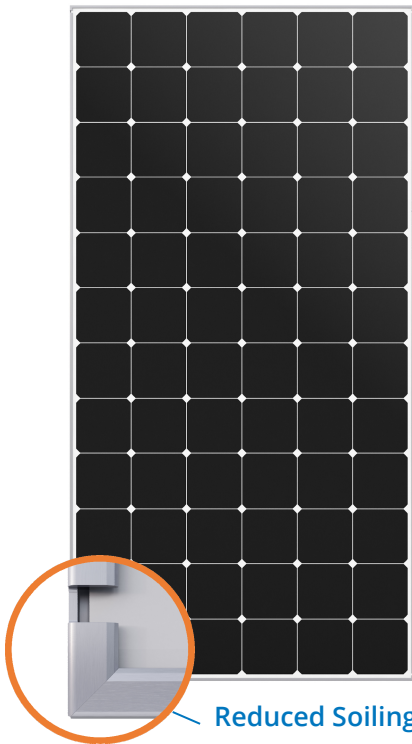




430-450W Commercial A-Series Panels

SunPower® Maxeon® Cell-based Solar Panels

SunPower® Maxeon® cell-based panels maximize energy production and savings by combining industry-leading power, efficiency, and durability with the best warranty available in the market.^{1,2}



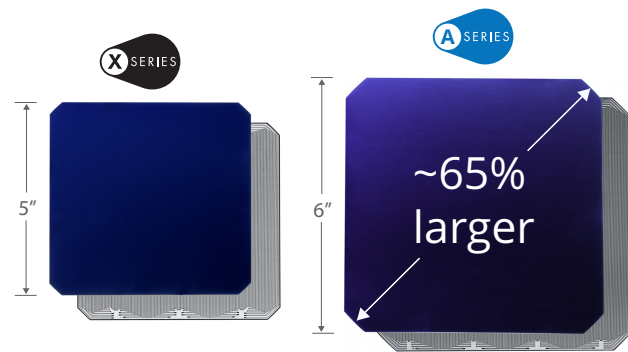
Reduced Soiling

NEW drainage notch improves performance

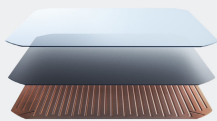


Highest Power Density Available

SunPower's new Maxeon® Gen 4 cell is 65% larger than prior generations, delivering the most powerful cell and highest efficiency panel in commercial solar. The result is more power per square meter than any commercially available solar.²



SUNPOWER MAXEON SOLAR CELL TECHNOLOGY



Fundamentally Different. And Better.

- Most powerful cell in commercial solar²
- Delivers unmatched reliability³
- Patented solid metal foundation prevents breakage and corrosion

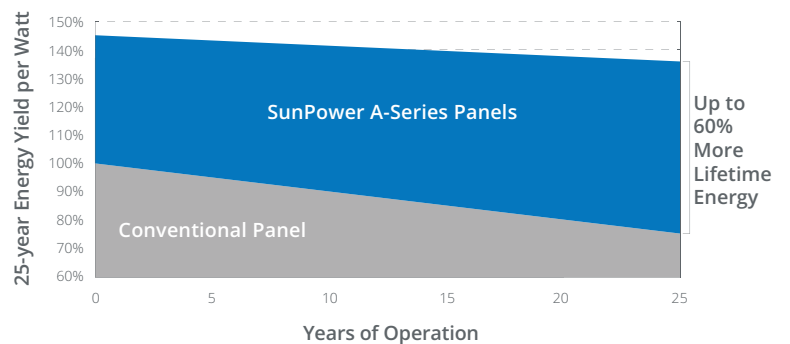
As sustainable as the energy it produces.

- Ranked #1 in Silicon Valley Toxics Coalition 2015 Solar Scorecard⁴
- Contributes to more LEED categories than conventional panels⁵



Highest Lifetime Energy and Savings

Designed to deliver 60% more energy in the same space over 25 years in real-world conditions like partial shade and high temperatures.²



Best Reliability, Best Warranty

SunPower technology is proven to last and we stand behind our panels with the industry's best 25-year Combined Power, Product and Service Warranty.

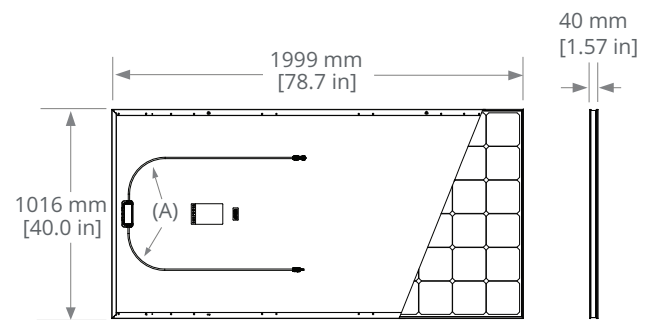


430-450W Commercial A-Series Panels – Preliminary datasheet

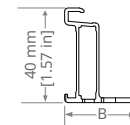
| Electrical Data | | | |
|--|--------------|--------------|--------------|
| | SPR-A450-COM | SPR-A440-COM | SPR-A430-COM |
| Nominal Power (P _{nom}) ⁶ | 450 W | 440 W | 430 W |
| Power Tolerance | +5/0% | +5/0% | +5/0% |
| Panel Efficiency | 22.2% | 21.7% | 21.2% |
| Rated Voltage (V _{mpp}) | 44.0 V | 43.4 V | 42.7 V |
| Rated Current (I _{mpp}) | 10.2 A | 10.2 A | 10.1 A |
| Open-Circuit Voltage (V _{oc}) | 51.9 V | 51.6 V | 51.2 V |
| Short-Circuit Current (I _{sc}) | 11.0 A | 10.9 A | 10.9 A |
| Max. System Voltage | 1500 V UL | | |
| Maximum Series Fuse | 20 A | | |
| Power Temp Coef. | -0.26% / °C | | |
| Voltage Temp Coef. | -136 mV / °C | | |
| Current Temp Coef. | 5.7 mA / °C | | |

| Operating Condition And Mechanical Data | |
|---|--|
| Temperature | -40° F to +185° F (-40° C to +85° C) |
| Impact Resistance | 1 inch (25 mm) diameter hail at 52 mph (23 m/s) |
| Appearance | Class A |
| Solar Cells | 72 Monocrystalline IBC cells |
| Tempered Glass | High-transmission tempered anti-reflective |
| Junction Box | IP-68, MC4 Compatible |
| Weight | 40.5 lbs (18.4 kg) |
| Max. Load | Wind: 75 psf, 3600 Pa, 367 kg/m ² front & back Snow: 125 psf, 6000 Pa, 612 kg/m ² front |
| Frame | Class 2 silver anodized |

| Tests And Certifications - Pending | |
|------------------------------------|---|
| Standard Tests | UL1703 |
| Quality Management Certs | ISO 9001:2015, ISO 14001:2015 |
| EHS Compliance | RoHS, OHSAS 18001:2007, lead free, Recycle Scheme, REACH SVHC-163 |
| Sustainability | Cradle to Cradle Certified™ Silver. "Declare." listed. |
| Ammonia Test | IEC 62716 |
| Desert Test | 10.1109/PVSC.2013.6744437 |
| Salt Spray Test | IEC 61701 (maximum severity) |
| PID Test | 1500 V: IEC 62804, PVEL 600 hr duration |
| Available Listings | UL |



FRAME PROFILE



(A) Cable Length: 1320 mm [52 in]

(B) Long Side: 30 mm [1.2 in]

Short Side: 22 mm [0.9 in]

Please read the safety and installation guide.

1 SunPower 450 W, 22.2% efficient, compared to a Conventional Panel on same-sized arrays (310 W, 16% efficient, approx. 2.0 m²), 4.9% more energy per watt (based on PVsyst pan files for avg US climate), 0.5%/yr slower degradation rate (Jordan, et. al. "Robust PV Degradation Methodology and Application." PVSC 2018).

2 Based on search of datasheet values from websites of top 10 manufacturers per IHS, as of January 2018.

3 #1 rank in "Fraunhofer PV Durability Initiative for Solar Modules: Part 3". PVTech Power Magazine, 2015. Campeau, Z. et al. "SunPower Module Degradation Rate," SunPower white paper, 2013.

4 SunPower is rated #1 on Silicon Valley Toxics Coalition's Solar Scorecard.

5 A-Series panels additionally contribute to LEED Materials and Resources credit categories.

6 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25° C). NREL calibration Standard: SOMS current, LACCS FF and Voltage.

See www.sunpower.com/company for more reference information.

For more details, see extended datasheet: www.sunpower.com/solar-resources. Specifications included in this datasheet are subject to change without notice.

