



## MAXIMA GxB 320T SM Bifacial Module

A Trusted Quality Brand in Solar



### High Performance

Bifacial technology generates power from both the front and back faces of the module, resulting in up to 20% higher energy harvest (kWh). Our HCT cells packaged in double glass modules yield higher power and do not suffer from light-induced degradation (LID).



### Robust Quality & Reliability

Double glass modules designed for durability. Certified to international certification body standards: IEC, UL, and CEC listed. Manufactured according to the International Quality Management System ISO9001.



### Extreme Climate Performance

As temperatures rise, our patented SmartSilicon hybrid cell technology produces more power [kW] than conventional crystalline silicon solar panels at the same elevated temperature.



### Guaranteed Performance

All modules have a 15 year product warranty and 30 year power output warranty.



### Superior Aesthetics

Thin profile double-glass construction provides superior aesthetics that are a perfect complement to roofs, carports, and canopies.

### About Sunpreme

Sunpreme is an innovative solar PV module manufacturer headquartered in Sunnyvale, California with manufacturing facilities in the United States and China. We provide high quality, reliable and aesthetically superior modules to residential, commercial, and utility customers globally. Sunpreme solar systems are delivering clean energy on 5 continents.

Sunpreme solar panels are designed and engineered in Silicon Valley, CA, USA.

### Hybrid Cell Technology

Sunpreme modules use our patented Hybrid Cell Technology platform that utilizes enabling thin-film materials on surface engineered Silicon substrate to achieve high-efficiency power output and reliable energy production for increased project returns.

Unlike conventional crystalline silicon cell technologies, Sunpreme uses highly scalable process to deliver high output solar power at very competitive Levelized Cost of Energy (LCOE).

[www.sunpreme.com](http://www.sunpreme.com) | [info@sunpreme.com](mailto:info@sunpreme.com)  
Toll Free: +1.866.245.1110



Front view

Back view

### High Efficiency

19.2% Module Efficiency (STC),  
21.0% Efficiency with 10% Backside Power Boost, and  
23.2% with 20% Backside Power Boost

### Bifacial Energy Boost

Harvests sun from the backside to increase power output up to 20%

### Double-Glass Framed Design

Sunpreme Design is more robust, and does not require module grounding

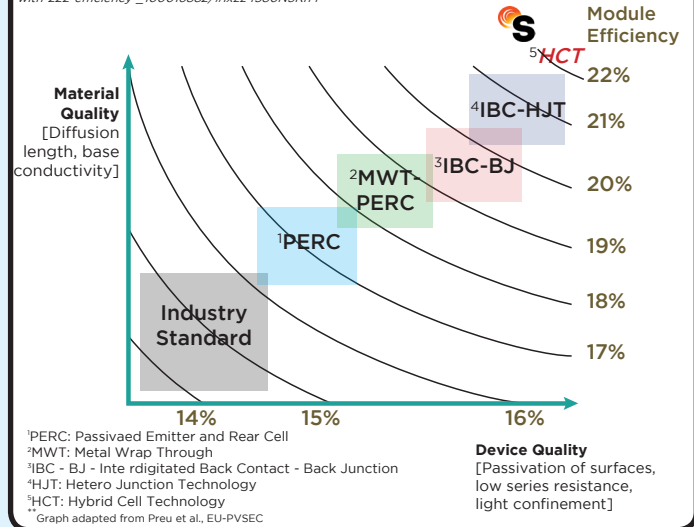
### 15 YEAR

PRODUCT WARRANTY

### 30 YEAR

POWER WARRANTY

*"At 22%, Sunpreme HCT Bifacial Double Glass modules move to the top of the class in effective efficiency" Dr. Eicke Weber quoted in:*  
[http://www.pv-magazine.com/news/details/beitrag/sunpreme-unveils-500-w-bifacial-double-glass-module-with-22-efficiency\\_100016882/#ixzz4580N3Rh4](http://www.pv-magazine.com/news/details/beitrag/sunpreme-unveils-500-w-bifacial-double-glass-module-with-22-efficiency_100016882/#ixzz4580N3Rh4)



<b>ELECTRICAL SPECIFICATIONS<sup>1</sup></b>	<b>300</b>	<b>310</b>	<b>320</b>
STC rated output $P_{MPP}$ (W)	300	310	320
Cell Efficiency	21.3%	21.6%	22.0%
Module Efficiency STC	18.2%	18.8%	19.4%
Standard sorted output	-3%/+5%	-3%/+5%	-3%/+5%
Open Circuit Voltage $V_{OC}$ (V)	39.4	39.5	39.7
Short circuit current $I_{SC}$ (A)	12.0	12.9	12.0
Rated Voltage $V_{MPP}$ (V)	34.5	35.2	36.5
Rated Current $I_{MPP}$ (A)	8.7	8.9	9.0

<sup>1</sup>: Standard Test Conditions for front-face of panel: 1000 W/m<sup>2</sup>, 25°C.

