

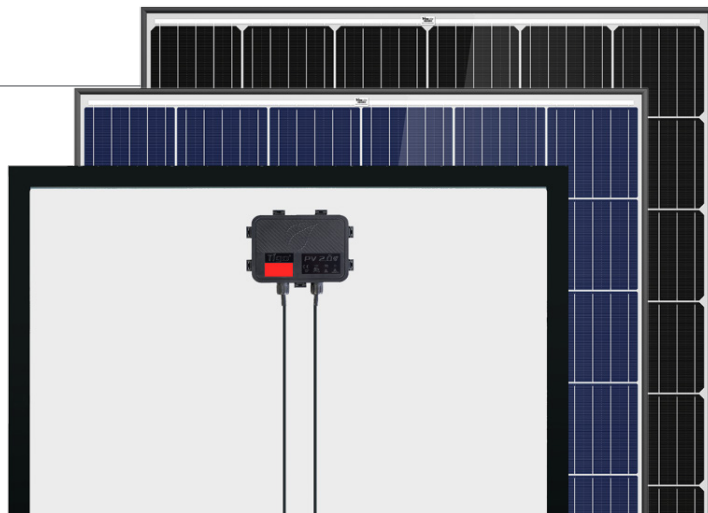
Mono

Multi

Solutions

Trina switch

THE SAFER SOLUTION



COMPATIBLE WITH MOST TRINA MODULES

255-295W
POWER OUTPUT RANGE

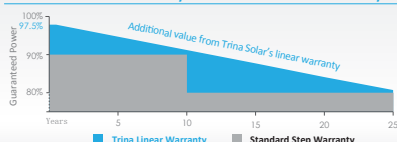
FULLY INTEGRATED SMART SOLUTION

As a leading global manufacturer of next generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners as the backbone of our shared success in driving Smart Energy Together.

Trina Solar Limited
www.trinasolar.com

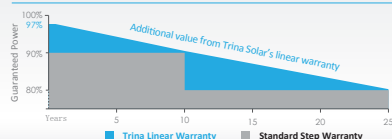
LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty · 25 Year Linear Power Warranty



LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty · 25 Year Linear Power Warranty



Trina solar
Smart Energy Together



Safer Solar

- Module-level disconnect to remotely deactivate modules
- Automatically shutdown modules in the case of over-heating, over-voltage or AC power loss



More Efficient

- Module-level monitoring to pinpoint problems
- Detailed real-time alerts and analytics



Fully Integrated

- Compatible with any inverter
- No additional boxes to mount on module



Highly reliable due to stringent quality control

- PID resistant
- 100% EL double inspection

Comprehensive products and system certificates

- IEC 61215/ IEC 61730/ UL 1703/ IEC 61701/ IEC 62716
- ISO 9001: Quality Management System
- ISO 14001: Environmental Management System
- ISO 14064: Greenhouse Gases Emissions Verification
- OHSAS 18001: Occupation Health and Safety Management System