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SUNPOWER®



PANELCLAW[®]

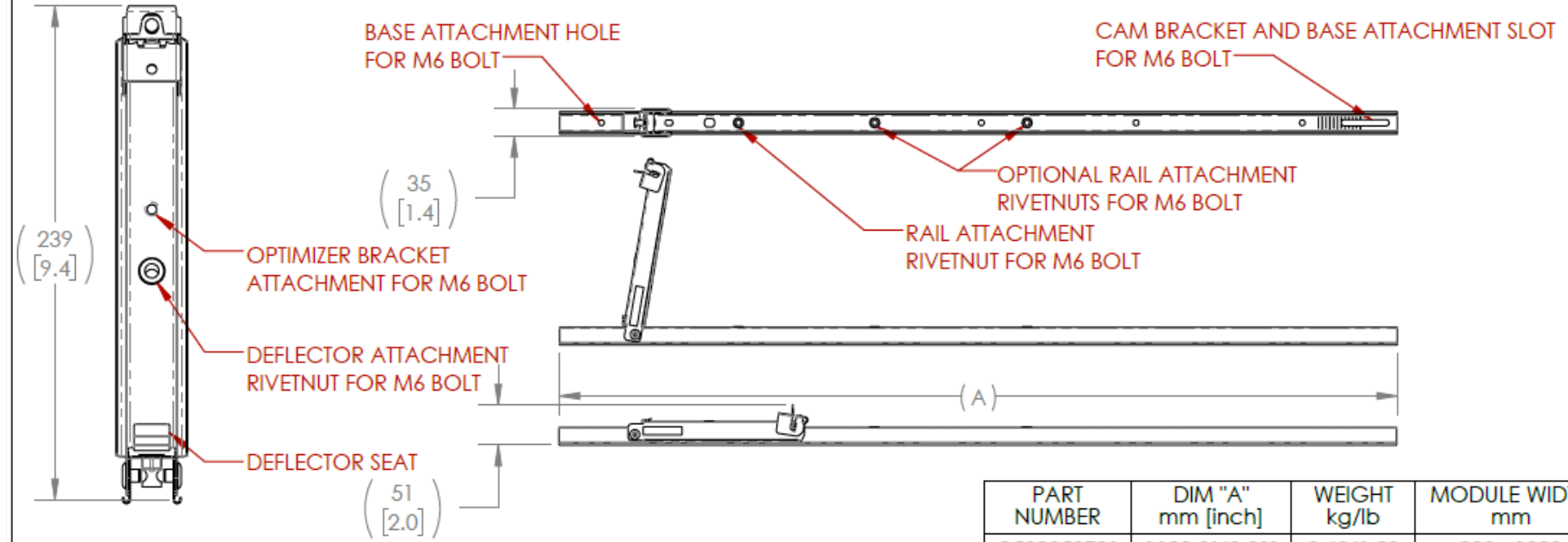
**clawFR 10 Degree 5 Degree and Dual Tilt
Component Cut Sheets**



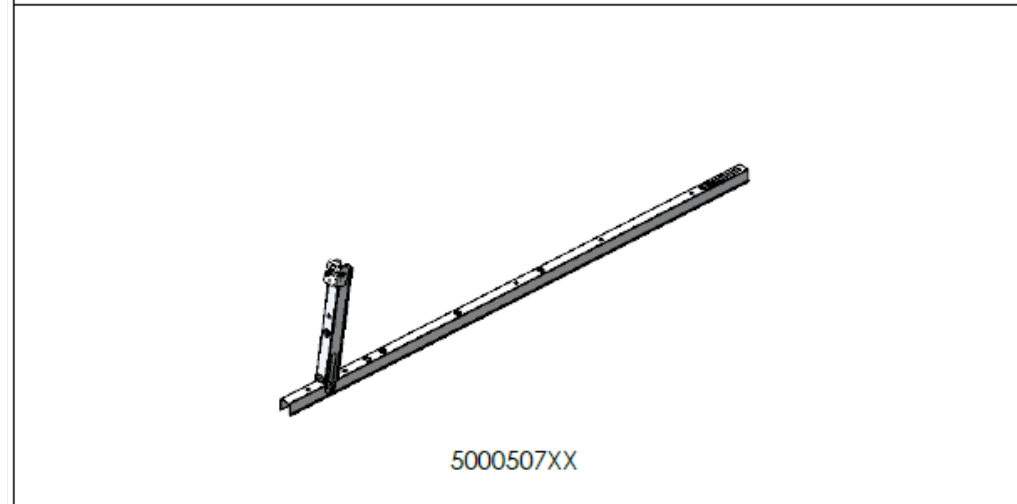
Component Cut Sheet

10 Degree and Dual Tilt "Module Connector"

| | | REVISION | | |
|------|--------|---|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |
| B | C00619 | UPDATED PARTS, UPDATED BALLAST RAIL TO RAIL | 29-MAY-20 | JA |
| C | C00650 | ADDED -03, -04, -08 | 13-JAN-21 | JA |



| PART NUMBER | DIM "A" mm [inch] | WEIGHT kg/lb | MODULE WIDTH mm |
|-------------|-------------------|--------------|-----------------|
| C500050701 | 1100.0[43.31] | 0.63/1.39 | 990 - 1030 |
| C500050702 | 1140.0[44.88] | 0.64/1.42 | 1031 - 1070 |
| C500050703 | 1180.0[46.46] | 0.66/1.46 | 1071 - 1110 |
| C500050704 | 1220.0[48.03] | 0.68/1.49 | 1111 - 1150 |
| C500050708 | 1380.0[54.33] | 0.74/1.64 | 1270 - 1310 |



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MATERIAL
STEEL W/ZAM COATING

DIMENSIONS ARE IN mm [INCHES]


PANELCLAW
1600 Osgood St., Suite 2023
North Andover, MA 01845
Phone: 978.688.4900
Fax: 978.688.5100
www.panelclaw.com

MODULE CONNECTOR, 10 DEGREE, CFR

| | | |
|----------|-------------------|----------|
| SIZE | DWG. NO. | REV |
| A | C5000507XX | C |

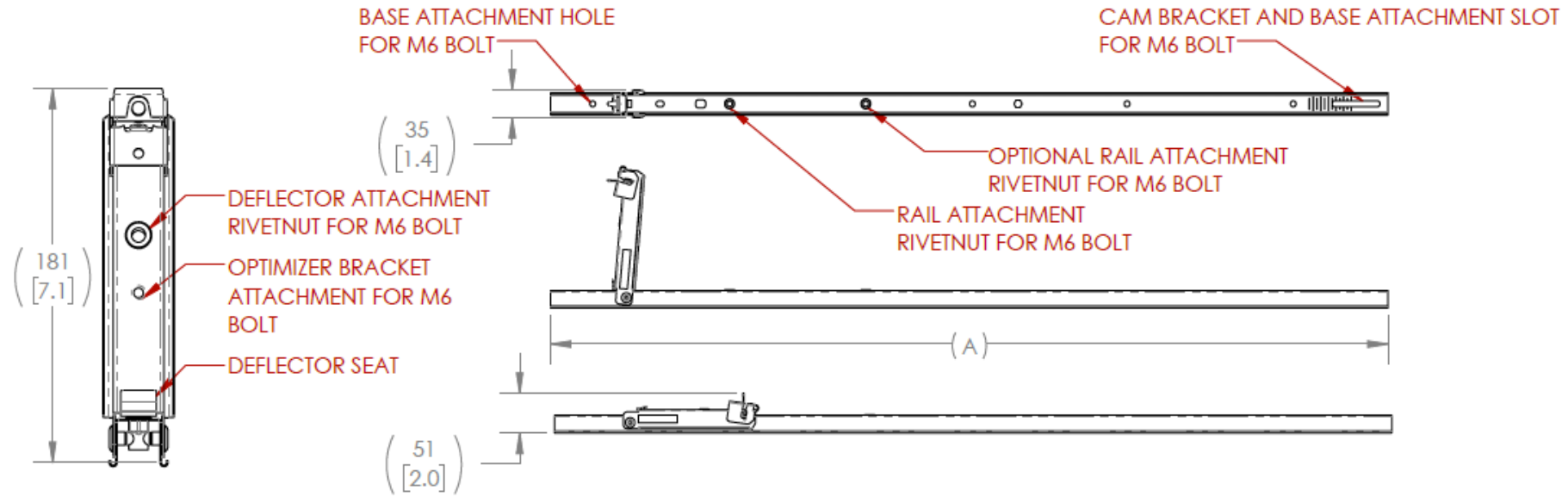
SCALE: NONE WT SEE TABLE kg/lb SHEET 1 OF 1



Component Cut Sheet

5 Degree "Module Connector"

| REVISION | | | | |
|----------|--------|---------------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00583 | INITIAL RELEASE | 02-JUL-19 | JA |
| B | C00619 | PART UPDATED | 29-MAY-20 | JA |
| C | C00650 | ADDED -03, -04, -08 | 11-JAN-21 | JA |



| PART NUMBER | DIM "A" mm [inch] | WEIGHT kg/lb | MODULE WIDTH mm |
|-------------|-------------------|--------------|-----------------|
| C500052301 | 1100.0[43.31] | 0.59/1.30 | 990 - 1030 |
| C500052302 | 1140.0[44.88] | 0.61/1.34 | 1031 - 1070 |
| C500052303 | 1180.0[46.46] | 0.62/1.38 | 1071 - 1110 |
| C500052304 | 1220.0[48.03] | 0.64/1.41 | 1111 - 1150 |
| C500052308 | 1380.0[54.33] | 0.71/1.56 | 1270 - 1310 |