### BI-FACIAL OUTPUT\*

#### With 10% Backside Power Boost

Power Output (W)	330	341	352
Module Efficiency	20.1%	20.7%	21.0%

#### With 20% Backside Power Boost

Power Output (W)	360	372	384
Module Efficiency	22.0%	22.6%	23.2%

\*Backside boost for flush mount configuration is  $\leq 5\%$ , resulting in  $I_{sc} \leq 9.56 - 9.77$  A

### TEST OPERATING CONDITIONS

Operating Temperature	- 40 to + 85°C
Storage Temperature	- 40 to + 85°C
Maximum Series Fuse	15 A
Maximum System Voltage	1,000VDC (UL & IEC)
Power/Sq.Ft. w/ 20% backside power boost	20.9 W / Sq. Foot
Maximum load capacity	5,400 Pa (snow load) 185 mph wind rating
Fire Class	Class A - Type 3

### TEMPERATURE COEFFICIENTS

Temperature coefficient $P_{MPP}$	-0.28%/C
Temperature coefficient $I_{SC}$	+0.015%/C
Temperature coefficient $V_{OC}$	-0.00%/C
Normal operating cell temperature (NOCT)°C	46C +/- 2

### WARRANTY

15 year extended product warranty  
97.5% power warranty first 5 years  
-0.5% per year degradation for the following 25 years

### CERTIFICATION (In Progress)

Certified to IEC 61646, IEC 61730-01, IEC 61730-02, IEC 61701, UL 1703, ISO 9001, ISO 14001, CEC, CE Mark, FSEC, MCS, SEC, and TUV



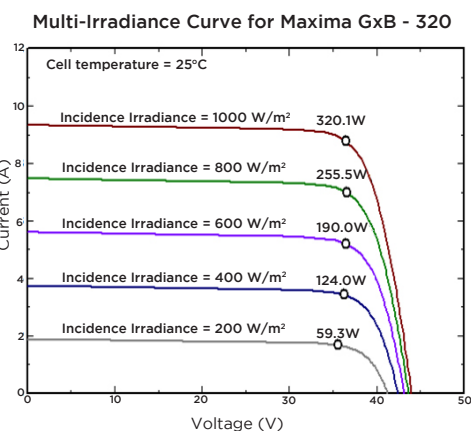
### MECHANICAL SPECIFICATIONS

Dimensions	1,681 x 997 x 40 mm (5.52 x 3.27 x 0.13 ft)
Weight	27.2 kg (60.0 lbs)
Area	1.64 m <sup>2</sup> (17.7 ft <sup>2</sup> )
Cell type	Bifacial Hybrid Cell Technology (HCT)
Module type	60 Cells, Frame double glass designed with tempered glass
Glass	Tempered 2.8mm anti-reflective coating, low-iron
Smart Junction Box	Tyco TS4-L Optimization
Cables	4mm <sup>2</sup> x 1.0 m cable with MC4 connectors
Frame	Anodized aluminium

### PACKAGING

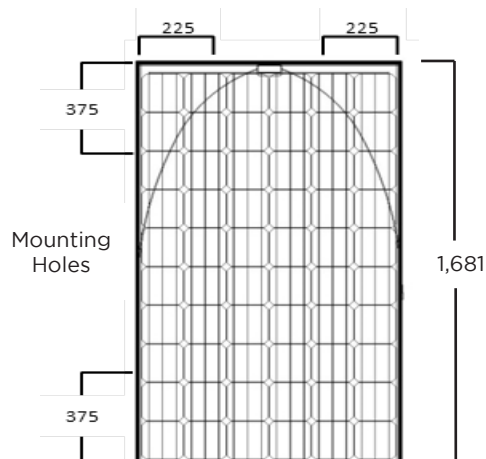
Modules per pallet	24
Pallet per shipping container	26

