



Solar Panel Data Sheet # SP-EN10W

Description of Specification	Configuration	Units	Model
			SP-EN10W
General Data			
Maximum Power	Pm(W)	Watts	10W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	715VDC
Maximum Operating Voltage	Vmp	Volts	17.3
Maximum Operating Current	Imp	Amps	0.60
Open Circuit Voltage	Voc	Volts	21.3
Short Circuit Current	Isc	Amps	1.73
Solar Cell			
Cell Type and Dimensions		Monocrystalline	125mm x 13.6mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.031
Temp Coefficient of Voc	Tk Voc	% / °C	-0.368
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			
Output Cable: Twin Core: 0.75mm ² x 2	Length	mm	1500
Type of Cable Connector			
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	320 x 279 x 30mm
Weight		kg	1.0



Solar Panel Data Sheet # SP-EN20W

Description of Specification	Configuration	Units	Model
			SP-EN20W
General Data			
Maximum Power	Pm(W)	Watts	20W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	715VDC
Maximum Operating Voltage	Vmp	Volts	17.6
Maximum Operating Current	Imp	Amps	1.14
Open Circuit Voltage	Voc	Volts	22.0
Short Circuit Current	Isc	Amps	1.50
Solar Cell			
Cell Type and Dimensions		Monocrystalline	125mm x 31.5mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.031
Temp Coefficient of Voc	Tk Voc	% / °C	-0.368
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			
Output Cable: Twin Core: 0.75mm ² x 2	Length	mm	1500
Type of Cable Connector			
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	350 x 541 x 30mm
Weight		kg	2.7



Solar Panel Data Sheet # SP-EN40W-24V

Description of Specification	Configuration	Units	Model
			SP-EN40W-24V
General Data			
Maximum Power	Pm(W)	Watts	40W
Watt Tolerance		%	-1%~+3%
Application			DC24V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	35.5
Maximum Operating Current	Imp	Amps	1.13
Open Circuit Voltage	Voc	Volts	43.1
Short Circuit Current	Isc	Amps	1.85
Solar Cell			
Cell Type and Dimensions		Monocrystalline	156mm x 26mm
Number of Cells	In Series		72(4 x 18)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.05
Temp Coefficient of Voc	Tk Voc	% / °C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm ² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	670 x 567 x 30mm
Weight		kg	3.9



Solar Panel Data Sheet # SP-EN55W

Description of Specification	Configuration	Units	Model
			SP-EN55W
General Data			
Maximum Power	Pm(W)	Watts	55W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m²,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	18.0
Maximum Operating Current	Imp	Amps	3.06
Open Circuit Voltage	Voc	Volts	22.3
Short Circuit Current	Isc	Amps	3.73
Solar Cell			
Cell Type and Dimensions		Monocrystalline	125mm x 83mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.031
Temp Coefficient of Voc	Tk Voc	% / °C	-0.368
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	840 x 541 x 35mm
Weight		kg	5.5



Solar Panel Data Sheet # SP-EN80W

Description of Specification	Configuration	Units	Model
			SP-EN80W
General Data			
Maximum Power	Pm(W)	Watts	80W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m²,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	17.5
Maximum Operating Current	Imp	Amps	4.58Open
Circuit Voltage	Voc	Volts	22.4Short
Circuit Current	Isc	Amps	5.10
Solar Cell			
Cell Type and Dimensions		Monocrystalline	156mm x 78mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.031
Temp Coefficient of Voc	Tk Voc	% / °C	-0.368
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	780 x 676 x 35mm
Weight		kg	7.9

Solar Panel Data Sheet # SP-EN100W

Description of Specification	Configuration	Units	Model
			EN-SP100W
General Data			
Maximum Power	Pm(W)	Watts	100W
Watt Tolerance		%	-1% - ±3%
Application			DC12V
Storage & Operating Temperature		Deg .C	-45~85° C
Standard Test Conditions: Cell Temperature:25 Deg. C,Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Ampereage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	18.70
Maximum Operating Current	Imp	Amps	5.35
Open Circuit Voltage	Voc	Volts	22.60
Short Circuit Current	Isc	Amps	5.69
Solar Cell			
Cell Type and Diameter		Monocrystalline	155mm x 155mm
Number of Cells	In Series		72(6x12)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% per deg.C	0.037
Temp Coefficient of Voc	Tk Voc	% per deg.C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% per deg.C	-0.48
Normal Op. Cell Temp (NOCT)		deg.C	45°C ±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable:Wire Diameter :4mm ²	Length	mm	900
Type of Cable Connector			MC4 Plug
Frame:Aluminum Alloy			Anodized
Front Glass: Tempered glass	Thickness		3.2mm Low Iron,High Transmission
Cell Encapsulation Material	EVA	mm	0.5mm
	TPT	mm	0.3mm
Quality Warranty (Output Power)			
Power Production	90%	Years	5
	80%	Years	25
Manufacturing		Years	5
Dimensions, Packing & Loading			
Dimensions: LengthxWidthxHeight		mm	1195x541x35
Weight		kg	8.1