5000523XX

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MATERIAL
 STEEL W/ZAM COATING

DIMENSIONS ARE IN mm [INCHES]



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PANELCLAW®

MODULE CONNECTOR, 5 DEGREE, CFR

| | | |
|----------|-------------------|----------|
| SIZE | DWG. NO. | REV |
| A | C5000523XX | C |

SCALE: NONE

WT SEE TABLE kg/lb

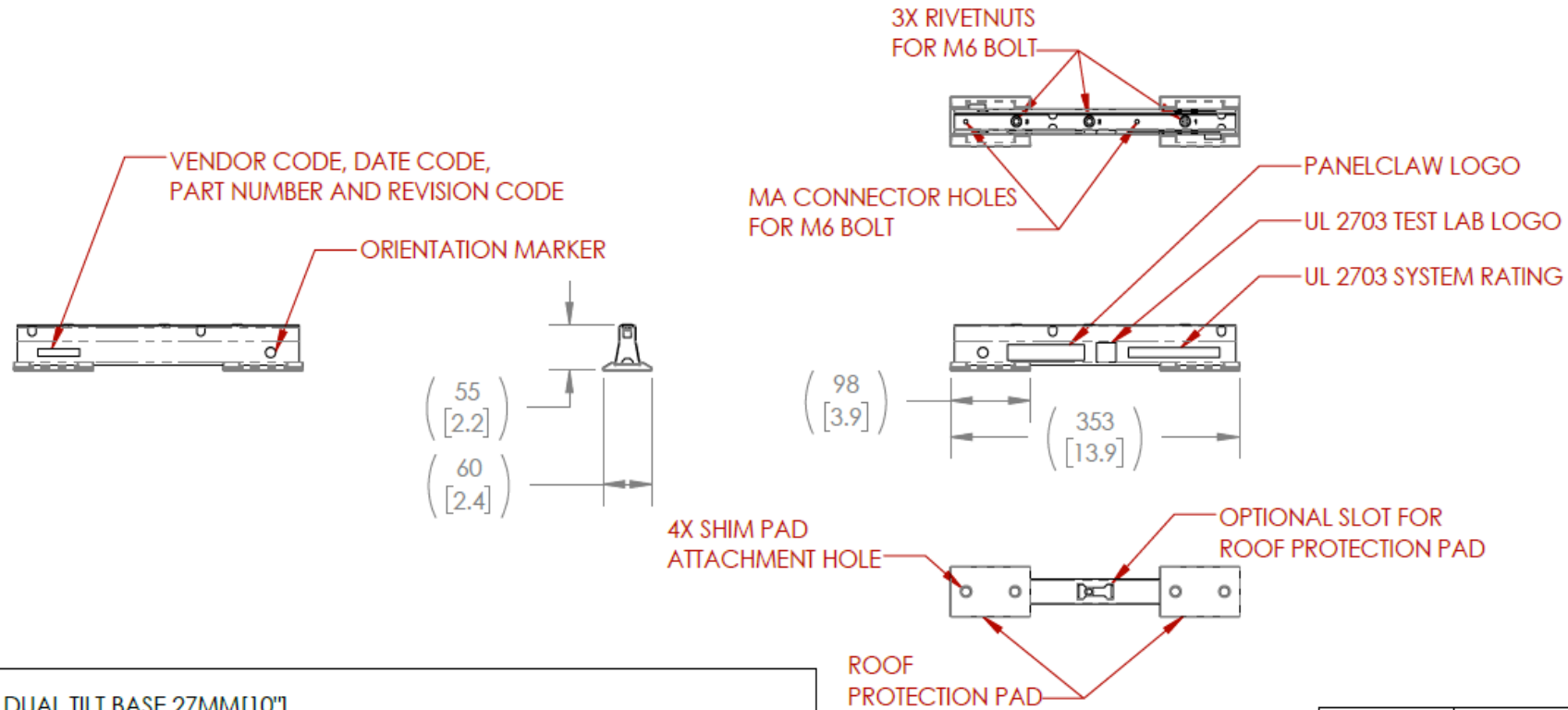
SHEET 1 OF 1



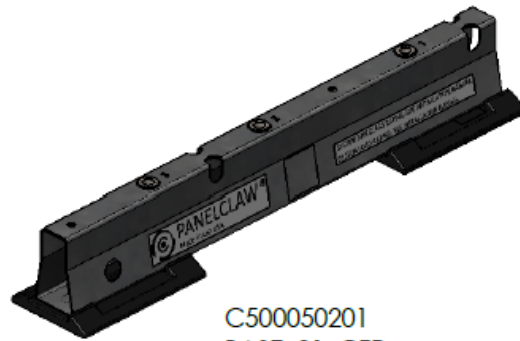
Component Cut Sheet

Dual Tilt "Base"

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |



CLAWFR DUAL TILT BASE 27MM[10"]



C500050201
BASE, 01, CFR

| PART NUMBER | WEIGHT kg/lb |
|-------------|--------------|
| 500050201 | 0.37/0.81 |

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MATERIAL
STEEL W/ZAM COATING;
TPV (Thermoplastic Vulcanizate)

DIMENSIONS ARE IN mm [INCHES]


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BASE, 01, CFR

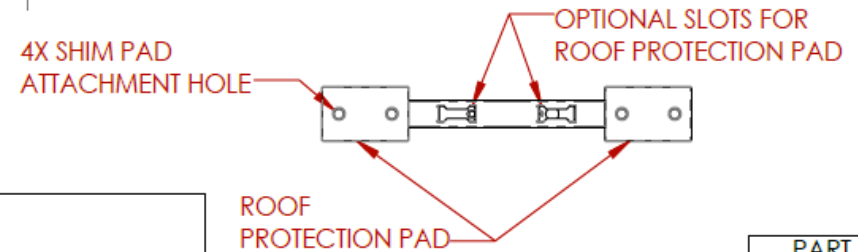
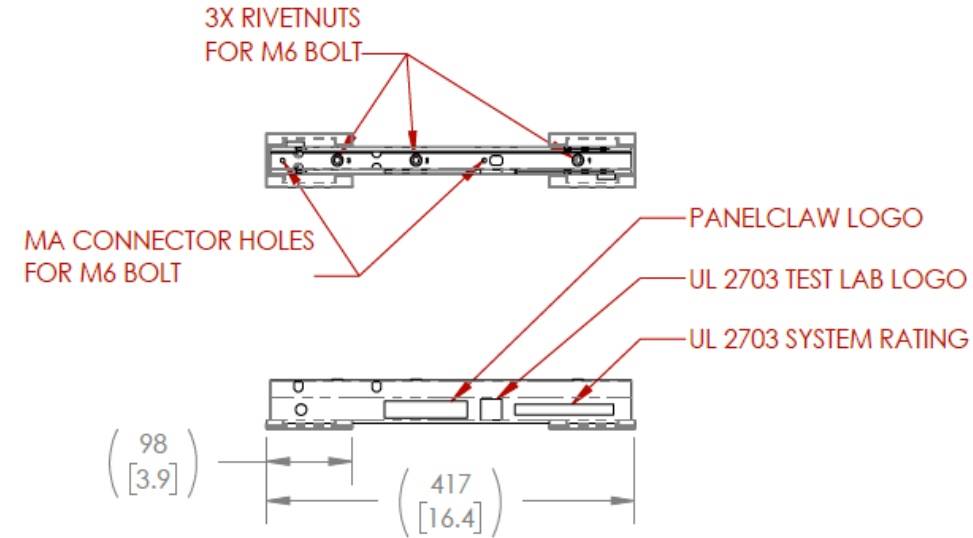
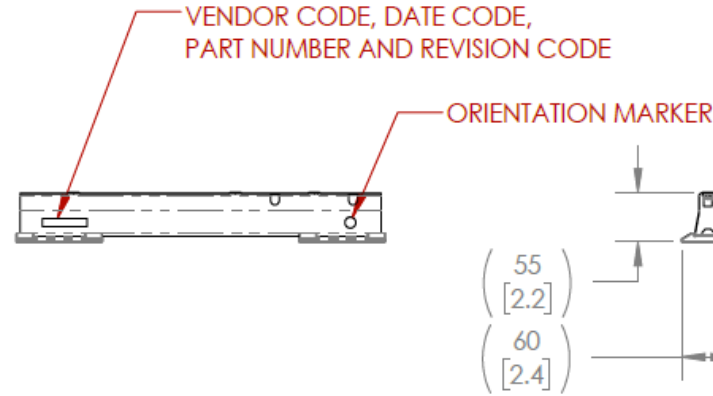
| SIZE | DWG. NO. | REV |
|----------|-------------------|----------|
| A | C500050201 | A |

| SCALE | WT | SEE TABLE | kg/lb | SHEET | OF 3 |
|-------|-----------|-----------|-------|-------|------|
| NONE | SEE TABLE | kg/lb | | 1 | 3 |