### $I_{max} - V_{max}$ (60 cell Version)

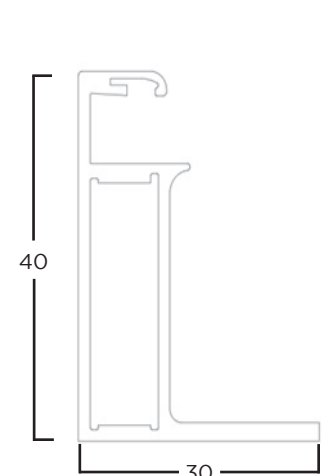


Covered by one or more of the following U.S. patents:  
7,951,640; 7,956,283; 7,960,644

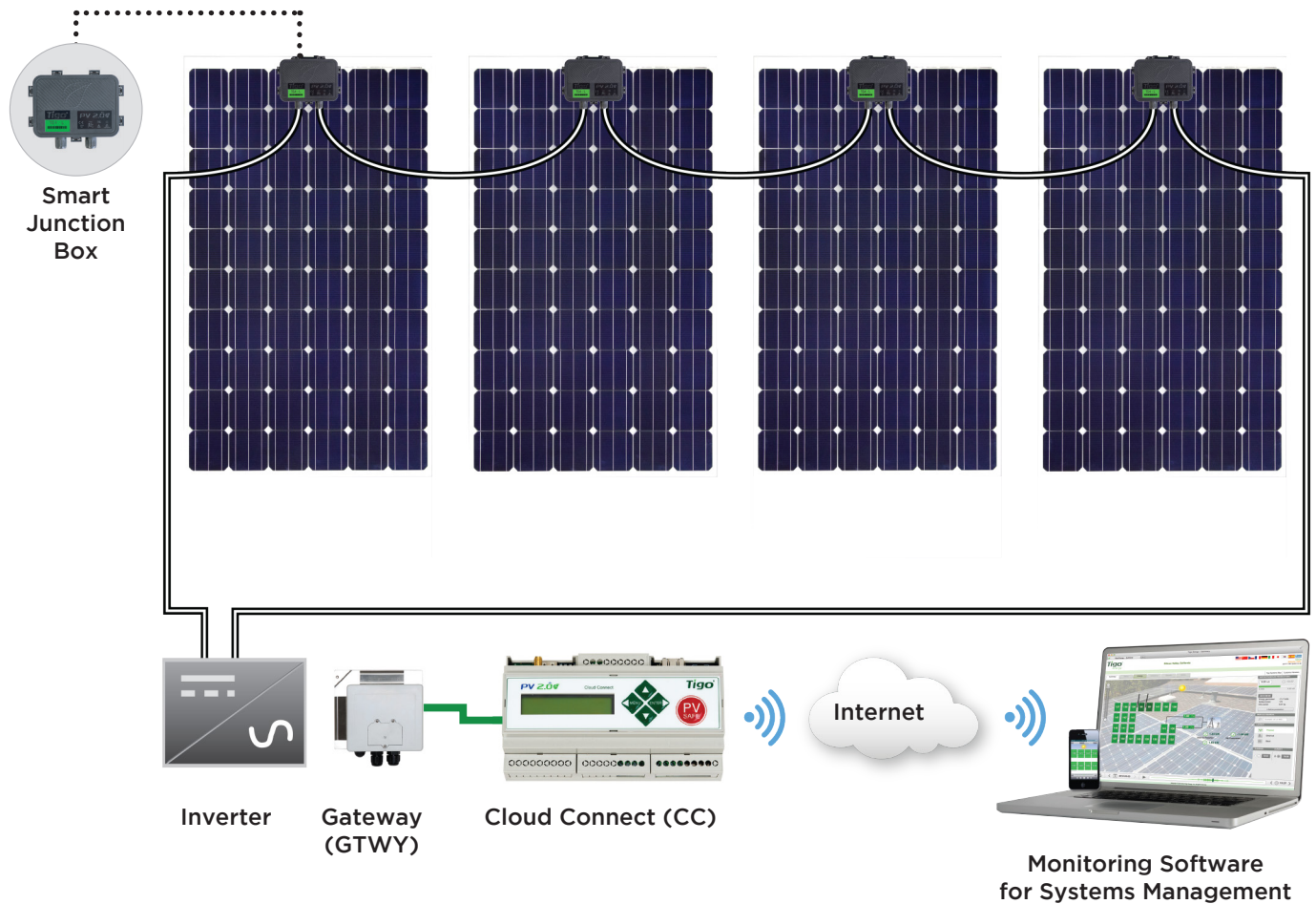
### Rear View (mm)



