C					

### TYPICAL ELECTRICAL CHARACTERISTICS



### MECHANICAL CHARACTERISTICS

Surface Maximum Load Capacity	2,400Pa
Allowable Hail Load	227g steel ball fall down from 1m height
Glass type	High Transmits. Low Iron. Tempered Glass Thickness 3.2mm
Frame	Aluminium-alloy
Dimensions (mm)	1968mm(L)×1000mm(W)×50mm(H)
Weight(kg)	23 kgs
Dielectric Insulation Voltage	3000VDC max
Operating Temperature	-40 ~ +85 °C
Storage Temperature	-40 ~ +85 °C
Cable Length	900mm

### PACKAGE INFORMATION

Carton	2pcs/ctn
Pallet	22pcs/plt
20"GP	6plts (220pcs)
40"GP	12plts (528pcs)

### DIMENSIONS