Component Cut Sheet

5 Degree (all spacing options) and 10 Degree 11.4" row gap spacing option
"Base"



CLAWFR 5 DEGREE BASE 18CM[7"]
 CLAWFR 5 DEGREE BASE 28CM[11"]
 CLAWFR 10 DEGREE BASE 29CM[11"]



C500050202
BASE, 02, CFR

| PART NUMBER | WEIGHT kg/lb |
|-------------|--------------|
| 500050202 | 0.42/0.93 |

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MATERIAL
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 TPV (Thermoplastic Vulcanizate)

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BASE, 02, CFR

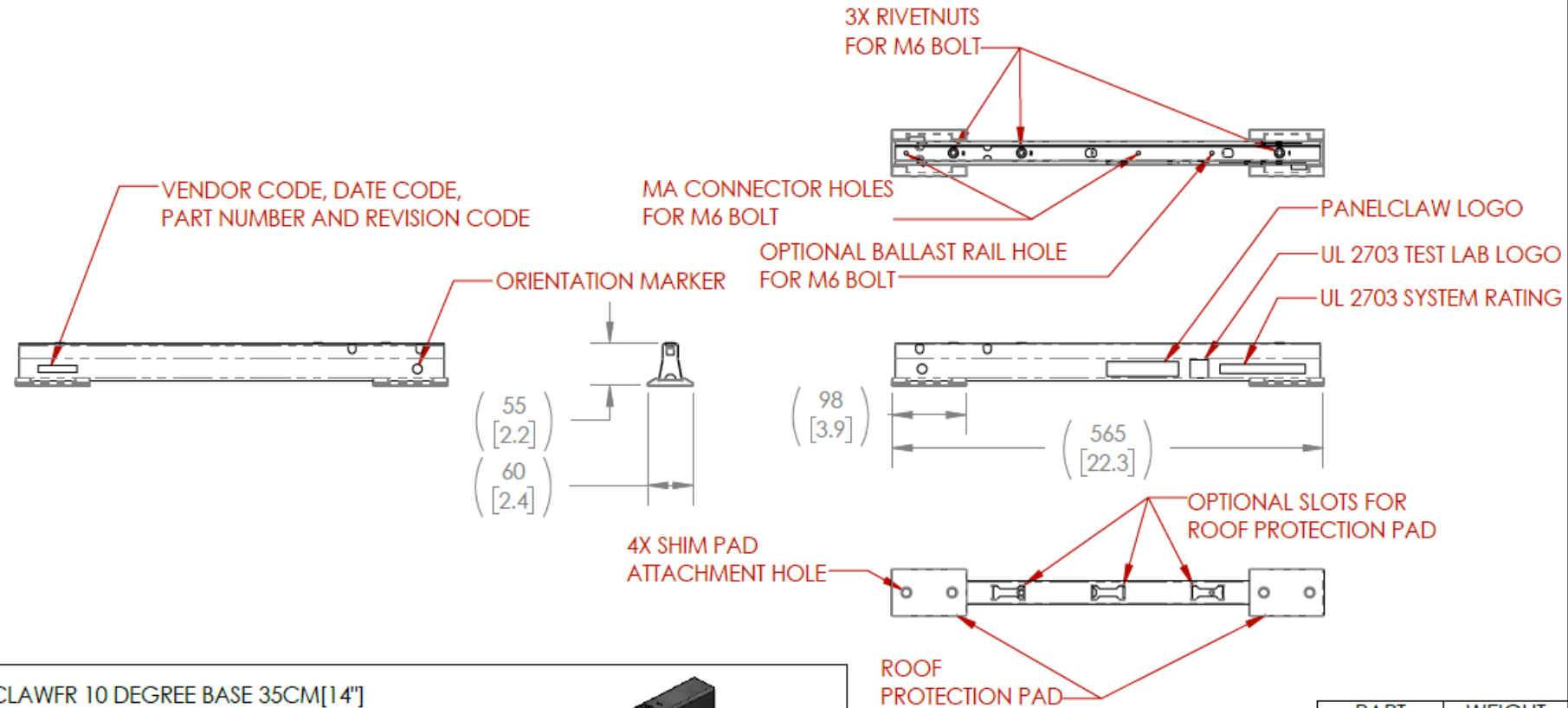
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|----------|-------------------|----------|
| A | C500050202 | A |

SCALE: NONE WT SEE TABLE kg/lb SHEET 2 OF 3



Component Cut Sheet

10 Degree (13.9 and 17.4 row gap spacing options)
"Base"



CLAWFR 10 DEGREE BASE 35CM[14"]
CLAWFR 10 DEGREE BASE 44CM[17"]



C500050203
BASE, 03, CFR

| PART NUMBER | WEIGHT kg/lb |
|-------------|--------------|
| 500050203 | 0.55/1.21 |

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MATERIAL
STEEL W/ZAM COATING;
TPV (Thermoplastic Vulcanizate)

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BASE, 03, CFR

| SIZE | DWG. NO. | REV |
|----------|-------------------|----------|
| A | C500050203 | A |

SCALE: NONE

WT SEE TABLE kg/lb

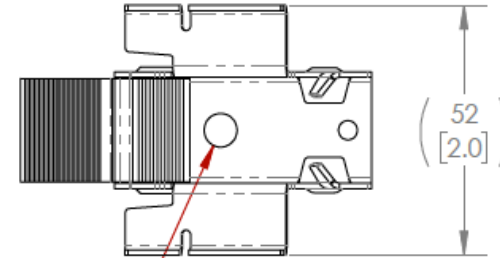
SHEET 3 OF 3



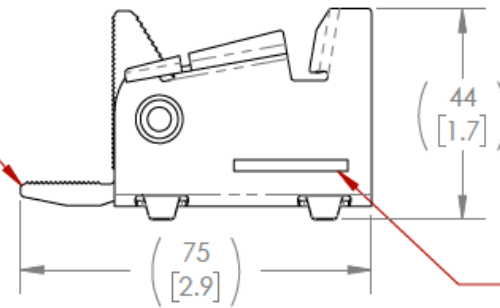
Component Cut Sheet

10 Degree and Dual Tilt "Cam"

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |

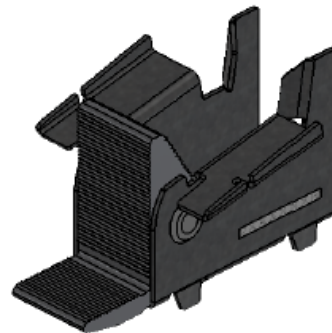


MODULE CONNECTOR AND BASE ATTACHMENT HOLE FOR M6 BOLT



MODULE SEAT

PART NUMBER AND REVISION CODE



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MATERIAL
STEEL W/ZAM COATING;
ALUMINUM

DIMENSIONS ARE IN mm [INCHES]


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CAM, 10 DEGREE, CFR

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C5000500 | A |

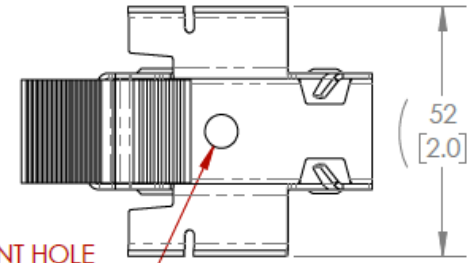
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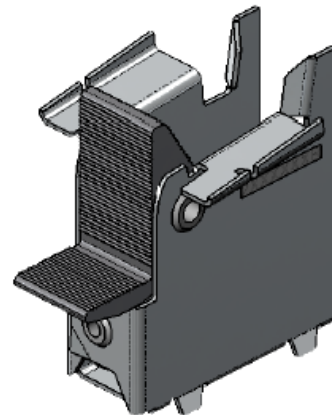
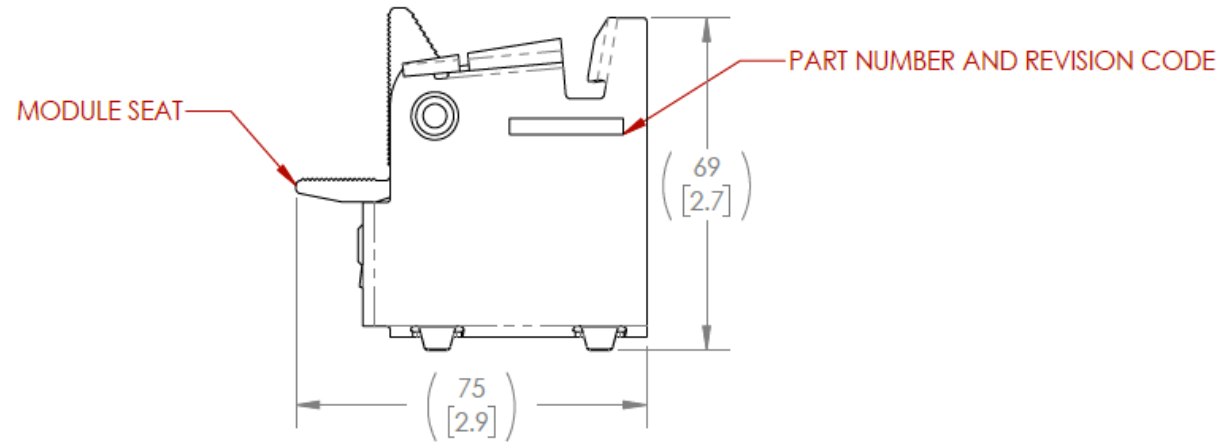
Component Cut Sheet

