Ez Mount L Foot

* Patent Pending

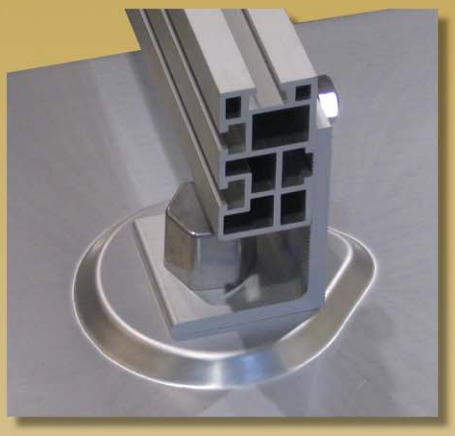
for Shingle Roofs

* All in One Roof Flashing & Mount
* Mounts with all Standard Racking Systems
* Stainless Steel Lag Bolts and Hardware
* All Aluminum
* Easy to install

SUNMODO
1915 E 5th St., Ste. C
Vancouver, WA 98661
Phone: 360-335-3037 www.sunmodo.com

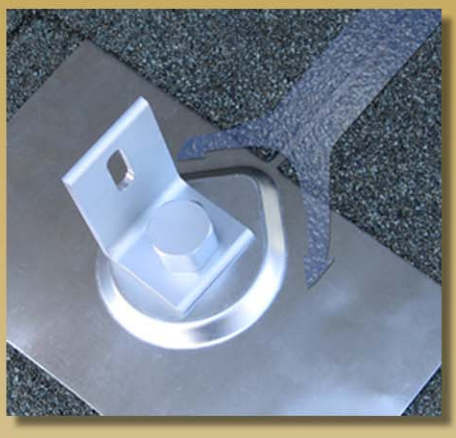
Ez Roof Mount . . . Engineered and Designed for easy installation.

Our roof mounting system is water tight and durable for any composite/shake roof!

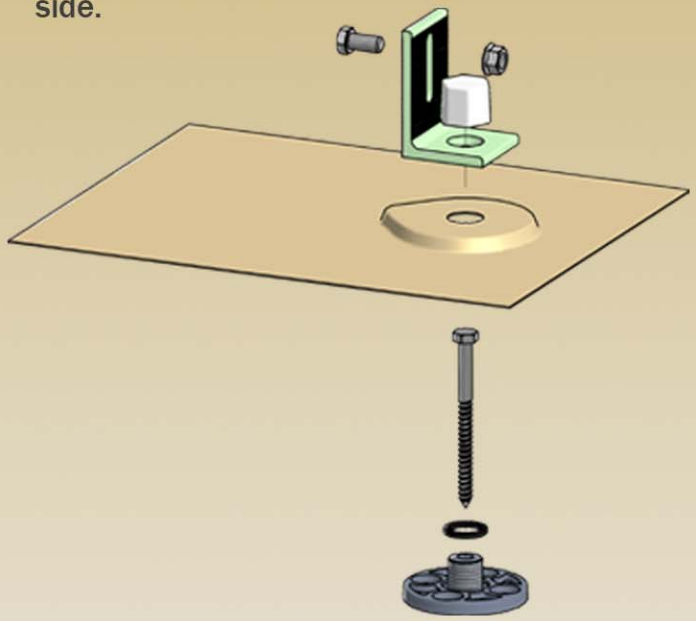


Serrated L Foot allows for rail mounting on either side.

Versatile aluminum base for multiple configurations.



Flashing designed to redirect water flow.

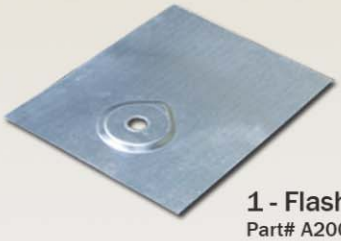


Optional Standoff Kits available!

Ez Mount L-Foot Kit for Shingle Roofs

Kit# K10068-001

All kits come complete with the following parts:



1 - Flashing
Part# A20052-001

1 - Al Shoe
Part# A20065-001

1 - Hex Cap
Part# A20066-001

1 - Ez L Foot
Part# A20064-001

1 - Lag Bolt SS 5/16 x 4
Part# B15015-002

1 - Bolt 3/8 - 16 x 3/4”
1 - Flange Nut 3/8”

SUNMODO
1915 E 5th St., Ste. C
Vancouver, WA 98661
Phone: 360-335-3037 www.sunmodo.com

Datasheet

IRONRIDGE

Roof Mount System

Built for solar's toughest roofs.