Solar Panel Data Sheet # SP-EN100-24V

Description of Specification	Configuration	Units	Model
			EN-SP100W-24V
General Data			
Maximum Power	Pm(W)	Watts	100W
Watt Tolerance		%	-1% - ±3%
Application			DC24V
Storage & Operating Temperature		Deg .C	-45~85° C
Standard Test Conditions: Cell Temperature:25 Deg. C,Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Ampereage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	36.0
Maximum Operating Current	Imp	Amps	2.78
Open Circuit Voltage	Voc	Volts	43.4
Short Circuit Current	Isc	Amps	3.09
Solar Cell			
Cell Type and Diameter		Monocrystalline	155mm x 155mm
Number of Cells	In Series		72 (6 x12)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% per deg.C	0.037
Temp Coefficient of Voc	Tk Voc	% per deg.C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% per deg.C	-0.48
Normal Op. Cell Temp (NOCT)		deg.C	45°C ±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable:Wire Diameter :4mm ²	Length	mm	900
Type of Cable Connector			MC4 Plug
Frame:Aluminum Alloy			Anodized
Front Glass: Tempered glass	Thickness		3.2mm Low Iron,High Transmission
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Quality Warranty (Output Power)			
Power Production	90%	Years	5
	80%	Years	25
Manufacturing		Years	5
Dimensions, Packing & Loading			
Dimensions: LengthxWidthxHeight		mm	1010x676x35
Weight		kg	8.1



Solar Panel Data Sheet # SP-EN120W-S

Description of Specification	Configuration	Units	Model
			SP-EN120W-S
General Data			
Maximum Power	Pm(W)	Watts	120W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25°C, Irradiance:1kW/m²,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
VDC Maximum Operating Voltage	Vmp	Volts	18.4
Maximum Operating Current	Imp	Amps	6.53
Open Circuit Voltage	Voc	Volts	22.8
Short Circuit Current	Isc	Amps	7.23
Solar Cell			
Cell Type and Dimensions		Polycrystalline	156mm x 125mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.05
Temp Coefficient of Voc	Tk Voc	% / °C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	1578 x 541 x 35mm
Weight		kg	11.0



Solar Panel Data Sheet # SP-EN150W

Description of Specification	Configuration	Units	Model
			SP-EN150W
General Data			
Maximum Power	Pm(W)	Watts	150W
Watt Tolerance		%	-1%~+3%
Application			DC12V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25 °C, Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	18.5
Maximum Operating Current	Imp	Amps	8.11
Open Circuit Voltage	Voc	Volts	22.5
Short Circuit Current	Isc	Amps	8.80
Solar Cell			
Cell Type and Dimensions		Polycrystalline	156mm x 156mm
Number of Cells	In Series		36(4 x 9)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.05
Temp Coefficient of Voc	Tk Voc	% / °C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.530
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm ² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson,Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	1482 x 660 x 35mm
Weight		kg	11.5

Solar Panel Data Sheet # SP-EN150SQ

Description of Specification	Configuration	Units	Model
			EN-SP150SQ
General Data			
Maximum Power	Pm(W)	Watts	150W
Watt Tolerance		%	-1% - ±3%
Application			DC12V
Storage & Operating Temperature		Deg .C	-45~85° C
Standard Test Conditions: Cell Temperature:25 Deg. C,Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Ampereage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	18.50
Maximum Operating Current	Imp	Amps	8.11
Open Circuit Voltage	Voc	Volts	22.50
Short Circuit Current	Isc	Amps	8.80
Solar Cell			
Cell Type and Diameter		Monocrystalline	155mm x 155mm
Number of Cells	In Series		24(6x4)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% per deg.C	0.037
Temp Coefficient of Voc	Tk Voc	% per deg.C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% per deg.C	-0.48
Normal Op. Cell Temp (NOCT)		deg.C	45°C ±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable:Wire Diameter :4mm ²	Length	mm	900
Type of Cable Connector			MC4 Plug
Frame:Aluminum Alloy			Anodized
Front Glass: Tempered glass	Thickness		3.2mm Low Iron,High Transmission
Cell Encapsulation Material	EVA	mm	0.5mm
	TPT	mm	0.3mm
Quality Warranty (Output Power)			
Power Production	90%	Years	5
	80%	Years	25
Manufacturing		Years	5
Dimensions, Packing & Loading			
Dimensions: LengthxWidthxHeight		mm	1210x808x35
Weight		kg	11.5