5 Degree "Cam"

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00583 | INITIAL RELEASE | 02-JUL-19 | JA |



MODULE CONNECTOR AND BASE ATTACHMENT HOLE
FOR M6 BOLT



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MATERIAL
STEEL W/ZAM COATING;
ALUMINUM

DIMENSIONS ARE IN mm [INCHES]



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PANELCLAW

CAM, 5 DEGREE, CFR

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C5000515 | A |

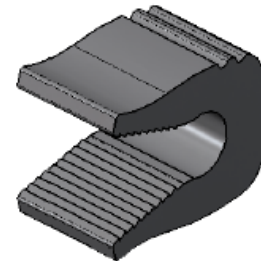
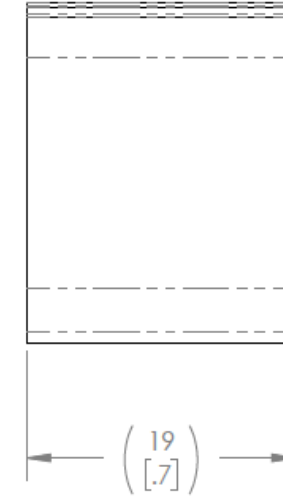
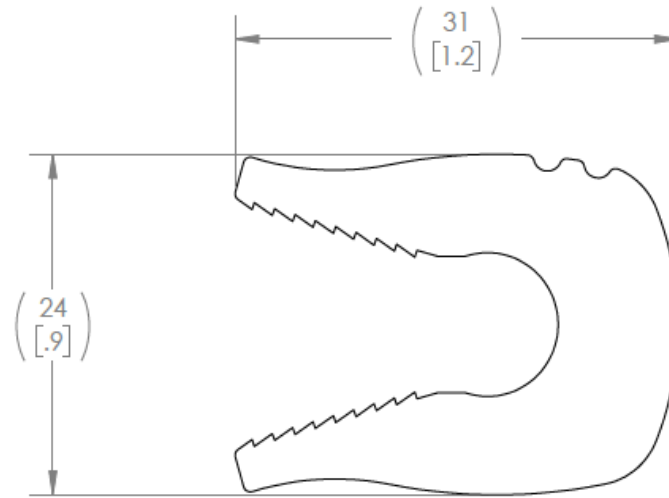
SCALE: NONE WT: 0.11/0.24 kg/lb SHEET 1 OF 1



Component Cut Sheet

“Claw”

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |



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MATERIAL
 ALUMINUM

CAM CLAW, CFR

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000673 | A |

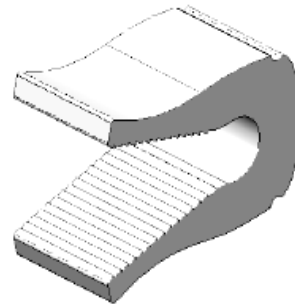
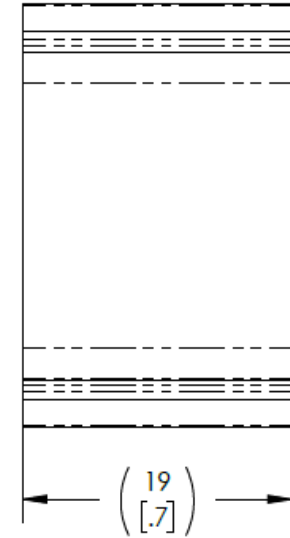
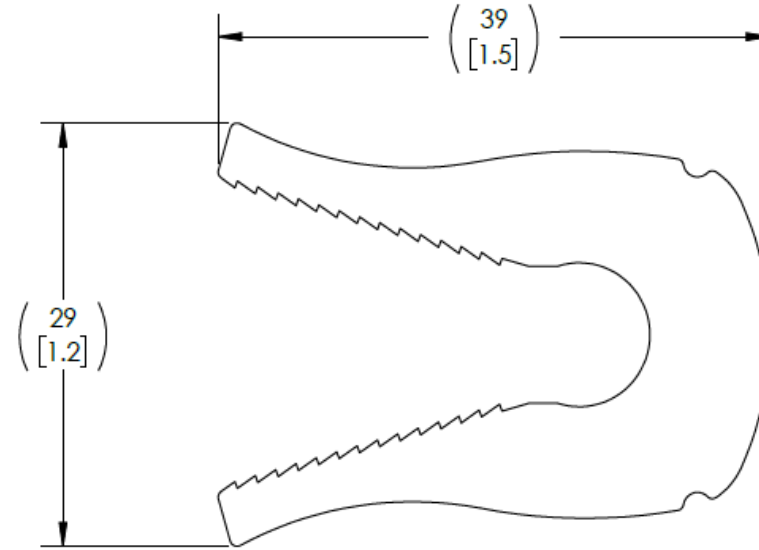


Component Cut Sheet

“Claw, CS”

For use with modules that have smaller flanges.

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00629 | INITIAL RELEASE | 14-SEP-20 | JA |



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MATERIAL
 ALUMINUM

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PANELCLAW®

CAM CLAW, CS, CFR

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000815 | A |

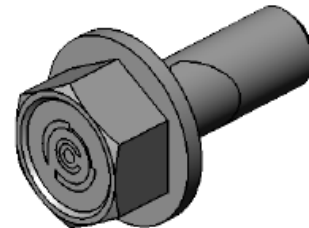
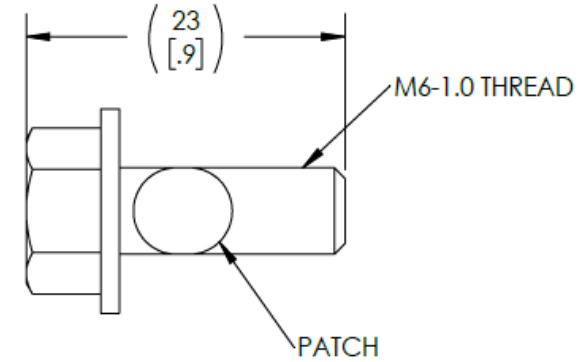
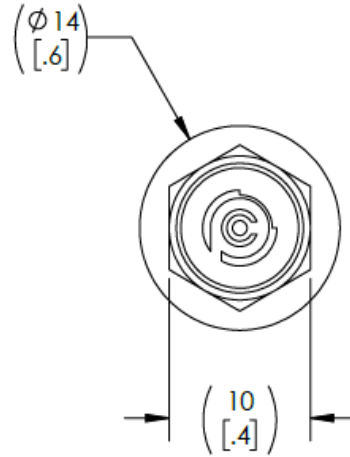
SCALE: NONE WT 0.03/0.06 kg/lb SHEET 1 OF 1



Component Cut Sheet

"M6X16 Bolt"

| | | REVISION | | |
|------|--------|------------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00629 | INITIAL RELEASED | 14-SEP-20 | JA |



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MATERIAL
 STEEL

DIMENSIONS ARE IN mm [INCHES]



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PANELCLAW®
BLT, HEX FLG, TRI, M6X16, ST, PATCH

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000697 | A |

SCALE: NONE WT 0.007/.015 kg/lb SHEET 1 OF 1



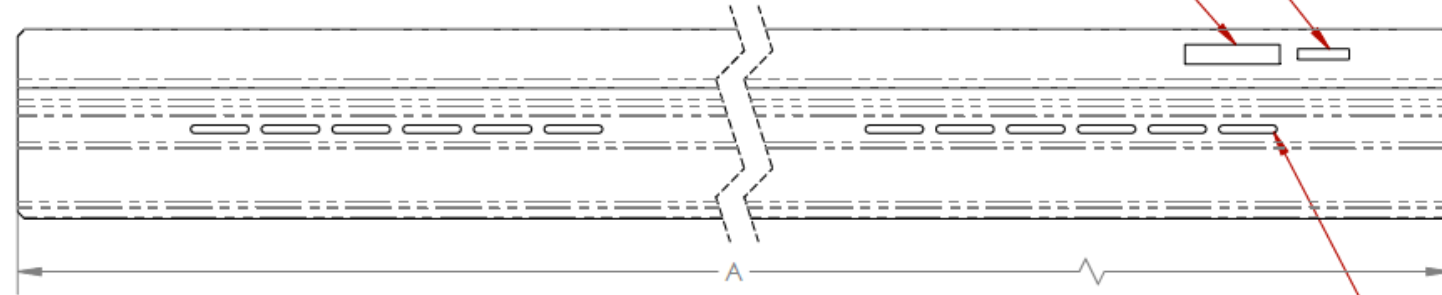
Component Cut Sheet

10 Degree "Deflector"

| | | REVISION | | |
|------|--------|---------------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00604 | INITIAL RELEASE | 07-FEB-20 | JA |
| B | C00629 | UPDATED ISO VIEWS | 14-SEP-20 | JA |
| C | C00635 | ADDED -05, -06, -07 | 19-APR-21 | JA |