Anchored by the strongest rails in solar, the IronRidge Roof Mount System provides the durability and versatility to handle virtually any residential or commercial rooftop.

The unique curved profile of the XRS Rail increases its strength while also giving it an attractive look, making it very customer-friendly. In addition, IronRidge Rails are certified for integrated grounding, which eliminates separate module grounding components and procedures, making it very installer-friendly.

Strongest Rails

Longer spans between attachments, fewer roof penetrations.

PE Certified

Pre-stamped engineering letters available in most states.

Simple Assembly

Versatile and adjustable components simplify any array design.

Design Software

Online tool generates a complete bill of materials in minutes.

Integrated Grounding

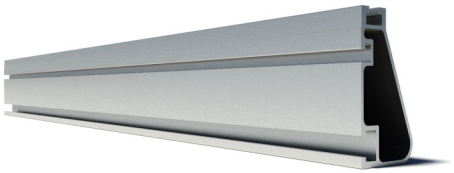
UL 2703 system eliminates separate module grounding components.

20 Year Warranty

Twice the protection offered by competitors.

Rails

Standrard Rails (XRS)



Curved rails increase spanning capabilities and aesthetics.

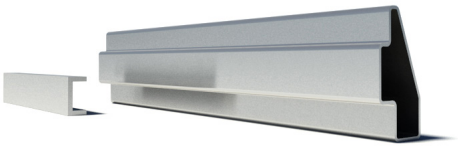
- Available in clear and black anod.
- Multiple sizes between 12’ and 18’
- Made of corrosion resistant alum.

Light Rails (XRL)

Lightweight rails reduce cost for lighter load conditions.

- Available in clear and black anod.
- Multiple sizes between 12’ and 18’
- Made of corrosion resistant alum.

Rail Splices

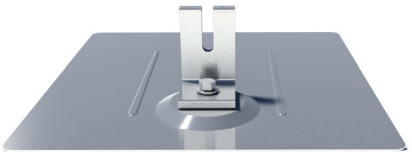


Internal splices seamlessly connect rails, allowing easy L-foot installation.

- Different versions for XRS and XRL
- Includes self-tapping screws
- Available with grounding straps

Attachments

Flashings



FlashFoot™ is an all-in-one mounting product for composition shingle roofs.

- Integrated L-Foot and hardware
- Certified compliant with IBC & IRC
- PE certified with IronRidge Rails

Adjustable L-Feet

Slotted L-feet provide adaptable attachment to standoffs and flashings.

- Available in clear and black anod.
- Works with XRS and XRL rails
- Compatible with third-party parts

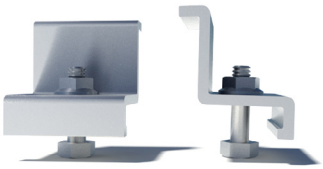
Tilt Leg Kits

Fixed and adjustable tilt legs allow adjustment in all three axes.

- Attaches directly to XRS and XRL
- Ships with all required hardware
- Multiple sizes for 5-45 deg. tilts

Clamps & Accessories

End Clamps



Secure modules to the end of the rails.

- Clear and black anod.
- Sizes from 1.22” to 2.3”
- Optional bottom clamps

Mid Clamps

Fasten modules in the middle of the rails.

- Clear and black anod.
- T-bolt or hex nut designs
- Grounding clamp offered

End Caps

Provide a finished look for rails.

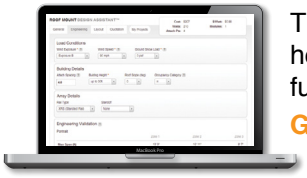
- Keeps out debris
- Black polycarbonate
- UV protected

Wire Clips

Organize both DC and AC wiring along the rails.

- Attaches to both rails
- Supports ten 5mm wires
- UV protected

Online Software



The IronRidge Design Assistant helps you go from rough layout to fully engineered system. For free.

Go to ironridge.com/rm

Available with Integrated Grounding

IronRidge offers UL 2703 certified components that automatically bond modules and rails to ground.