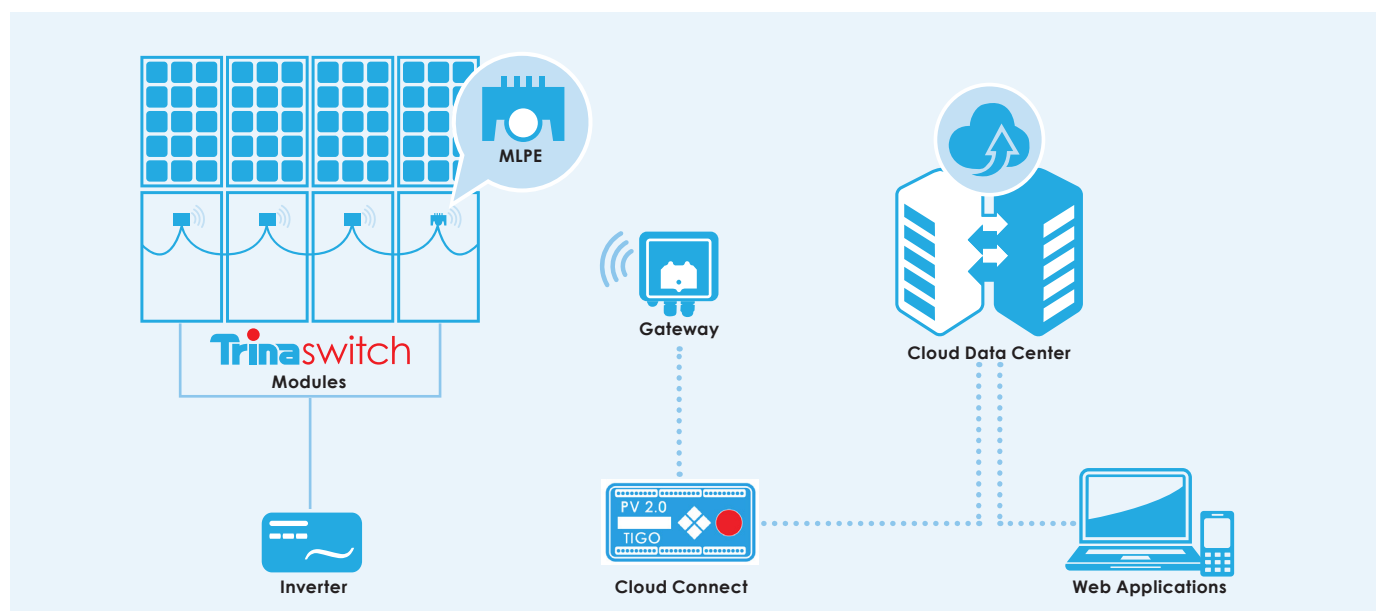


TrinaSwitch THE SAFER SOLUTION

Trinaswitch modules incorporate innovative power electronics from Tigo Energy to achieve module-level diagnostics, reduction of over-heating, over-temperature, over-voltage and other safety hazards, and is 2014 NEC 690.12 compliant.

SYSTEM ARCHITECTURE

Trinaswitch system components work together with any inverter. Trinaswitch modules communicate wirelessly through the gateway, allowing users to monitor system performance in real time.



RAPID SHUTDOWN

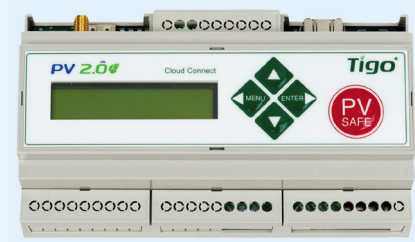
2014 NEC compliant module level rapid shutdown capability.

- Install Cloud Connect on same AC service as RSS ready inverter.
- Switch off AC main to enter PV Safe mode. (For non-RSS inverter, switch off DC disconnect as well.)

CLOUD CONNECT

The Cloud Connect controls processes in real time and sends data to a remote sever for monitoring.

SPECIFICATIONS	ONE CC SUPPORTS UP TO 7 GATEWAYS, 360 TRINASMART MODULES	
Internet Connectivity Options	Ethernet Interface	10/100M
	Wireless Interface	Wi-Fi
Electrical	Supply Voltage	24VDC +/-1V
	Power Consumption	Max 10W
	Power Supply	100-240VAC
	Din Rail	Terminal Block
	Socket	EU/UK/US/AU Interchangeable, 2-Pin Plug
Capacity (single CC)	Supports to Gateway	7 PCS
	Supports to Switch modules	360 PCS
Mechanical Specifications	Mounting Type	DIN Rail/Wall Mount
	Dimensions (L x W x H)	159.5 x 90.2 x 57.5 mm (6.28" x 3.55" x 2.26")
	Weight	0.5 kg (1.1 lb)
	Enclosure	Indoor NEMA 1
	Operating Temperature	-20° to +60° C (-4 to 140F)



Cloud Connect
An internet connection is required for full monitoring functionality.

GATEWAY

Radio transceiver that communicates with TrinaSwitch modules and relays data to the Cloud Connect.

SPECIFICATIONS	ONE GATEWAY SUPPORTS UP TO 120 TRINASWITCH MODULES	
Communication with modules	Wireless (802.15)	
	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	15m/50ft line-of-sight	
Capacity (single GW)	120 Switch modules	
Mechanical Specifications	Dimensions	141.3 x 48.5 x 33.3 mm/ 5.56 x 1.91 x 1.31 inches (with bracket)
	Weight	0.9kg/1.98lbs
	Operating temperature range	-30°C +70°C
	Enclosure environmental rating	IP 65



Gateway

The wireless communications system is FCC and CE Class 2 certified. Fixing hole comes with a M3.5X6 SST pan head screw.

MONITORING SERVICE

Trinaswitch monitoring provides total insight into the performance of any system. You can choose to upgrade online once your system is installed.



