

# Walara-435G4P

## Mechanical Characteristics

Cells per Panel	108 Half Cells
Cell Type	TOPCon N-Type Cells
Panel Dimension	1722 x 1133 x 35 mm
Panel Weight	21 Kg
Front Glass	3.2mm Fully tempered double ARC glass
Frame	Anodized aluminum alloy (T6) / Black
Junction Box	3 bypass diodes / IP68 rated
Cable	1200 mm(+/-), 4mm <sup>2</sup>
Connector Type	Staubli-MC4-EVO2 / KST4-EVO2(M), KBT4-EVO 2(F)

## Thermal Characteristics

RATING	UNIT	VALUE
Operating Temperature	°C	-40 ~ +70
Maximum System Voltage (IEC)	VDC	1500
Maximum Series Fuse Rating	A	30
Nominal Module Operating Temperature	°C	45 ± 2
Temperature Coefficient	Isc	%/°C 0.045
	Voc	%/°C -0.25
	Pmax	%/°C -0.3

## Qualification Test

Thermal Cycling Test	- 40°C to 85°C for 200 cycles
Damp Heat Test	85°C and 85% relative humidity for 1000 hr
Mechanical Load Test	5400Pa (Front) / 2400Pa (Rear)
PID Test	1500 VDC, 96h, 85% RH, 85°C
Hail Impact Test	25mm hail at 23 m/s from 1m distance

Cyclone tested by Structural Engineering Consultants Australia (SECA) Pty Ltd - certificate available on request

# Safety factor of \*static load test: 1.5 (Test load = Design load x Safety factor)  
# NexTracker installation : Front load 1800 Pa / Back Load 1800 Pa

## Safety Ratings & Warranties

Safety Application Class	Class II
Fire Safety Classification	Class C
Certifications	IEC 61215 , IEC 61730
Warranty	25 years limited product warranty
Performance Guarantee	25 years limited warranty 87.4% power

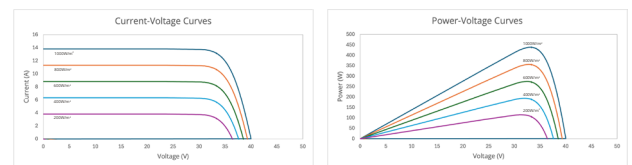
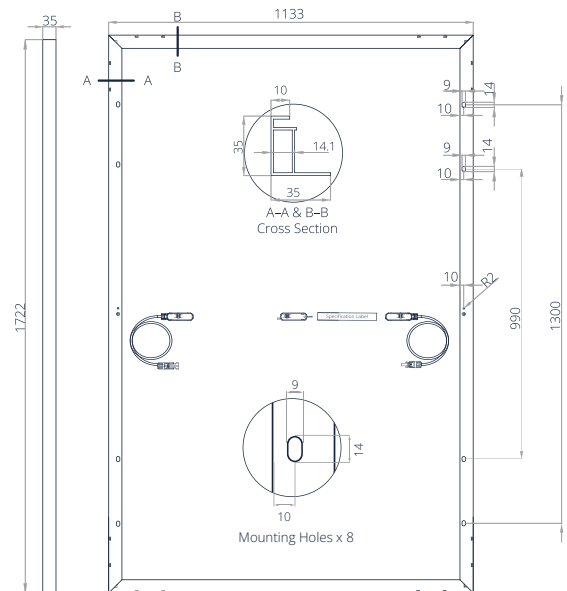
## Electrical Characteristics

108HC Cell Module	Walara-435G4P		
ITEM	UNIT	STC*	NMOT**
Max. Power (Pmax)	Wp	435	331.5
Max. Power Voltage (Vmp)	V	33.18	31.28
Max. Power Current (Imp)	A	13.11	10.6
Open Circuit Voltage (Voc)	V	39.81	37.84
Short Circuit Current (Isc)	A	13.82	11.14
Module Efficiency	%	22.3	
Positive Power Tolerance	W	0 ~ + 5	

\*STC (Standard Test Condition): 1,000 W/m<sup>2</sup> , AM 1.5, 25°C

\*\*NMOT(Nominal Module Operating Temperature) : Irradiance at 800W/m, Ambient Temperature 20°C, Wind Speed 1m/s, air mass of AM1.5

# Tolerance of Measuring Pmax, Voc & Isc ± 3% within each watt class at STC



Graphs for Current-Voltage and Power-Voltage based on 440W

## Packaging

Stacking Method	Horizontal	Vertical (Optional)
Panels per Pallet	30	31
Loading Capacity (40HQ)	600	806

