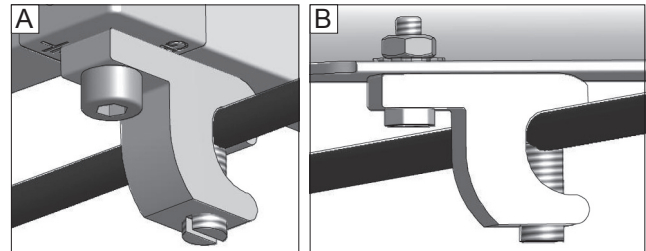


## Grounding of module and frame in US and Canada

### Traditional Grounding Methods:

The module can be grounded by connecting hardware and copper wire to the grounding holes using lay in lug. The lug can be fixed:

- A) At the module corner by using a socket head cap screw or
- B) At the hole provided in the flange by using a screw with a serrated washer, a washer and a nut.

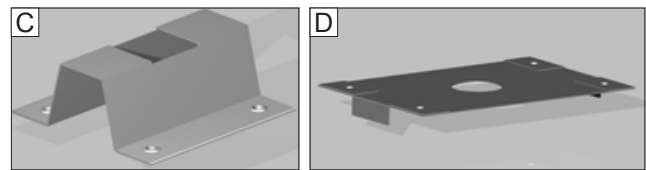


Lay-in lug (Module's corner key)

Lay-in lug (Module's Flange)

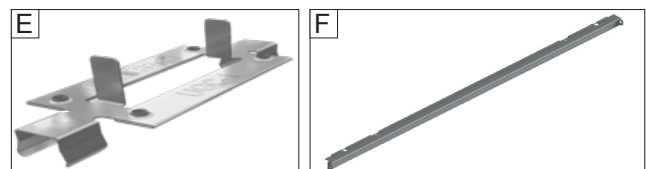
The module also can be grounded to the rail utilizing the following hardware:

- C) WEEB-DPF for SolarWorld Sunfix Ground Mount and Sunfix Plus mounting systems.
- D) WEEB-PMC for SolarWorld Sunfix Ground Mount and Professional Solar mounting systems.
- E) UGC-1 for Unirac Solar Mount mounting system.
- F) Long Claw for Panel Claw mounting system.



WEEB-DPF

WEEB-PMC



UGC-1

Long Claw

### Note:

These grounding methods have been tested by Intertek Laboratory in accordance to UL 1703 using SolarWorld's modules.

### Recommended components and their appropriate tightening torque for grounding in US and Canada:

Item	Manufacturer/Description	Tightening torque
Lay-In lug	IlSCO GBL-4DBT	35 lbf-in, 4-6 AWG str
		25 lbf-in, 8 AWG str
		20 lbf-in, 10-14 AWG sol/str
Socket head cap screw	10-24, 5/8", SS 18-8	62 lbf-in (7.0 Nm)
Bolt	#6-32, SS	
Serrated washer	M5, SS	
Washer	ID 9/64", OD 3/8", SS	
Nut	#6-32, SS	
Grounding Clip	Burndy WEEB-DPF	12 lbf-ft (16.3 Nm)
	Burndy WEEB-PMC	12 lbf-ft (16.3 Nm)
	Unirac UGC-1	10 lbf-ft (13.5 Nm)
Grounding Claw	Panel Claw Long Claw	18-20 lbf-ft (24.4-27.1 Nm)

\* SolarWorld's modules required tightening torque for the mounting hardware is 15 lbf-ft (20 Nm). Choose the higher required torque of the values specified by the Installation guide for grounding and SolarWorld's module torque requirement.

### Note:

1. Use general purpose anti-seize compound on fastener threads when installing WEEBs.
2. The NEC section 690.43 states, «Exposed non-current carrying metal parts of module frames, equipment, and conductor enclosures shall be grounded in accordance with 250.134 or 250.136(A) regardless of voltage.»
3. WEEBs are intended for SINGLE USE ONLY. Functionality will not be guaranteed if reused.

**Sunfix Ground Mount:**

- » Use WEEB-PMC at end clamp locations to bond solar module frames to module mounting beam.
- » Use WEEB-DPF at mid-clamp locations on outer-beams to bond solar module frames to module mounting beams.

**Sunfix plus:**

- » Use WEEB-DPF at mid-clamp locations on outer-beams to bond solar module frames to module mounting beams.