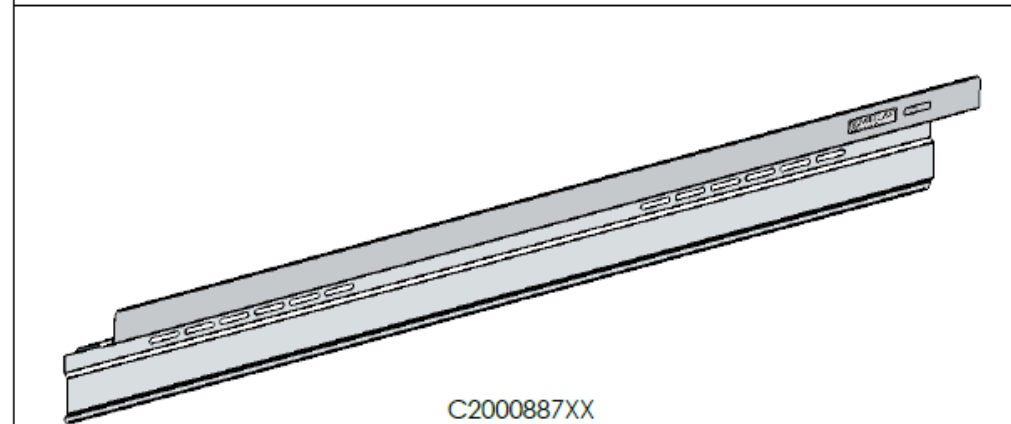
VENDOR CODE, DATE CODE, PART NUMBER, AND REVISION CODE

PANELCLAW LOGO



12X SLOT
FOR M6 BOLT

| PART NUMBER | DIM "A" mm [in] | WEIGHT kg/lb |
|-------------|--------------------|-----------------|
| C200088701 | 1732[68.2] | 1.38/3.03 |
| C200088702 | 2056[81.0] | 1.64/3.61 |
| C200088703 | 2132[83.9] | 1.70/3.74 |
| C200088704 | 2232[87.9] | 1.78/3.92 |
| C200088705 | 2332[91.8] | 1.84/4.10 |
| C200088706 | 2432[95.8] | 1.94/4.28 |
| C200088707 | 2532[99.7] | 2.02/4.46 |



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MATERIAL
 STEEL W/ ZAM COATING

 PanelClaw, Inc.
 1600 Osgood St., Suite 2023,
 North Andover, MA 01845
 Phone: 978.688.4900
 Fax: 978.688.5100
 www.panelclaw.com

PANELCLAW

DEFLECTOR, 10D, CFR

| | | |
|------------------|-------------------------------|-----------------|
| SIZE A | DWG. NO. C2000887XX | REV C |
|------------------|-------------------------------|-----------------|

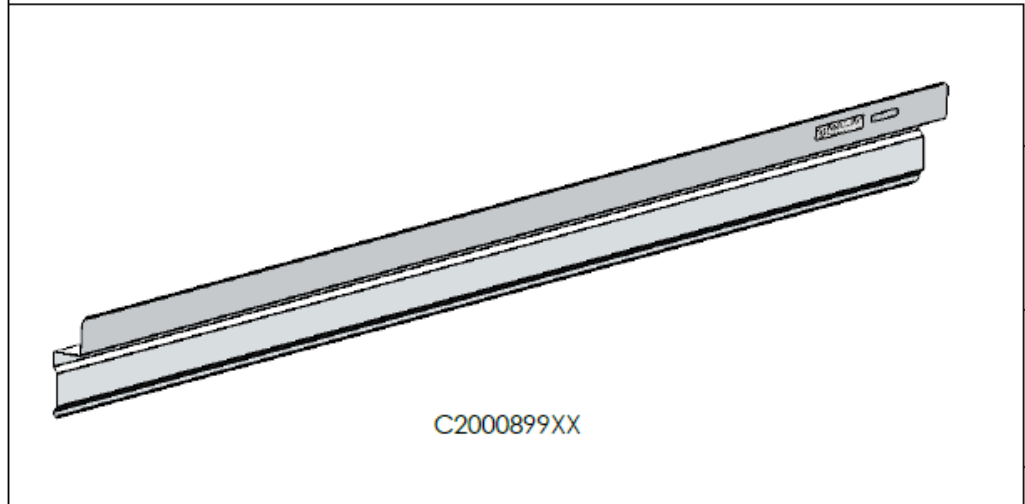
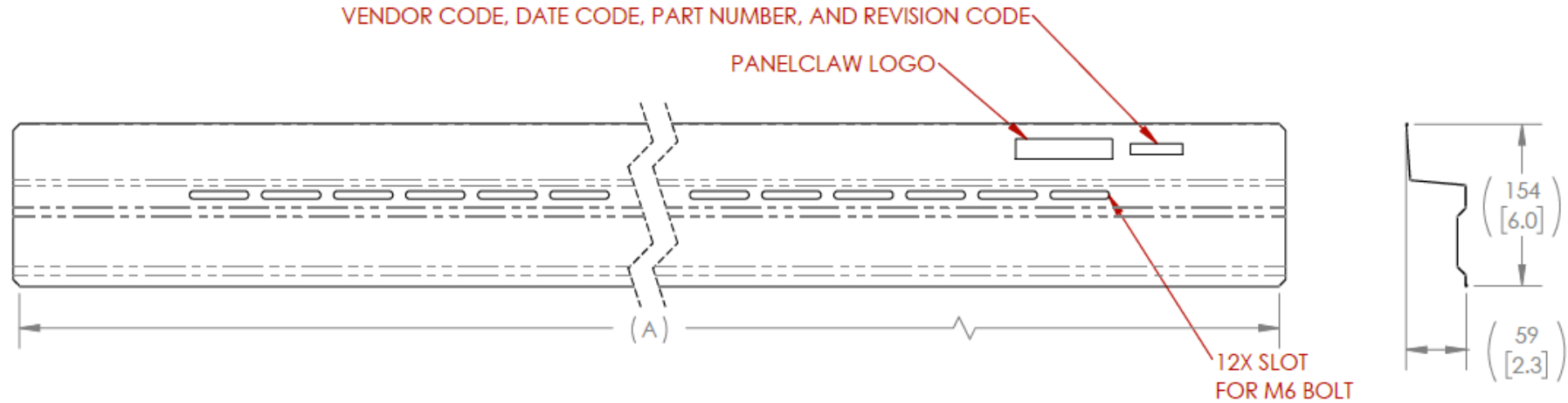
DIMENSIONS ARE IN mm [INCHES] SCALE: NONE WT: SEE TABLE kg/lb SHEET 1 OF 1



Component Cut Sheet

5 Degree "Deflector"

| REVISION | | | | |
|----------|--------|---------------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00604 | INITIAL RELEASE | 07-FEB-20 | JA |
| B | C00635 | ADDED -05, -06, -07 | 19-APR-21 | JA |




| PART NUMBER | DIM "A" mm [inch] | WEIGHT kg/lb |
|-------------|-------------------|--------------|
| C200089901 | 1732[68.2] | 1.11/2.44 |
| C200089902 | 2056[81.0] | 1.34/2.96 |
| C200089903 | 2132[83.9] | 1.37/3.02 |
| C200089904 | 2232[87.9] | 1.43/3.16 |
| C200089905 | 2332[91.8] | 1.50/3.31 |
| C200089906 | 2432[95.7] | 1.57/3.45 |
| C200089907 | 2532[99.7] | 1.63/3.60 |

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MATERIAL
STEEL W/ ZAM COATING

DIMENSIONS ARE IN mm [INCHES]

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Fax: 978.688.5100
www.panelclaw.com

PANELCLAW
DEFLECTOR, 5D, CFR

| | | |
|----------|-------------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000899XX | B |

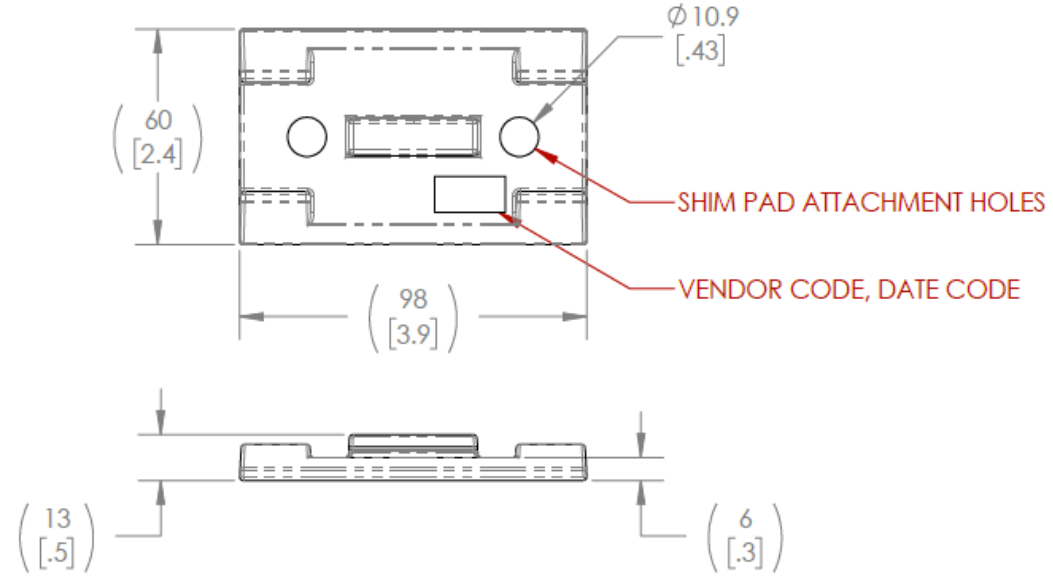
SCALE: NONE WT: SEE TABLE kg/lb SHEET 1 OF 1