• The specifications included in this datasheet are subject to change without notice.  
• The electrical data given here is for reference purpose only.  
• Manufactured in Australia by Tindo Operations Co Pty Ltd

# Walara-440G4P

## Mechanical Characteristics

Cells per Panel	108 Half Cells
Cell Type	TOPCon N-Type Cells
Panel Dimension	1722 x 1133 x 35 mm
Panel Weight	21 Kg
Front Glass	3.2mm Fully tempered double ARC glass
Frame	Anodized aluminum alloy (T6) / Black
Junction Box	3 bypass diodes / IP68 rated
Cable	1200 mm(+/-), 4mm <sup>2</sup>
Connector Type	Staubli-MC4-EVO2 / KST4-EVO2(M), KBT4-EVO 2(F)

## Thermal Characteristics

RATING	UNIT	VALUE
Operating Temperature	°C	-40 ~ +70
Maximum System Voltage (IEC)	VDC	1500
Maximum Series Fuse Rating	A	30
Nominal Module Operating Temperature	°C	45 ± 2
Temperature Coefficient	Isc	%/°C 0.045
	Voc	%/°C -0.25
	Pmax	%/°C -0.3

## Qualification Test

Thermal Cycling Test	- 40°C to 85°C for 200 cycles
Damp Heat Test	85°C and 85% relative humidity for 1000 hr
Mechanical Load Test	5400Pa (Front) / 2400Pa (Rear)
PID Test	1500 VDC, 96h, 85% RH, 85°C
Hail Impact Test	25mm hail at 23 m/s from 1m distance

Cyclone tested by Structural Engineering Consultants Australia (SECA) Pty Ltd - certificate available on request

# Safety factor of \*static load test: 1.5 (Test load = Design load x Safety factor)  
# NexTracker installation : Front load 1800 Pa / Back Load 1800 Pa

## Safety Ratings & Warranties

Safety Application Class	Class II
Fire Safety Classification	Class C
Certifications	IEC 61215 , IEC 61730
Warranty	25 years limited product warranty
Performance Guarantee	25 years limited warranty 87.4% power

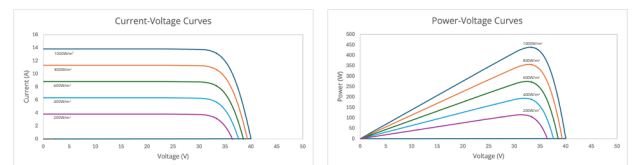
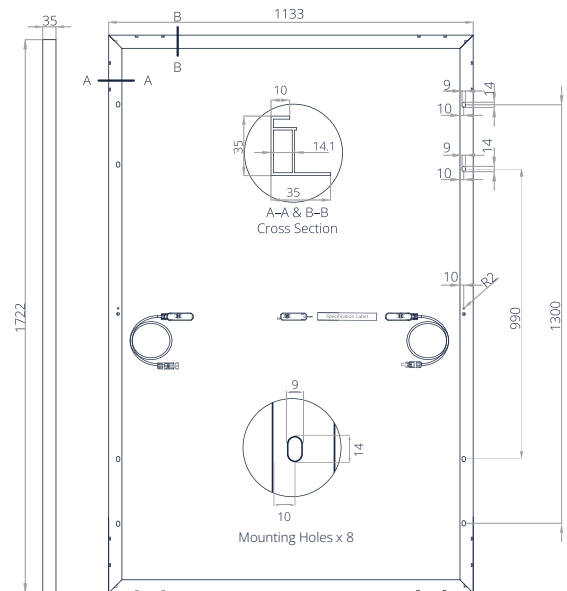
## Electrical Characteristics

108HC Cell Module	Walara-440G4P		
ITEM	UNIT	STC*	NMOT**
Max. Power (Pmax)	Wp	440	335.3
Max. Power Voltage (Vmp)	V	33.36	31.45
Max. Power Current (Imp)	A	13.19	10.66
Open Circuit Voltage (Voc)	V	39.99	38.01
Short Circuit Current (Isc)	A	13.9	11.2
Module Efficiency	%	22.6	
Positive Power Tolerance	W	0 ~ + 5	

\*STC (Standard Test Condition): 1,000 W/m<sup>2</sup> , AM 1.5, 25°C

\*\*NMOT(Nominal Module Operating Temperature) : Irradiance at 800W/m, Ambient Temperature 20°C, Wind Speed 1m/s, air mass of AM1.5

# Tolerance of Measuring Pmax, Voc & Isc ± 3% within each watt class at STC



Graphs for Current-Voltage and Power-Voltage based on 440W

## Packaging

Stacking Method	Horizontal	Vertical (Optional)
Panels per Pallet	30	31
Loading Capacity (40HQ)	600	806

