

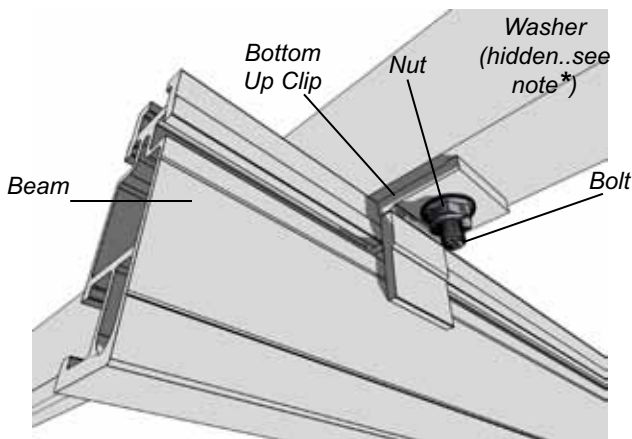
SolarMount Technical Datasheet

Pub 110818-1td V1.0 August 2011

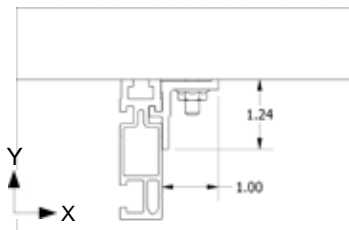
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SolarMount Module Connection Hardware

SolarMount Bottom Up Module Clip Part No. 302000C



- **Bottom Up Clip material:** One of the following extruded aluminum alloys: 6005-T5, 6105-T5, 6061-T6
- **Ultimate tensile:** 38ksi, Yield: 35 ksi
- **Finish:** Clear Anodized
- **Bottom Up Clip weight:** ~0.031 lbs (14g)
- Allowable and design loads are valid when components are assembled with SolarMount series beams according to authorized UNIRAC documents
- Assemble with one ¼"-20 ASTM F593 bolt, one ¼"-20 ASTM F594 serrated flange nut, and one ¼" flat washer
- Use anti-seize and tighten to 10 ft-lbs of torque
- Resistance factors and safety factors are determined according to part 1 section 9 of the 2005 Aluminum Design Manual and third-party test results from an IAS accredited laboratory
- Module edge must be fully supported by the beam
- * **NOTE ON WASHER:** Install washer on bolt head side of assembly. **DO NOT** install washer under serrated flange nut

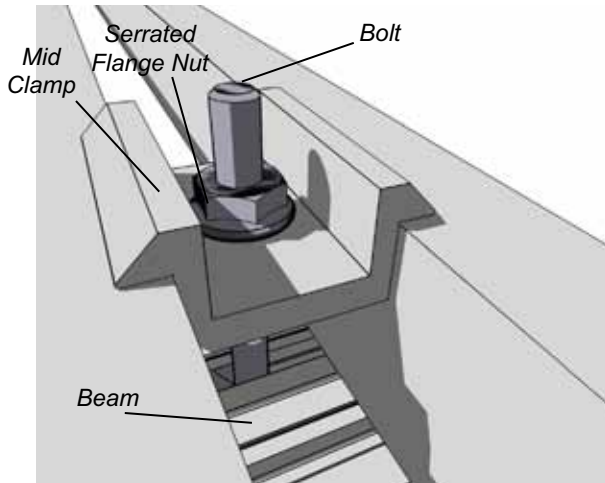


| Applied Load Direction | Average Ultimate lbs (N) | Allowable Load lbs (N) | Safety Factor, FS | Design Load lbs (N) | Resistance Factor, Φ |
|------------------------|--------------------------|------------------------|-------------------|---------------------|----------------------|
| Tension, Y+ | 1566 (6967) | 686 (3052) | 2.28 | 1038 (4615) | 0.662 |
| Transverse, X± | 1128 (5019) | 329 (1463) | 3.43 | 497 (2213) | 0.441 |
| Sliding, Z± | 66 (292) | 27 (119) | 2.44 | 41 (181) | 0.619 |

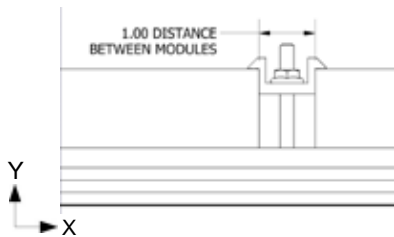
Dimensions specified in inches unless noted

SolarMount Mid Clamp

Part No. 302101C, 302101D, 302103C, 302104D, 302105D, 302106D



- **Mid clamp material:** One of the following extruded aluminum alloys: 6005-T5, 6105-T5, 6061-T6
- **Ultimate tensile:** 38ksi, Yield: 35 ksi
- **Finish:** Clear or Dark Anodized
- **Mid clamp weight:** 0.050 lbs (23g)
- Allowable and design loads are valid when components are assembled according to authorized UNIRAC documents
- Values represent the allowable and design load capacity of a single mid clamp assembly when used with a SolarMount series beam to retain a module in the direction indicated
- Assemble mid clamp with one Unirac 1/4"-20 T-bolt and one 1/4"-20 ASTM F594 serrated flange nut
- Use anti-seize and tighten to 10 ft-lbs of torque
- Resistance factors and safety factors are determined according to part 1 section 9 of the 2005 Aluminum Design Manual and third-party test results from an IAS accredited laboratory