Explore the
monitoring portal at
www.trinasmart.com

FEATURES	FREE	PREMIUM
Reports	Monthly	Daily
1-min data granularity	current&previous month	Full History
Full history	•	•
Safety alerts	•	•
Dashboard showing enviomental impact	•	•
Trending data charts	•	•
Device Integration	•	•
Ability to download		•
Perfoirment Analytics		•
Performance alerts		•
API access		•

PRODUCTS

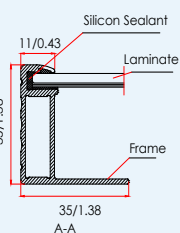
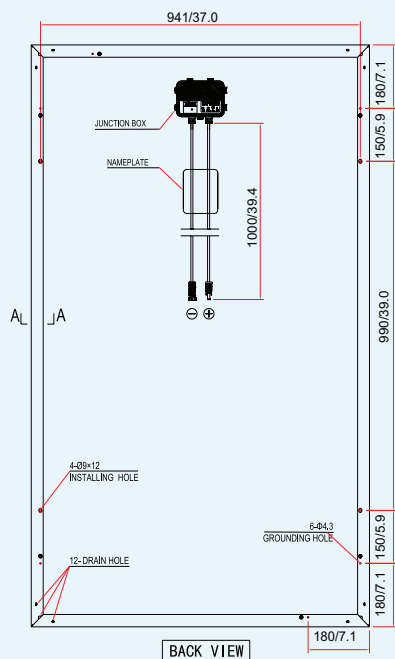
TSM-PD05.08S

POWER RANGE

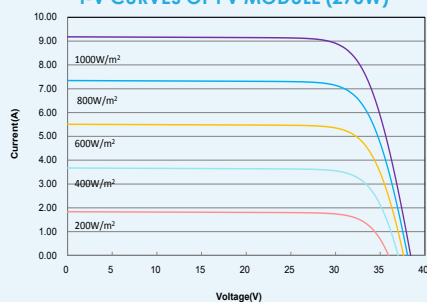
255-270W

DIMENSIONS OF PV MODULE

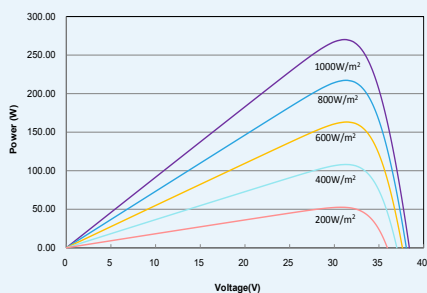
Unit:mm/inches



I-V CURVES OF PV MODULE (270W)



P-V CURVES OF PV MODULE (270W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	255	260	265	270
Power Output Tolerance- P_{MAX} (W)	0 ~ +5			
Maximum Power Voltage- V_{MPP} (V)	30.5	30.6	30.8	30.9
Maximum Power Current- I_{MPP} (A)	8.37	8.50	8.61	8.73
Open Circuit Voltage - V_{OC} (V)	38.1	38.2	38.3	38.4
Short Circuit Current- I_{SC} (A)	8.88	9.00	9.10	9.18
Module Efficiency η_m (%)	15.6	15.9	16.2	16.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

*Test tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Maximum Power- P_{MAX} (Wp)	189	193	197	200
Maximum Power Voltage- V_{MPP} (V)	28.2	28.4	28.6	28.7
Maximum Power Current- I_{MPP} (A)	6.71	6.81	6.89	6.97
Open Circuit Voltage - V_{OC} (V)	35.3	35.4	35.5	35.5
Short Circuit Current- I_{SC} (A)	7.17	7.27	7.35	7.41

NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Multicrystalline 156 × 156 mm (6 inches)
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1650 × 992 × 35 mm (65.0 × 39.1 × 1.4 inches)
Weight	19.0 kg (41.9 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Backsheet	White
Frame	Black Anodized Aluminium Alloy
J-Box	IP 65 or IP 67 rated
Cables	Photovoltaic Technology Cable 4.0 mm ² (0.006 inches ²), 1000 mm (39.4 inches)
Connector	MC4 Compatible
Fire Type	Type 1 or Type 2

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.41%/°C
Temperature Coefficient of V_{OC}	-0.32%/°C
Temperature Coefficient of I_{SC}	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating	15A

WARRANTY

10 year workmanship warranty

25 year linear performance warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 30 pieces