**Professional Solar:**

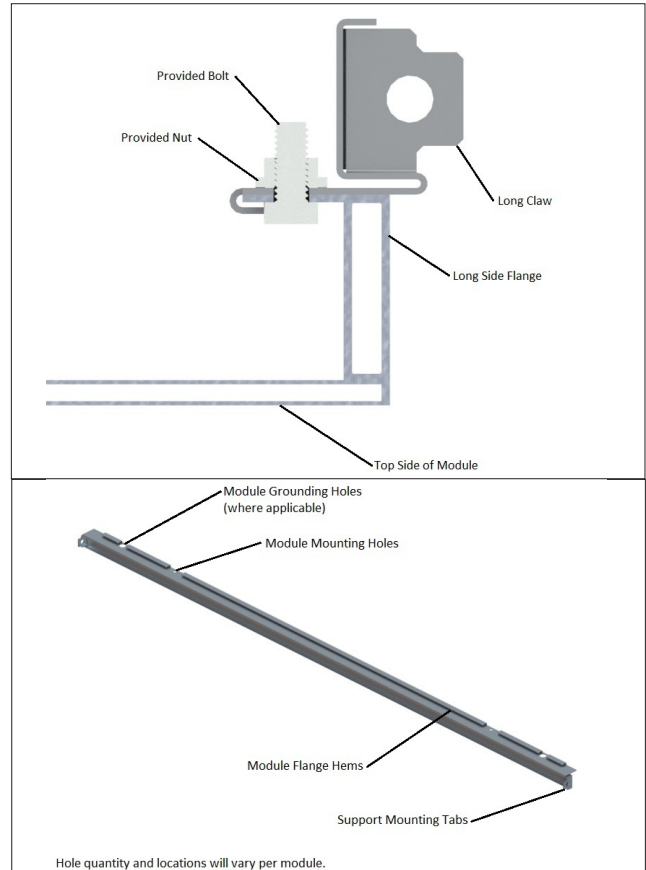
- » Use WEEB-PMC at mid-clamp locations on outer-beams to bond solar module frames to module mounting beams.

**Unirac SolarMount:**

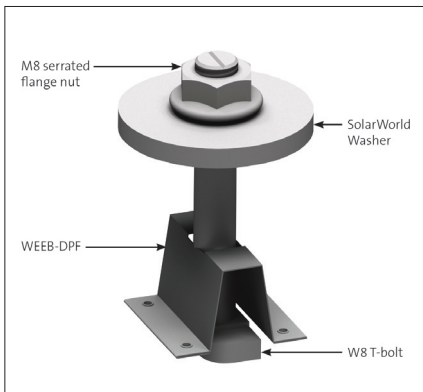
- » Use UGC-1 at mid-clamp and end-clamp locations on outer-beams to bond solar module frames to module mounting beams.

**Panel Claw, Polar Bear:**

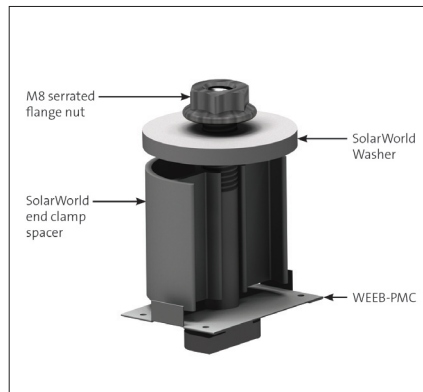
- » This Claw is used for PV modules that are not compatible with flange clamp style Claws. The Long Claw attaches at the module mounting holes. Please see the module manufacturer’s installation guide for screw torque specifications.



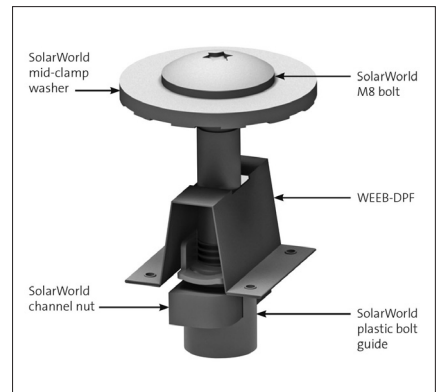
Panel Claw, Polar Bear



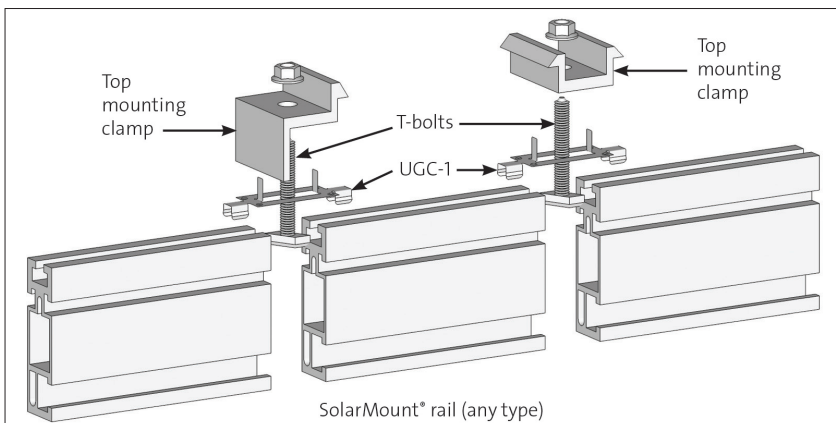
Sunfix Ground Mount Module Clamp



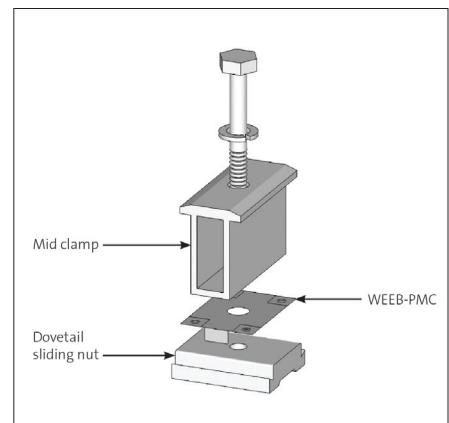
Sunfix Ground Mount End Clamp



Sunfix Plus Module Clamp



Unirac SolarMount



Professional Solar