Component Cut Sheet

Universal "Roof Protection Pad"

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |



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MATERIAL
 TPV (Thermoplastic Vulcanizate)

DIMENSIONS ARE IN mm [INCHES]



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 1600 Osgood St., Suite 2023,
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 Fax: 978.888.5100
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PANELCLAW

**ROOF PROTECTION PAD,
 BASE, CFR**

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000678 | A |

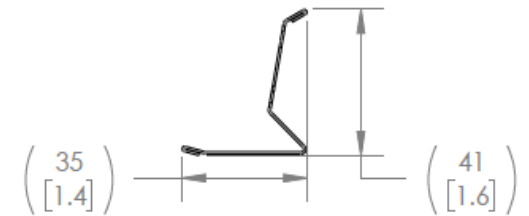
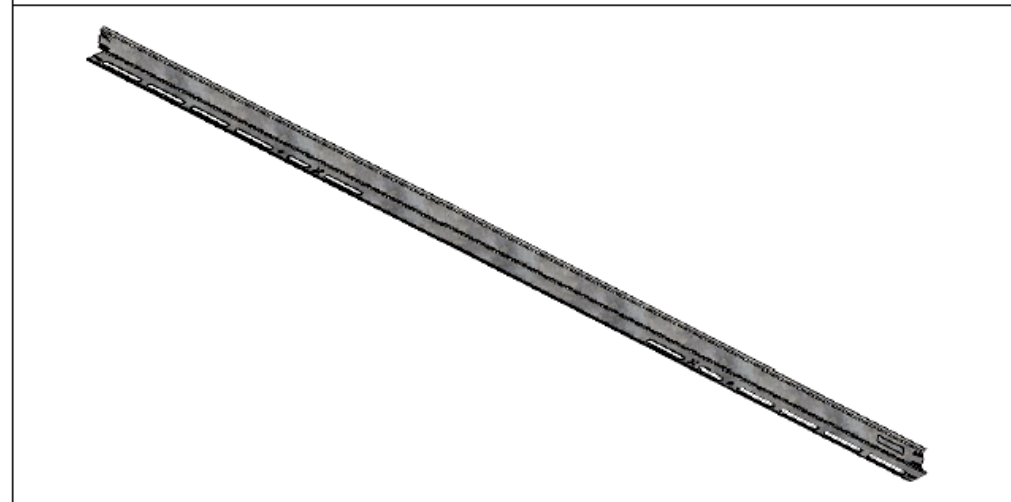
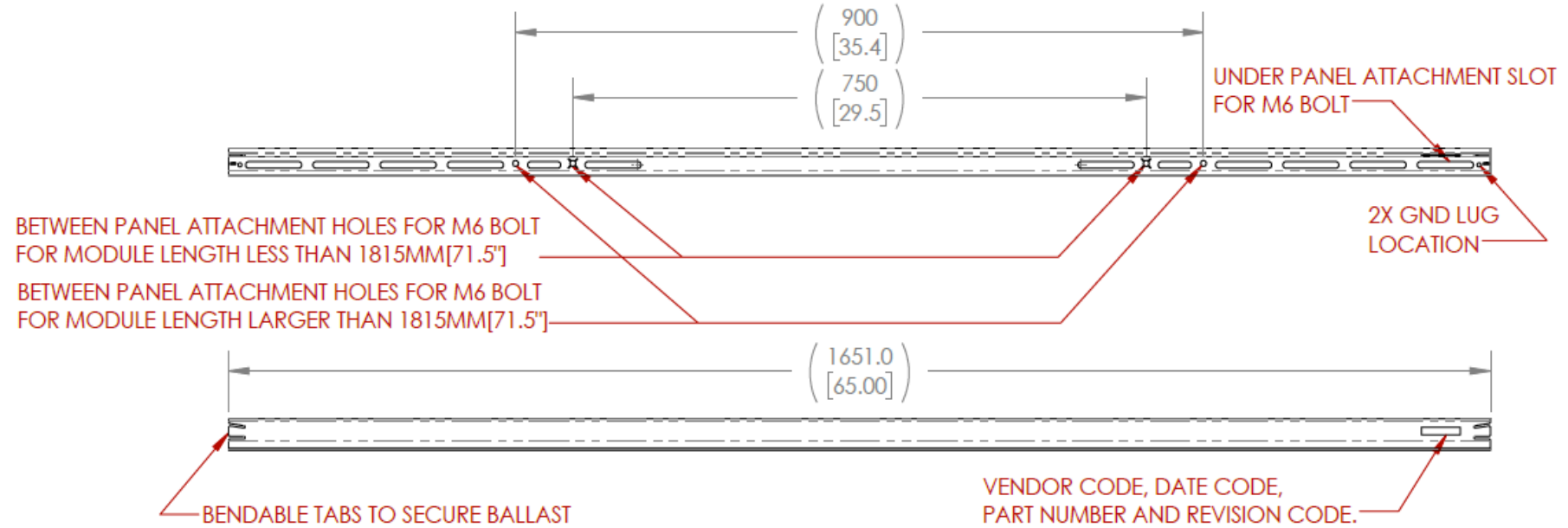
| | | |
|-------------|--------------------|--------------|
| SCALE: NONE | WT 0.04/0.08 kg/lb | SHEET 1 OF 1 |
|-------------|--------------------|--------------|



Component Cut Sheet

Universal "Rail"

| REVISION | | | | |
|----------|--------|-------------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00548 | INITIAL RELEASE | 21-JAN-19 | JA |
| B | C00575 | UPDATED PART NAME | 15-JUL-19 | JA |



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MATERIAL
STEEL W/ZAM COATING

DIMENSIONS ARE IN mm [INCHES]


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PanelClaw, Inc.
1800 Osgood St., Suite 2023,
North Andover, MA 01845
Phone: 978.888.4800
Fax: 978.888.5100
www.panelclaw.com

RAIL, CFR

| | | |
|----------|-----------------|----------|
| SIZE | DWG. NO. | REV |
| A | C2000695 | B |

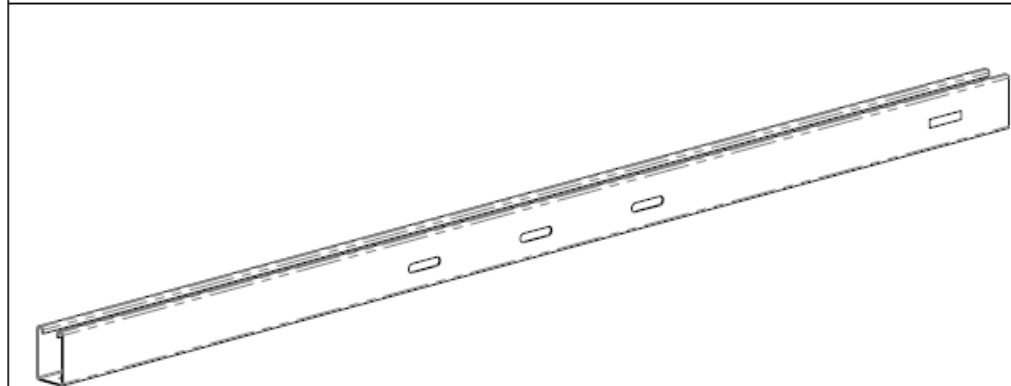
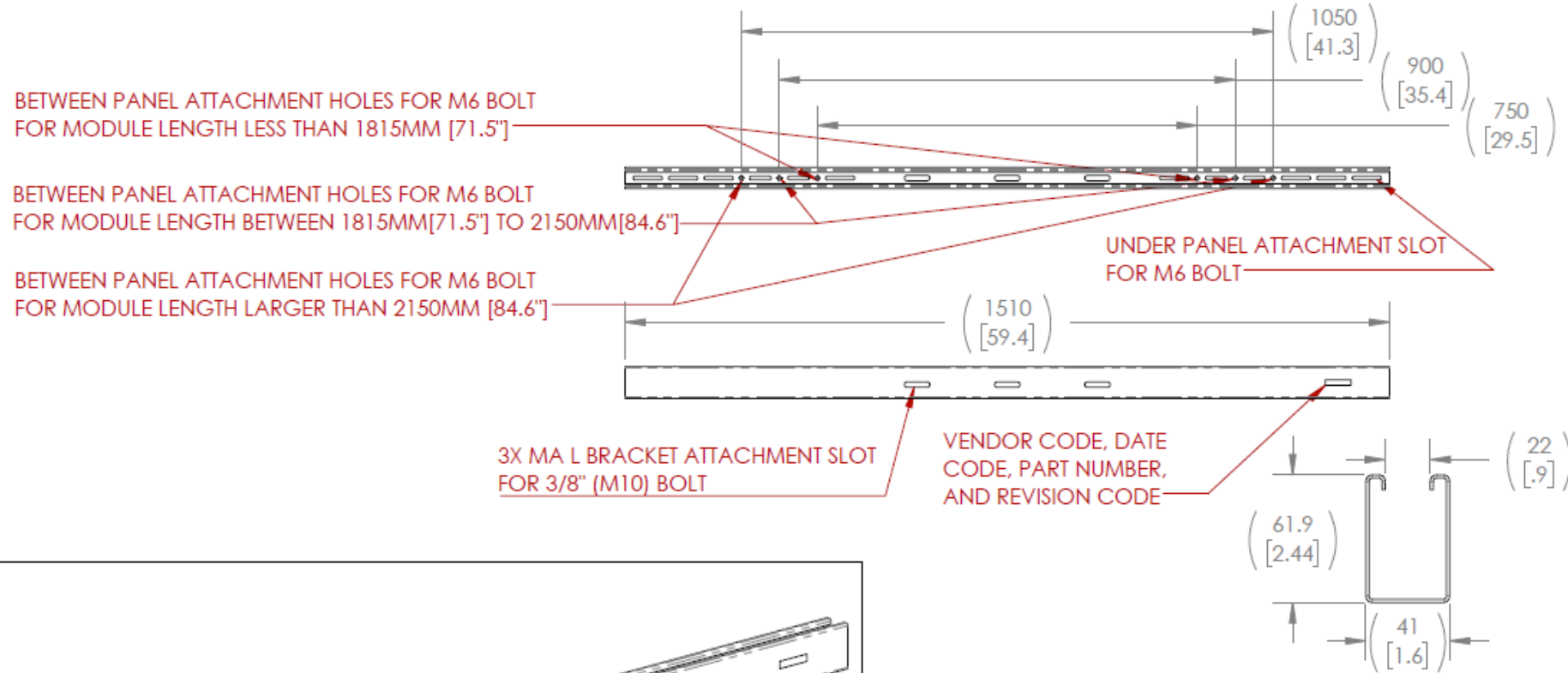
SCALE: NONE WT 0.79/1.75 kg/lb SHEET 1 OF 1