Modules per 40' container: 840 pieces

TSM_EN_2016_B

PRODUCTS

TSM-DD05A.08S(II)

TSM-DD05A.05S(II)

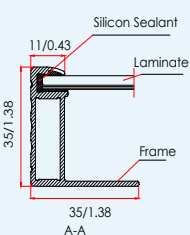
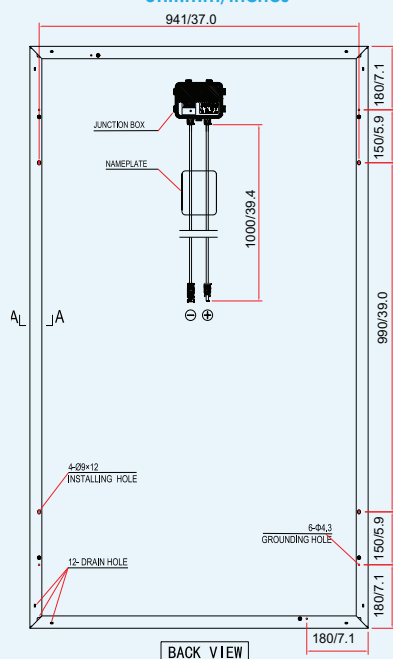
POWER RANGE

275-295W

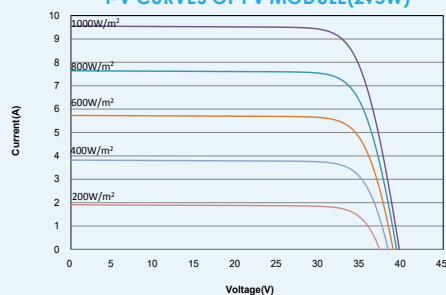
270-290W

DIMENSIONS OF PV MODULE

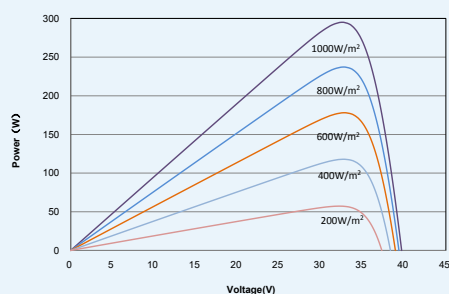
Unit:mm/inches



I-V CURVES OF PV MODULE(295W)



P-V CURVES OF PV MODULE(295W)



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	270	275	280	285	290	295
Power Output Tolerance-P _{MAX} (W)	0 ~ +5					
Maximum Power Voltage-V _{MPP} (V)	31.2	31.4	31.7	31.8	32.2	32.5
Maximum Power Current-I _{MPP} (A)	8.66	8.76	8.84	8.97	9.01	9.08
Open Circuit Voltage -Voc(V)	38.4	38.7	39.0	39.3	39.5	39.7
Short Circuit Current-ISC(A)	9.18	9.26	9.35	9.45	9.50	9.55
Module Efficiency η _m (%)	16.5	16.8	17.1	17.4	17.7	18.0

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.

*Test tolerance: $\pm 3\%$.

ELECTRICAL DATA (NOCT)

Maximum Power-P _{MAX} (Wp)	201	205	209	212	216	220
Maximum Power Voltage-V _{MPP} (V)	28.9	29.2	29.4	29.6	29.9	30.2
Maximum Power Current-I _{MPP} (A)	6.96	7.02	7.10	7.17	7.23	7.28
Open Circuit Voltage-V _{oc} (V)	35.7	36.0	36.3	36.6	36.7	36.9
Short Circuit Current-I _{SC} -I _{SC} (A)	7.41	7.48	7.55	7.63	7.67	7.71

NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline 156 × 156 mm (6 inches)
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1650 × 992 × 35 mm (65.0 x 39.1 x 1.4 inches)
Weight	18.6 kg (41.0 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Backsheet	White (DD05A.08U(II)); Black (DD05A.05U(II))
Frame	Black Anodized Aluminium Alloy
J-Box	IP 65 or IP 67 rated
Cables	Photovoltaic Technology Cable 4.0 mm² (0.006 inches²), 1000 mm (39.4 inches)
Connector	MC4 Compatible

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44°C(± 2°C)
Temperature Coefficient of P _{MAX}	- 0.39%/°C
Temperature Coefficient of V _{OC}	- 0.29%/°C
Temperature Coefficient of I _{SC}	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
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