Solar Panel Data Sheet # SP-EN160W

Description of Specification	Configuration	Units	Model
			EN-SP160W
General Data			
Maximum Power	Pm(W)	Watts	160W
Watt Tolerance		%	-1% - ±3%
Application			DC12V
Storage & Operating Temperature		Deg .C	-45~85° C
Standard Test Conditions: Cell Temperature:25 Deg. C,Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Ampereage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	18.13
Maximum Operating Current	Imp	Amps	8.84
Open Circuit Voltage	Voc	Volts	23.16
Short Circuit Current	Isc	Amps	9.36
Solar Cell			
Cell Type and Diameter		Monocrystalline	155mm x 155mm
Number of Cells	In Series		72(6x12)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% per deg.C	0.037
Temp Coefficient of Voc	Tk Voc	% per deg.C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% per deg.C	-0.48
Normal Op. Cell Temp (NOCT)		deg.C	45°C ±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable:Wire Diameter :4mm ²	Length	mm	900
Type of Cable Connector			MC4 Plug
Frame:Aluminum Alloy			Anodized
Front Glass: Tempered glass	Thickness		3.2mm Low Iron,High Transmission
Cell Encapsulation Material	EVA	mm	0.5mm
	TPT	mm	0.3mm
Quality Warranty (Output Power)			
Power Production	90%	Years	5
	80%	Years	25
Manufacturing		Years	5
Dimensions, Packing & Loading			
Dimensions: LengthxWidthxHeight		mm	1482x660x35
Weight		kg	11.7

Solar Panel Data Sheet # SP-EN180W

Description of Specification	Configuration	Units	Model
			EN-SP180W
General Data			
Maximum Power	Pm(W)	Watts	180W
Watt Tolerance		%	-1% - ±3%
Application			DC12V
Storage & Operating Temperature		Deg .C	-45~85° C
Standard Test Conditions: Cell Temperature:25 Deg. C,Irradiance:1kW/m ² ,Air Mass: 1.5			
Voltage & Ampereage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	19.8
Maximum Operating Current	Imp	Amps	9.10
Open Circuit Voltage	Voc	Volts	24.1
Short Circuit Current	Isc	Amps	9.85
Solar Cell			
Cell Type and Diameter		Monocrystalline	155mm x 155mm
Number of Cells	In Series		72(6x12)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% per deg.C	0.037
Temp Coefficient of Voc	Tk Voc	% per deg.C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% per deg.C	-0.48
Normal Op. Cell Temp (NOCT)		deg.C	45°C ±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable:Wire Diameter :4mm ²	Length	mm	900
Type of Cable Connector			MC4 Plug
Frame:Aluminum Alloy			Anodized
Front Glass: Tempered glass	Thickness		3.2mm Low Iron,High Transmission
Cell Encapsulation Material	EVA	mm	0.5mm
	TPT	mm	0.3mm
Quality Warranty (Output Power)			
Power Production	90%	Years	5
	80%	Years	25
Manufacturing		Years	5
Dimensions, Packing & Loading			
Dimensions: LengthxWidthxHeight		mm	1482x680x35
Weight		kg	11.5



Solar Panel Data Sheet # SP-EN200WHV

Description of Specification	Configuration	Units	Model
			SP-EN200W
General Data			
Maximum Power	Pm(W)	Watts	200W
Watt Tolerance		%	±3%
Application			DC24V
Storage & Operating Temperature		°C	-45°C~85°C
Standard Test Conditions:Cell Temperature:25°C, Irradiance:1kW/m²,Air Mass: 1.5			
Voltage & Amperage			
Maximum System Voltage		Volts	1000VDC
Maximum Operating Voltage	Vmp	Volts	37.3
Maximum Operating Current	Imp	Amps	5.37
Open Circuit Voltage	Voc	Volts	43.7
Short Circuit Current	Isc	Amps	6.05
Solar Cell			
Cell Type and Dimensions		Monocrystalline	125mm x 125mm
Number of Cells	In Series		72(6 x 12)
Temperatures Coefficients			
Temp Coefficient of Isc	Tk Isc	% / °C	0.037
Temp Coefficient of Voc	Tk Voc	% / °C	-0.34
Temp Coefficient of Pmax	Tk Pmax	% / °C	-0.48
Normal Op. Cell Temp (NOCT)		°C	45°C±2°C
Materials & Accessories Data (All Certified by CE and TUV)			
Junction Box			IP65 rated
Output Cable: Twin Core: 4mm² x 2	Length	mm	900
Type of Cable Connector			MC Plug Type IV
Frame:Aluminum Alloy			Anodized
Front Glass:Low Iron,High Transmisson, Tempered glass	Thickness		3.2mm
Cell Encapsulation Material	EVA	mm	0.5mm
Backsheet Cover Material	TPT	mm	0.3mm
Warranty			
Manufacturing		Years	2
Dimensions, Packing & Loading			
Dimensions:Length x Width x Height		mm	1580 x 808 x 40mm
Weight		kg	15