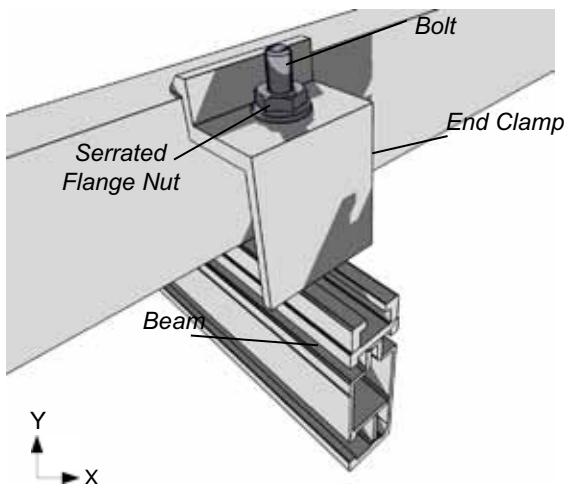


Dimensions specified in inches unless noted

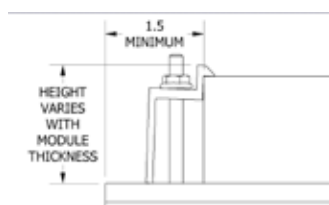
| Applied Load Direction | Average Ultimate lbs (N) | Allowable Load lbs (N) | Safety Factor, FS | Design Load lbs (N) | Resistance Factor, Φ |
|------------------------|--------------------------|------------------------|-------------------|---------------------|---------------------------|
| Tension, Y+ | 2020 (8987) | 891 (3963) | 2.27 | 1348 (5994) | 0.667 |
| Transverse, Z± | 520 (2313) | 229 (1017) | 2.27 | 346 (1539) | 0.665 |
| Sliding, X± | 1194 (5312) | 490 (2179) | 2.44 | 741 (3295) | 0.620 |

SolarMount End Clamp

Part No. 302001C, 302002C, 302002D, 302003C, 302003D, 302004C, 302004D, 302005C, 302005D, 302006C, 302006D, 302007D, 302008C, 302008D, 302009C, 302009D, 302010C, 302011C, 302012C



- **End clamp material:** One of the following extruded aluminum alloys: 6005-T5, 6105-T5, 6061-T6
- **Ultimate tensile:** 38ksi, Yield: 35 ksi
- **Finish:** Clear or Dark Anodized
- **End clamp weight:** varies based on height: ~0.058 lbs (26g)
- Allowable and design loads are valid when components are assembled according to authorized UNIRAC documents
- Values represent the allowable and design load capacity of a single end clamp assembly when used with a SolarMount series beam to retain a module in the direction indicated
- Assemble with one Unirac 1/4"-20 T-bolt and one 1/4"-20 ASTM F594 serrated flange nut
- Use anti-seize and tighten to 10 ft-lbs of torque
- Resistance factors and safety factors are determined according to part 1 section 9 of the 2005 Aluminum Design Manual and third-party test results from an IAS accredited laboratory
- Modules must be installed at least 1.5 in from either end of a beam

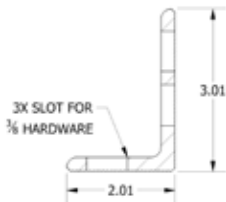
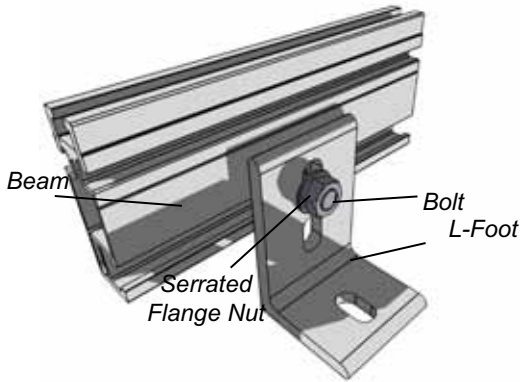


Dimensions specified in inches unless noted

| Applied Load Direction | Average Ultimate lbs (N) | Allowable Load lbs (N) | Safety Factor, FS | Design Loads lbs (N) | Resistance Factor, Φ |
|------------------------|--------------------------|------------------------|-------------------|----------------------|---------------------------|
| Tension, Y+ | 1321 (5876) | 529 (2352) | 2.50 | 800 (3557) | 0.605 |
| Transverse, Z± | 63 (279) | 14 (61) | 4.58 | 21 (92) | 0.330 |
| Sliding, X± | 142 (630) | 52 (231) | 2.72 | 79 (349) | 0.555 |