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# Walara-445G4P

## Mechanical Characteristics

Cells per Panel	108 Half Cells
Cell Type	TOPCon N-Type Cells
Panel Dimension	1722 x 1133 x 35 mm
Panel Weight	21 Kg
Front Glass	3.2mm Fully tempered double ARC glass
Frame	Anodized aluminum alloy (T6) / Black
Junction Box	3 bypass diodes / IP68 rated
Cable	1200 mm(+/-), 4mm <sup>2</sup>
Connector Type	Staubli-MC4-EVO2 / KST4-EVO2(M), KBT4-EVO 2(F)

## Thermal Characteristics

RATING	UNIT	VALUE
Operating Temperature	°C	-40 ~ +70
Maximum System Voltage (IEC)	VDC	1500
Maximum Series Fuse Rating	A	30
Nominal Module Operating Temperature	°C	45 ± 2
Temperature Coefficient	Isc	%/°C 0.045
	Voc	%/°C -0.25
	Pmax	%/°C -0.3

## Qualification Test

Thermal Cycling Test	- 40°C to 85°C for 200 cycles
Damp Heat Test	85°C and 85% relative humidity for 1000 hr
Mechanical Load Test	5400Pa (Front) / 2400Pa (Rear)
PID Test	1500 VDC, 96h, 85% RH, 85°C
Hail Impact Test	25mm hail at 23 m/s from 1m distance

Cyclone tested by Structural Engineering Consultants Australia (SECA) Pty Ltd - certificate available on request

# Safety factor of \*static load test: 1.5 (Test load = Design load x Safety factor)  
# NexTracker installation : Front load 1800 Pa / Back Load 1800 Pa

## Safety Ratings & Warranties

Safety Application Class	Class II
Fire Safety Classification	Class C
Certifications	IEC 61215 , IEC 61730
Warranty	25 years limited product warranty
Performance Guarantee	25 years limited warranty 87.4% power

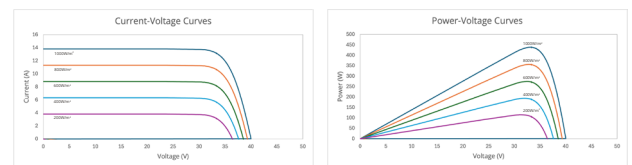
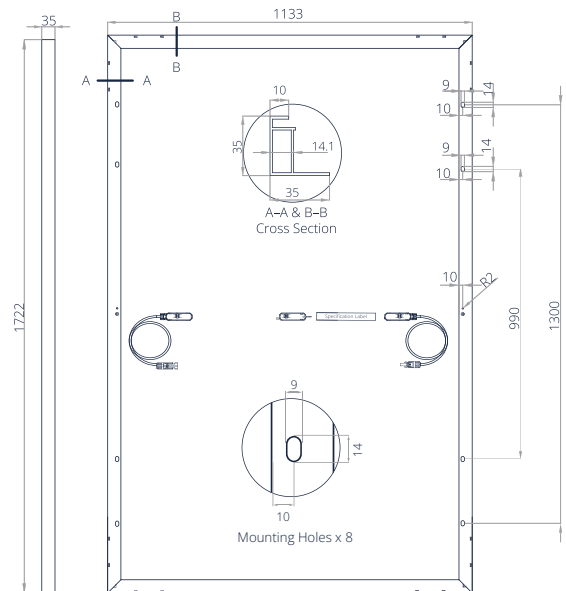
## Electrical Characteristics

108HC Cell Module	Walara-445G4P		
ITEM	UNIT	STC*	NMOT**
Max. Power (Pmax)	Wp	445	339.2
Max. Power Voltage (Vmp)	V	33.54	31.62
Max. Power Current (Imp)	A	13.27	10.73
Open Circuit Voltage (Voc)	V	40.17	38.18
Short Circuit Current (Isc)	A	13.98	11.27
Module Efficiency	%	22.8	
Positive Power Tolerance	W	0 ~ + 5	

\*STC (Standard Test Condition): 1,000 W/m<sup>2</sup> , AM 1.5, 25°C

\*\*NMOT(Nominal Module Operating Temperature) : Irradiance at 800W/m, Ambient Temperature 20°C, Wind Speed 1m/s, air mass of AM1.5

# Tolerance of Measuring Pmax, Voc & Isc ± 3% within each watt class at STC



Graphs for Current-Voltage and Power-Voltage based on 440W

## Packaging

Stacking Method	Horizontal	Vertical (Optional)
Panels per Pallet	30	31
Loading Capacity (40HQ)	600	806

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