Go to ironridge.com/ig

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solaredge

SolarEdge Single Phase Inverters

For North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

INVERTERS

The best choice for SolarEdge enabled systems

- Integrated arc fault protection (Type 1) for NEC 2011 690.11 compliance (part numbers ending in “-U”)
- Superior efficiency (98%)
- Small, lightweight and easy to install on provided bracket
- Built-in module-level monitoring
- Internet connection through Ethernet or Wireless
- Outdoor and indoor installation
- Fixed voltage inverter, DC/AC conversion only
- Pre-assembled AC/DC Safety Switch for faster installation

Single Phase Inverters for North America

SE3000A-US / SE3800A-US / SE5000A-US / SE6000A-US /
SE7600A-US / SE10000A-US / SE11400A-US

	SE3000A-US	SE3800A-US	SE5000A-US	SE6000A-US	SE7600A-US	SE10000A- US	SE11400A-US	
OUTPUT								
Nominal AC Power Output	3300	3840	5200 @ 208V 5520 @240V	6000	7680	9980 @ 208V 10080 @240V	11520	VA
Max. AC Power Output	3650	4150	5600 @ 208V 6000 @240V	6000	8350	10800 @ 208V 10950 @240V	12000	VA
AC Output Voltage Min.-Nom.-Max.* 183 - 208 - 229 Vac	-	-	✓	-	-	✓	-	
AC Output Voltage Min.-Nom.-Max.* 211 - 240 - 264 Vac	✓	✓	✓	✓	✓	✓	✓	
AC Frequency Min.-Nom.-Max.*	59.3 - 60 - 60.5 (with HI country setting 57 - 60 - 60.5)							Hz
Max. Continuous Output Current	14	16	25 @ 208V 23 @ 240V	25	32	48 @ 208V 42 @ 240V	48	A
GFDI	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Recommended Max. DC Power** (STC)	4100	4800	6500	7500	9600	12400	14400	W
Transformer-less, Ungrounded	Yes							
Max. Input Voltage	500							Vdc
Nom. DC Input Voltage	325 @ 208V / 350 @ 240V							Vdc
Max. Input Current***	11	13	17 @ 208V 17 @ 240V	18	23.5	33 @ 208V 30.5 @ 240V	35	Adc
Max. Input Short Circuit Current	30				45			Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	97.7	98.2	98.3	98.3	98	98	98	%
CEC Weighted Efficiency	97.5	98	97.5 @ 208V 98 @ 240V	97.5	97.5	97 @ 208V 97.5 @ 240V	97.5	%
Nighttime Power Consumption	< 2.5				< 4			W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, RS232, Ethernet, ZigBee (optional)							
STANDARD COMPLIANCE								
Safety	UL1741, UL1699B (Part numbers ending in "-U"), UL1998 , CSA 22.2							
Grid Connection Standards	IEEE1547							
Emissions	FCC part15 class B							
INSTALLATION SPECIFICATIONS								
AC output conduit size / AWG range	3/4" minimum / 24-6 AWG				3/4" minimum / 8-3 AWG			
DC input conduit size / # of strings / AWG range	3/4" minimum / 1-2 strings / 24-6 AWG				3/4" minimum / 1-2 strings / 14-6 AWG			
Dimensions with AC/DC Safety Switch (HxWxD)	30.5 x 12.5 x 7 / 775 x 315 x 172		30.5 x 12.5 x 7.5 / 775 x 315 x 191		30.5 x 12.5 x 10.5 / 775 x 315 x 260			in / mm
Weight with AC/DC Safety Switch	51.2 / 23.2		54.7 / 24.7		88 .4 / 40.1			lb / kg
Cooling	Natural Convection				Fans (user replaceable)			
Noise	< 25				< 50			dBA
Min.-Max. Operating Temperature Range	-13 to +140 / -25 to +60 (CAN version**** -40 to +60)							˚F / ˚C
Protection Rating	NEMA 3R							

* For other regional settings please contact SolarEdge support

** Limited to 125% for locations where the yearly average high temperature is above 77ºF/25ºC and to 135% for locations where it is below 77ºF/25ºC.
For detailed information, refer to http://www.solaredge.us/files/pdfs/inverter_dc_oversizing_guide.pdf

