

SYSTEM DESCRIPTION	CODE SUMMARY		
	STATE	BUILDING	ELECTRICAL
	FLORIDA	2017 FBC, 6TH	2014 NEC

- GRID-TIED PHOTOVOLTAIC SYSTEM
- (2) SOLAREEDGE INVERTER
- (59) SOLARTECH 310W MODULES
- (59) SOLAREEDGE P320 POWER OPTIMIZER

- INVERTER
- (59) PHOTOVOLTAIC MODULES ARE CONNECTED INTO (59) SOLAREEDGE POWER OPTIMIZER
- (59) SOLAREEDGE POWER OPTIMIZER CONNECT TO EACH OF THE (4) STRINGS OF (14&15) MODULES
- (2) INVERTER IS CONNECTED TO (6) STRINGS OF POWER OPTIMIZER

- TOTAL PHOTOVOLTAIC SYSTEM STC RATED DC ENERGY POWER PRODUCTION OF 18,290 WATTS
- ESTIMATED ENERGY PRODUCTION PER DAY 37.3kWh
- INVERTER HAS MAXIMUM POWER POINT TRACKING (MPPT)
- INVERTER MEETS REQUIREMENTS OF 3-P POWER
- INVERTER MEETS IEEE 1547
- INVERTER MEETS UL1741

SYSTEM AUTOMATIC OPERATION

- GRID POWER IS PRESENT, PHOTOVOLTAIC SYSTEM FEEDS THE LOAD AT DAY TIME.
- GRID POWER IS LOST, PHOTOVOLTAIC SYSTEM AUTOMATICALLY DISCONNECTS FROM THE GRID.
- PHOTOVOLTAIC SYSTEM WILL AUTOMATICALLY RESUME FEEDING POWER TO THE GRID, WHEN THE PROPER GRID VOLTAGE AND FREQUENCY IS RESTORED (IEEE STANDARDS) AND THERE IS ENOUGH SUNLIGHT

	PV MODULE	POWER OPTIMIZER	INVERTER	Point of Utility Connection	Net Meter
Item	Manufacturer	Model	Listing / Compliance		
PV Modules	SOLARTECH	310W	UL		
Inverter	SOLAREEDGE	SE7600H-US	UL1741/IEEE1547		
All disconnects	SOLAREEDGE	DC & AC	UL		
All overcurrent protection	SOLAREEDGE	DC & AC	UL		
FSEC CERTIFICATION #	SOLARTECH	310W	QC15-NT90-0118		

System data:

Installed power: 18.00 kWp
Max achieved DC power: 18.87 kW
Inverter active power: 15.20 kW
Maximum apparent power: 15.20 kVA

PV Array #1: PV Array #1

Tilt	Azimuth	Mounting
22°	180°	Co-planar with roof

SolarTech Universal, STU 310W

Inverter design

Inverter 1: SE7600H-US

Strings 1-2: PV Array #1: 15 x P320

Inverter 2: SE7600H-US

String 1: PV Array #1: 15 x P320

String 2: PV Array #1: 14 x P320

Power optimizer extreme operating conditions

P320	Calculated	Limit
Max input power	305 W	320 W
Min input voltage	38 V	8 V
Max input voltage	47 V	48 V
Max input current	10 A	11 A
Max output current	12 A	15 A

* Calculated values are the absolute min/max of all arrays using this power optimizer configuration.

DESIGN TEMP 91 DEG C, ADDER 60 DEG C (310.15(B)(2)(C), TOTAL 151 DEG C MULTIPLIER AT 151 DEG C IS .58(310.16 CORRECTION FACTORS), #10 THWN-2 RATED 40 AMPS, TIMES .58 = 23.2 AMPS, 8 CONDUCTORS IN SINGLE CONDUIT ADJUSTMENT FACTOR IS 50%, 23.2 X .7 = 16.24 AMPS

SOLAR MODULES PER STRING <15.0 AMPS>
THE MAX. AMPS FEEDING INTO THE #10 THWN-2 WIRE

A #6 grounding conductor is specified per NEC 250.120C, but a #8 conductor may be used if protected from physical damage. Note that the ground wire transitions to a #10 THWN-2 in the junction box.

TOTAL SYSTEM BACK FEED RATING: 64A

ELECTRICAL BREAKER RATING: 150A
ELECTRICAL ELEC. PANEL: 200A
120% BACKFEED RATING: 90A

The WEEB Grounding clips are designed to bond solar PV modules to mounting structures and create an electrical path to ground. WEEB Washers eliminate the need for older, more costly grounding methods and greatly reduce the amount of labor and materials used in installations.

