

## Smart G10 Series 415-435W

108-cell TOPCon Optimizer Solar Module



### Aesthetics

Ultimate look of black modules, perfectly matching the owner's aesthetic pursuit.



### More power

Up to 20% more energy compared to normal solar panels.



### Advanced insight

Cell-string level data provides real-time diagnostics for the system owner.



### Safer

Temperature and maintenance shutdown lowers (fire) risk.



### WARRANTY

Product  
Warranty **20** years

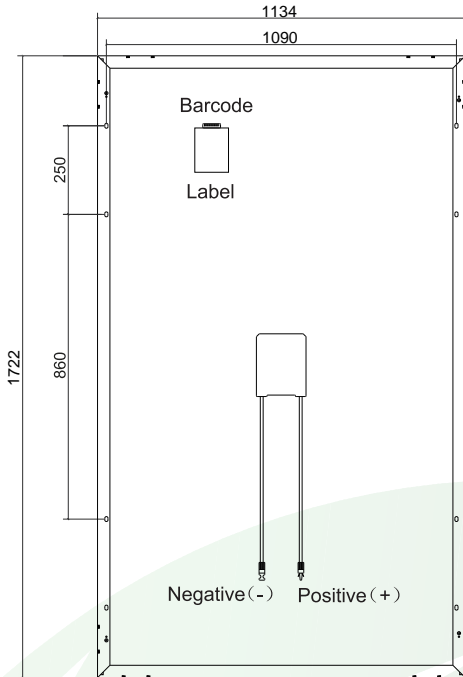
Linear  
Power  
Warranty **30** years



## Smart G10 Series 415-435W 108-cell TOPCon Optimizer Module

### Engineering Drawings

Unit: mm



### Electrical Characteristics (STC\*)

THS-D54HN(S)	415W	420W	425W	430W	435W
Maximum Power (Pmax)	415W	420W	425W	430W	435W
Module Efficiency (%)	21.25%	21.51%	21.76%	22.02%	22.28%
Optimum Operating Voltage(Vmp)	31.30V	31.50V	31.70V	31.90V	32.05V
Optimum Operating Current (Imp)	13.26A	13.34A	13.42A	13.50A	13.58A
Open Circuit Voltage (Voc)	38.00V	38.10V	38.20V	38.30V	38.40V
Short Circuit Current (Isc)	13.99A	14.07A	14.15A	14.23A	14.31A
Operating Module Temperature	-40 to +85°C				
Maximum System Voltage	DC1500V (IEC)				
Maximum Series Fuse	25A				
Power Tolerance	0~+5W				

\*STC: Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, AM=1.5. Tolerance of Pmax is within +/- 3%.

### NMOT\*

Maximum Power (Pmax)	315W	319W	323W	327W	331W
Optimum Operating Voltage(Vmp)	30.0V	30.2V	30.4V	30.6V	30.7V
Optimum Operating Current (Imp)	10.57A	10.60A	10.63A	10.69A	10.78A
Open Circuit Voltage (Voc)	36.5V	36.6V	36.7V	36.8V	36.9V
Short Circuit Current (Isc)	11.26A	11.33A	11.40A	11.47A	11.53A

\*NMOT: Front side irradiation 800W/m<sup>2</sup>, wind speed 1m/s, ambient temperature 20°C.

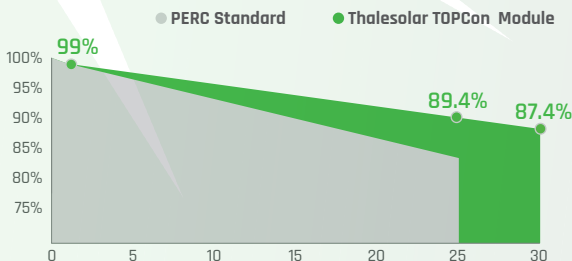
### Temperature Characteristics

Nominal Operating Cell Temp.(NOCT)	43°C ± 2°C
Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.046%/°C

### Safety & Warranty

Safety Class	Class II
Product Warranty	20 yrs Workmanship
Performance Warranty	30 yrs Linear Warranty*

\*Less than 1% attenuation in the 1st year, the annual attenuation from the 2nd year is no more than 0.4%, and the power is no less than 87.4% until the 30th year.



\*Refer to Thalesolar standard warranty for details

### Mechanical Characteristics

Cell Type	TOPCon Mono 182X91mm
Cell Connection	108(6X18)
Module Dimension	1722X1134X30mm
Weight	21kg
Junction Box	IP68
Output Cable	4mm <sup>2</sup> , 1200mm in length, length can be customized/UV resistant
Connectors Type	MC4 original/MC4 compatible
Frame	Anodised aluminum alloy(Black)
Encapsulant	PDE/EPE
Front Load	5400Pa
Rear Load	2400Pa
Glass Thickness	Solar glass 3.2mm

### Shipping Configurations

Container Type	HC
Container Size	40'
Pallets Per Container	26
Modules Per Pallet (pcs)	36
Modules Per Container (pcs)	936