*** A higher current source may be used; the inverter will limit its input current to the values stated.

**** CAN P/Ns are eligible for the Ontario FIT and microFIT (microFIT exc. SE11400A-US-CAN)

RoHS

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SolarEdge Power Optimizer

Module Add-On For North America

P300 / P350 / P400 / P405

POWER OPTIMIZER

PV power optimization at the module-level

- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety

SolarEdge Power Optimizer

Module Add-On for North America

P300 / P350 / P400 / P405

	P300 (for 60-cell modules)	P350 (for 72-cell modules)	P400 (for 96-cell modules)	P405 (for thin film modules)	
INPUT					
Rated Input DC Power[1]	300	350	400	405	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	80	125	Vdc
MPPT Operating Range	8 - 48	8 - 60	8 - 80	12.5 - 105	Vdc
Maximum Short Circuit Current (Isc)	10				Adc
Maximum DC Input Current	12.5				Adc
Maximum Efficiency	99.5				%
Weighted Efficiency	98.8				%
Overvoltage Category	II				
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING INVERTER)					
Maximum Output Current	15				Adc
Maximum Output Voltage	60			85	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)					
Safety Output Voltage per Power Optimizer	1				Vdc
STANDARD COMPLIANCE					
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3				
Safety	IEC62109-1 (class II safety), UL1741				
RoHS	Yes				
INSTALLATION SPECIFICATIONS					
Maximum Allowed System Voltage	1000				Vdc
Dimensions (W x L x H)	141 x 212 x 40.5 / 5.55 x 8.34 x 1.59				mm / in
Weight (including cables)	950 / 2.1				gr / lb
Input Connector	MC4 / Amphenol / Tyco			MC4	
Output Wire Type / Connector	Double Insulated; Amphenol				
Output Wire Length	0.95 / 3.0	1.2 / 3.9			m / ft
Operating Temperature Range	-40 - +85 / -40 - +185				˚C / ˚F
Protection Rating	IP65 / NEMA4				
Relative Humidity	0 - 100				%

[1] Rated STC power of the module. Module of up to +5% power tolerance allowed.

PV SYSTEM DESIGN USING A SOLAREDGE INVERTER[2]	SINGLE PHASE	THREE PHASE 208V	THREE PHASE 480V	
Minimum String Length (Power Optimizers)	8	10	18	
Maximum String Length (Power Optimizers)	25	25	50	
Maximum Power per String	5250	6000	12750	W
Parallel Strings of Different Lengths or Orientations	Yes			

[2] It is not allowed to mix P405 with P300/P350/P400/P600/P700 in one string.

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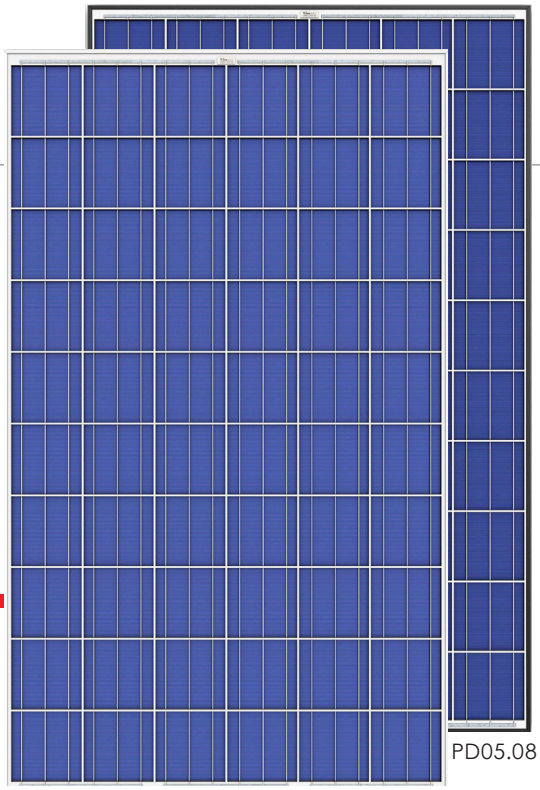
THE Universal MODULE



60 CELL
MULTICRYSTALLINE MODULE

245-260W
POWER OUTPUT RANGE

15.9%
MAXIMUM EFFICIENCY

0~+3%
POWER OUTPUT GUARANTEE

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

Trinasolar
Smart Energy Together

Our most versitile product
- Compatible with all major BOS components and system designs
- 1000V UL/1000V IEC certified