### Cross Section



## System Architecture Overview



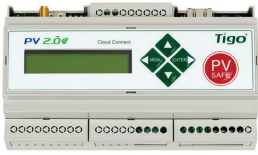
### Connectivity Detail

#### Cloud Connect

- Can connect with up to 7 GTWYs and 320 PV modules
- All Smart Modules in the same string must be assigned to the same CC

#### Gateway

- Can connect up to 120 PV modules
- Modules must be within 10m-15m (33-50 ft.) from the GW, depending on mounting surface topology



## Cloud Connect

The Cloud Connect is the data logger and communication hub of the Tigo smart platform. It controls optimization, provides safety features, and enable module-level monitoring via the Tigo cloud. It also acts as a data logger for Modbus-equipped devices, like AC meters, weather stations, and selected inverters. The Cloud Connect is the next generation Management Unit.

- Built-in Wi-Fi
- Free iOS/Android app for monitoring and commissioning
- Easy-to-install DIN rail form factor

## Electrical Specifications

### Electrical

Supply Voltage: 24VDC +/- 1VDC

Power Consumption: Max 10W

Power Supply: 100-240VAC

Din Rail: Terminal Block or;

Socket: EU/UK/US/AU Interchangeable, 2-Pin Plug

### Capacity

Single Cloud Connect supports up to 360 PV Modules  
(In case of 2Es: 180 Optimizers)

Single Cloud Connect supports up to 7 Tigo Gateways

### Internet Connectivity Options

Ethernet Interface: 10/100-BaseT

Wireless Interface: Wi-Fi

### Mechanicals

Mounting Type: DIN Rail / Wall Mount

Dimensions: 159.5 mm x 90.2 mm x 57.5 mm (6.28" x 3.55" x 2.26")

Weight: .5 kb / 1.1 lb.

Operating Temperature Range: -20 to +60°C (-4 to 140°F)

Cooling: Natural Convection - No Fans

Enclosure: Indoor NEMA 1

### Features

Safety: CE, UL1741, EN62109,-1:2010, NEC 690.12 Rapid Shutdown (Approval Pending)

EMC: FCC Part 15, IC Canada, VCCI Japan

### Optional Accessories

NEMA 3R Outdoor-Rated Enclosure

External Emergency Safety Button (ANSI/UL) Recognized



## Gateway

The Tigo Energy Gateway provides robust and scalable wireless communications with each smart module. This solution provides clear, concise communication with the smart modules on the array, vastly exceeding the quality of data transmission over previous powerline methods.

Each Gateway can communicate with up to 120 smart modules and easily combines with other Gateways to accommodate larger arrays.

## Electrical Specifications

### Electrical

Supply Voltage: 24VDC +/- 1VDC

Power Consumption: Max 10W

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Din Rail: Terminal Block or;

Socket: EU/UK/US/AU Interchangeable, 2-Pin Plug

### Gateway

Communications with Maximizer

Wireless (802.15)

Communication with Cloud Connect

RS-485 cable connection; in series with other Gateways

Mounting Location

Center of array

Mounting Method

Mounted to module frame or rack. Clips included for frame mounting

Wireless Range

50ft (15m) line-of-sight

Maximum Number of Modules per Gateway

120

## Mechanical Specifications

### Mechanical Data

Dimensions (W x H x D)

141.3 x 48.5 x 33.3 mm w/bracket

Weight

900 gm (1.98 lbs.)

Operating Temperature Range

-30°C + 70°C (-86°F + 158°F)

Enclosure Environmental Rating

IP 65

## TS4-L

### Mechanical

Ambient Temperature Range

-40 to + 85°C (-40 to +185°F)

Storage Temperature Range

-40 to + 85°C (-40 to +185°F)

Cooling Method

Natural Convection

Dimensions (with cover)

152.5 x 108 x 25 mm

Weight

550 g (1.20 lbs.)

Environmental Rating

IP65/67, NEMA 3R

### Cabling

Cabling Type

PV1-F, PV wire

Cable Length

1.0 m / other lengths per request

Connector

MC4

UV Resistance

500 hr with UVB light between 300-400 nm @ 65°C

Maximum String Voltage

1000V UL

Outer Cable Diameter

IP65/67, NEMA 3R

Wire Cross Section

4.0 mm<sup>2</sup> (12AWG)