SolarMount Beam Connection Hardware

SolarMount L-Foot Part No. 304000C, 304000D



Dimensions specified in inches unless noted

- **L-Foot material:** One of the following extruded aluminum alloys: 6005-T5, 6105-T5, 6061-T6
- **Ultimate tensile:** 38ksi, Yield: 35 ksi
- **Finish:** Clear or Dark Anodized
- **L-Foot weight:** varies based on height: ~0.215 lbs (98g)
- Allowable and design loads are valid when components are assembled with SolarMount series beams according to authorized UNIRAC documents
- **For the beam to L-Foot connection:**
 - Assemble with one ASTM F593 3/8"-16 hex head screw and one ASTM F594 3/8" serrated flange nut
 - Use anti-seize and tighten to 30 ft-lbs of torque
- Resistance factors and safety factors are determined according to part 1 section 9 of the 2005 Aluminum Design Manual and third-party test results from an IAS accredited laboratory

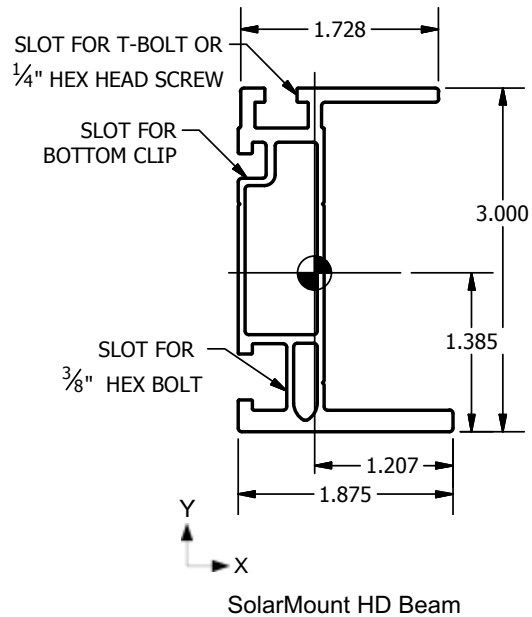
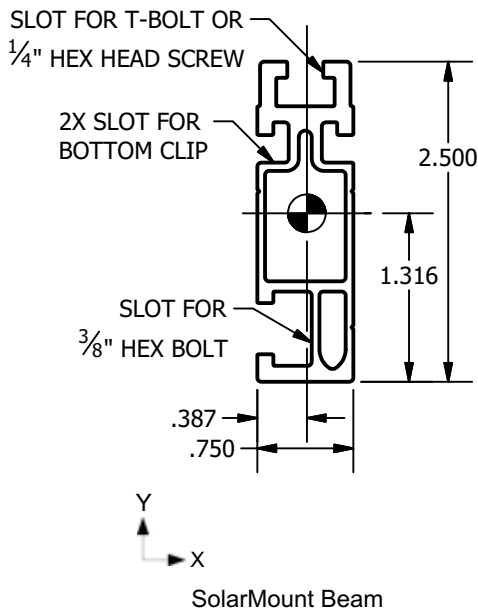
NOTE: Loads are given for the L-Foot to beam connection only; be sure to check load limits for standoff, lag screw, or other attachment method

| Applied Load Direction | Average Ultimate lbs (N) | Allowable Load lbs (N) | Safety Factor, FS | Design Load lbs (N) | Resistance Factor, Φ |
|------------------------|--------------------------|------------------------|-------------------|---------------------|---------------------------|
| Sliding, Z \pm | 1766 (7856) | 755 (3356) | 2.34 | 1141 (5077) | 0.646 |
| Tension, Y+ | 1859 (8269) | 707 (3144) | 2.63 | 1069 (4755) | 0.575 |
| Compression, Y- | 3258 (14492) | 1325 (5893) | 2.46 | 2004 (8913) | 0.615 |
| Traverse, X \pm | 486 (2162) | 213 (949) | 2.28 | 323 (1436) | 0.664 |

SolarMount Beams

Part No. 310132C, 310132C-B, 310168C, 310168C-B, 310168D
 310208C, 310208C-B, 310240C, 310240C-B, 310240D,
 410144M, 410168M, 410204M, 410240M

| Properties | Units | SolarMount | SolarMount HD |
|------------------------------------|-----------------|------------|---------------|
| Beam Height | in | 2.5 | 3.0 |
| Approximate Weight (per linear ft) | plf | 0.811 | 1.271 |
| Total Cross Sectional Area | in ² | 0.676 | 1.059 |
| Section Modulus (X-Axis) | in ³ | 0.353 | 0.898 |
| Section Modulus (Y-Axis) | in ³ | 0.113 | 0.221 |
| Moment of Inertia (X-Axis) | in ⁴ | 0.464 | 1.450 |
| Moment of Inertia (Y-Axis) | in ⁴ | 0.044 | 0.267 |
| Radius of Gyration (X-Axis) | in | 0.289 | 1.170 |
| Radius of Gyration (Y-Axis) | in | 0.254 | 0.502 |



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Dimensions specified in inches unless noted