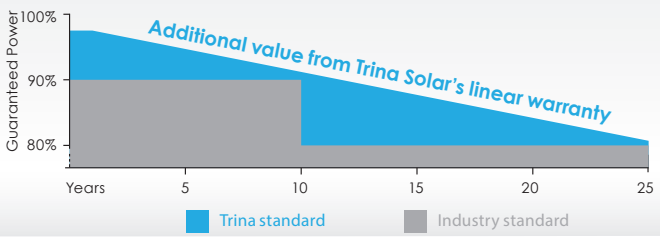
One of the industry's most trusted modules
- Field proven performance

Highly reliable due to stringent quality control
- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- PID resistant

Certified to withstand challenging environmental conditions
- 2400 Pa wind load
- 5400 Pa snow load

LINEAR PERFORMANCE WARRANTY

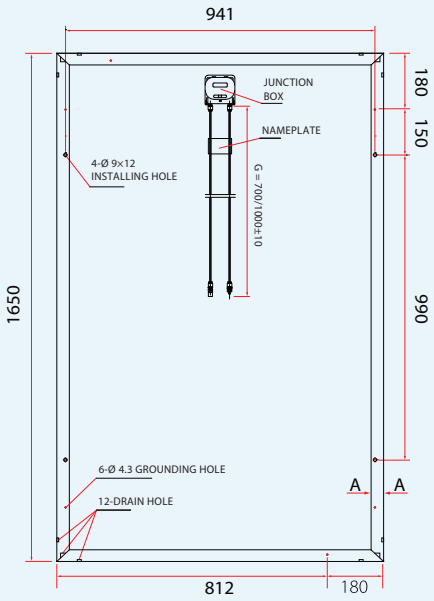
10 Year Product Warranty • 25 Year Linear Power Warranty



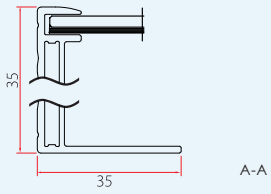
THE Universal MODULE

PRODUCTS	POWER RANGE
TSM-PD05	245-260W
TSM-PD05.08	245-260W

DIMENSIONS OF PV MODULE
unit:mm

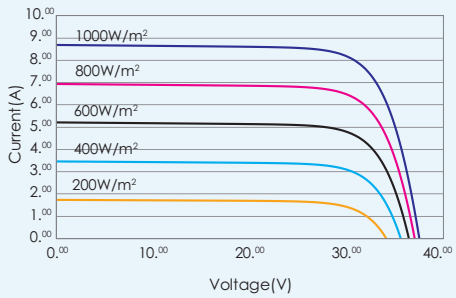


Back View



A-A

I-V CURVES OF PV MODULE (245W)



CERTIFICATION

ELECTRICAL DATA (STC)

Peak Power Watts-P_{MAX} (Wp)	245	250	255	260
Power Output Tolerance-P_{MAX} (%)	0 ~ +3			
Maximum Power Voltage-V_{MPP} (V)	29.9	30.3	30.5	30.6
Maximum Power Current-I_{MPP} (A)	8.20	8.27	8.37	8.50
Open Circuit Voltage-V_{OC} (V)	37.8	38.0	38.1	38.2
Short Circuit Current-I_{SC} (A)	8.75	8.79	8.88	9.00
Module Efficiency η_m (%)	15.0	15.3	15.6	15.9

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5.
Typical efficiency reduction of 4.5% at 200 W/m² according to EN 60904-1.

ELECTRICAL DATA (NOCT)

Maximum Power-P_{MAX} (Wp)	182	186	190	193
Maximum Power Voltage-V_{MPP} (V)	27.6	28.0	28.1	28.3
Maximum Power Current-I_{MPP} (A)	6.59	6.65	6.74	6.84
Open Circuit Voltage-V_{OC} (V)	35.1	35.2	35.3	35.4
Short Circuit Current-I_{SC} (A)	7.07	7.10	7.17	7.27

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(64.95 x 39.05 x 1.37 inches)
Weight	18.6 kg (41lb)
Glass	3.2 mm(0.13 inches),High Transmission, AR Coated Tempered Glass
Backsheet	White
Frame	Silver Anodized Aluminium Alloy (PD05); Black(PD05.08)
J-Box	IP 65 or IP 67 rated
Cables	Photovoltaic Technology cable 4.0mm² (0.006 inches²), 700 mm(27.56 inches)/1000mm(39.37inches)
Connector	MC4

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 Product Workmanship Warranty

25 year Linear Power Warranty

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 30 pieces

Modules per 40' container: 840 pieces

TSM_EN_August_2014_A(US)

Trinasolar
Smart Energy Together

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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