- Bonds PV modules to mounting structures
- Specialized teeth on washer embeds into anodized aluminum to establish gas-tight electrical connection
- 304 Stainless Steel washer
- Stock parts for most popular mounting systems
- Custom WEEB Washer designs also available
- ETL Listed to UL 467
- WEEB Washers are recognized to UL2703

Electrical Characteristics STC

STC P320 W-295	STC P320 W-300	STC P320 W-305	STC P320 W-310	
Average Power	295W	300W	305W	310W
Max Module Efficiency (%)	18.1%	18.4%	18.7%	19.0%
Voltage at Max power (Vmp)	33.1V	33.4V	33.6V	33.9V
Current at Max power (Imp)	8.9A	9.0A	9.1A	9.1A
Open Circuit Voltage (Voc)	39.6V	39.9V	40.2V	40.6V
Short Circuit Current (Isc)	9.5A	9.5A	9.6A	9.7A
Operating Module Temperature	-40°C ~ 85°C			
Maximum System Voltage	1000V DC (IEC + UL)			
Maximum Series Fuse Rating	20A			
Power Sorting	0+/-5W			

STC Irradiance 1000 W/m², module temperature 25 °C, AM1.5, Best in Class AIA color converter IEC 60904-9, max power measurement uncertainty is within ± 0.3%

NOCT

295W	300W	305W	310W	
Max. Power at NOCT (Pmax)	215.6W	219.2W	222.9W	226.5W
Voltage Max. Power (Vmp)	30.3V	30.6V	30.8V	31.1V
Current Max. Power (Imp)	7.1A	7.2A	7.2A	7.3A
Open Circuit Voltage (Voc)	36.9V	37.2V	37.5V	37.8V
Short Circuit Current (Isc)	7.5A	7.6A	7.7A	7.7A

NOCT: 800 W/m² Irradiance, 20 °C ambient temperature, AM1.5, wind speed 1 m/s
Values are based on RETC certified results from a light-soaked module.

Temperature Characteristics

Nominal Operating Cell Temp. (NOCT)	45.3°C
Temperature Coefficient of Pmax	-0.366 %/°C
Temperature Coefficient of Voc	-0.281 %/°C
Temperature Coefficient of Isc	+0.041 %/°C

NOCT: 800 W/m² Irradiance, 20 °C ambient temperature, AM1.5, wind speed 1 m/s
NOCT values are based on RETC certified results. Based on a 300w module.

Maximum Power at PTC

Percentage of STC	273.4V	278.2V	282.9V	287.9V
92.7%	92.7%	92.7%	92.8%	92.8%

Certifications & Warranty

Safety and Aging IEC61215
Mechanical and Structural Safety IEC61730 / UL1703
Modules Fire Performance Type 2 UL1703
Product Warranty 12 Years
Performance Warranty of Pmax 30 Years Linear

1-year 97%, 30-year 80%. Details of these warranties can be found at www.solartechuniversal.com, under "Warranty"

Shipping Configurations

GP	HC	Trailer	
Container Length	20'	40'	53'
Pallets Per Container	12	24	36
Modules Per Pallet	20	23	23
Modules Per Container	240	552	828

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IN PARTNERSHIP WITH

MEYER BURGER

USA

SolarEdge Power Optimizer
Module Add-On for North America
P300 / P320 / P370 / P400 / P405

P300 (for 60-cell modules)	P320 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)		
INPUT	300	320	370	400	405	W
Rated Input Power	48	60	60	80	125	W
Absolute Maximum Input Voltage (Voc at maximum temperature)	1000	1000	1000	1000	1000	V
MPPT Operating Voltage Range	10 - 1000	10 - 1000	10 - 1000	10 - 1000	10 - 1000	V
Maximum Input Current	12.5	13	13.75	16	16.5	A
Maximum Output Current	12.5	13	13.75	16	16.5	A
Maximum Efficiency	99.5	99.5	99.5	99.5	99.5	%
Weight	99.6	99.6	99.6	99.6	99.6	g
Overvoltage Category	III	III	III	III	III	
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)	60	35	35	85	85	Vdc
Maximum Output Current	60	35	35	85	85	A
Maximum Output Voltage	1000	1000	1000	1000	1000	Vdc
Output Voltage Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	%
Output Voltage Accuracy	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	%
Output Voltage Load Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	%
Output Voltage Temperature Coefficient	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	%
Output Voltage Short-Circuit Current	12.5	13	13.75	16	16.5	A
Output Voltage Open-Circuit Voltage	1000	1000	1000	1000	1000	V
Output Voltage Short-Circuit Power	12.5	13	13.75	16	16.5	W
Output Voltage Short-Circuit Energy	12.5	13	13.75	16	16.5	Wh
Output Voltage Short-Circuit Current	12.5	13	13.75	16	16.5	A
Output Voltage Short-Circuit Voltage	1000	1000	1000	1000	1000	V
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Output Voltage Short-Circuit Energy	12.5	13	13.75	16	16.5	Wh
Output Voltage Short-Circuit Current	12.5	13	13.75	16	16.5	A
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