Component Cut Sheet

Universal "MA Strut"

| | | REVISION | | |
|------|--------|-----------------|-----------|----------|
| REV. | ECO# | DESCRIPTION | DATE | APPROVED |
| A | C00650 | INITIAL RELEASE | 10-MAY-21 | JA |



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MATERIAL
STEEL W/ ZAM COATING

DIMENSIONS ARE IN mm [INCHES]

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Phone: 978.688.4900
Fax: 978.688.5100
www.panelclaw.com

PANELCLAW
MA STRUT, 2500, CFR

| | | |
|------------------|-----------------------------|-----------------|
| SIZE A | DWG. NO. C2000930 | REV A |
|------------------|-----------------------------|-----------------|

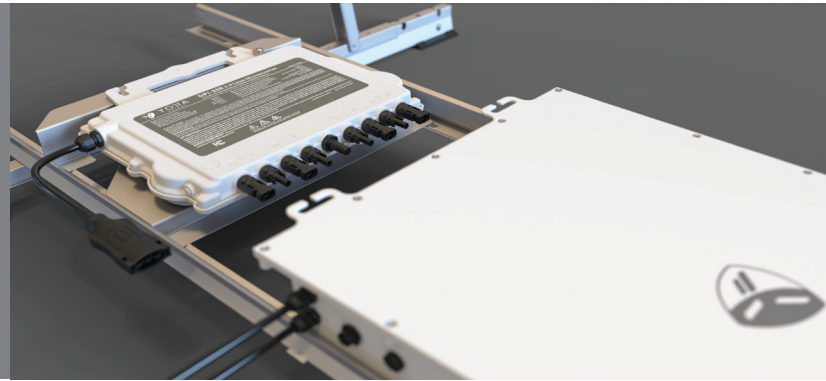
SCALE: NONE WT 3.21/7.07 kg/lb SHEET 1 OF 1



For Questions or Feedback Contact sales@panelclaw.com

Yotta's Dual Power Inverter (DPI) is designed for three-phase grid connection (208V or 480V) and has dual applications: solar only or solar + energy storage. This unique feature delivers maximum flexibility and brings all the benefits of a microinverter at a price equivalent to string inverters. Rated at 1.8kW @ 480V and 1.728kW @ 208V, this four-port, three-phase microinverter can be used with up to four, high-capacity PV modules and is compatible with Yotta's SolarLEAF energy storage technology and high performance bi-facial solar modules.

A proven reliable solution in a competitive landscape, Yotta's DPI 208/480 is a four-port, three-phase, microinverter that competes head-to-head with string inverters paired with rapid shut-down devices (RSD) or optimizers. In addition to its low-cost and superior performance, there are several key differentiators that make it stand out in the US market and be a leading inverter technology for commercial and industrial solar applications.



Superior Safety

Yotta's commitment to built-in safety is highlighted in the DPI's best-in-class design.

- In contrast with string inverters which operate at dangerously high DC voltages on customers' roofs, Yotta's DPI inverters operate at a low DC voltage. Specifically, DC voltages will never exceed 60V, dramatically reducing arc fault risk and associated hazards.
- Compliant with Rule 21, the DPI has been well tested to ensure rapid shut-down whenever operating conditions stray from predictable thresholds.
- Ability to actively manage grid functions with UL 1741 SA (SB pending).
- The DPI 280/480 is grid interactive through its Reactive Power Control (RPC) feature to support grid power management.
- Fire departments, first-responders and anyone coming into contact with a PV system prefer microinverters' low fire risk potential.

Streamlined System Design

Yotta's DPI is modeled in HelioScope for bankable energy yield simulator and financial calculator. With simplified design comes faster permit approvals, installation efficiency and resulting cost savings.

- Each DPI unit connects to up to 4x modules and up to 5x DPI units connect on an AC trunk at 208V (i.e. 20x modules per AC trunk). At 480V, this increases to 11x DPI units (i.e. 44x modules per AC trunk). Each trunk simply connects into a 30A 3P breaker at the AC panel.

- Maximizes the use of your rooftop area, enabling multi-faceted roof layouts vs. reduced system sizing.
- Eliminates additional DC cable runs.
- Replaces the need for separate power optimizers and module level rapid shutdown devices (RSD).
- Delivers three-phase 208V or 480V in small-to-large sized systems without a step-down transformer.
- Compatible with all leading 60-cell and 72-cell PV modules (up to 670W+) including Yottas YSM-450W and 540W bi-Facial panels.

Simplified Deployment

While a streamlined system design path is prized in the office, time spent in the field on rooftops and job sites is frequently where project budgets fall apart. The DPI's design engineers kept this front-of-mind with the following value-adds.

- Electricians understand the language of AC electrical. Eliminating the need for specialized DC training and skills means more contractors will confidently quote and install a DPI AC-based system.
- DPI's four-port design enables installation up to 300% faster than other module level panel electronics (MLPE) and reducing the number of devices on the roof by at least 50%.
- AC balance-of-system (BOS) parts are universally available, enabling a quick run to the neighborhood electrical shop vs. waiting on shipping from a far-away solar distributor. Fewer installation errors associated with rooftop cable crimping and other points of DC failure.
- Microinverters eliminate labor-intensive string-inverter racking and mounting costs.
- Design changes in the field are simple as opposed to complex DC string systems.
- At less than 13 pounds per unit, no heavy moving equipment is required as compared with heavy string inverter placement and installation.

Maximized Performance

PV system performance equates faster payback times, which equates increased return on investment and ultimately customer satisfaction. In other words, system performance is where the rubber meets the road.

- With module-level maximum power point tracking (MPPT), each module's output is generated independently, and is unaffected by shading, module mismatch or output loss in a neighboring module.
- Microinverters add value by powering up earlier in the day and shutting down later in the day than string inverter optimizers, expanding the production curve.
- The more complex the roof's module layout, the stronger DPI's value proposition becomes based on yield per square foot.
- Yotta's 25-year extended warranty more than doubles the typical string inverter warranty (10 years).



Reliable & Easy to Maintain

The days of sending technicians to chase an elusive ground fault or error on a string system are a headache of the past. Enter the zero maintenance four-port microinverter with industry leading diagnostics.

- Module-level monitoring improves system reliability, long-term yield and makes troubleshooting a breeze.
- Microinverters eliminate the single point of failure risk inherent in string inverters. String inverter failures require immediate attention given that they have significant impact to system performance. Module-level failures are mere service calls with minimal production loss.
- Four-port design translates to as much as 50% fewer required units per system compared with other microinverter technologies.
- DPI's offers reliability superior to that of string inverters paired with optimizers or RSD devices.
- When required, a section of the array can be electrically isolated for maintenance, compared with string inverter systems. No heavy equipment to lift or replace.

Future-Proof

Whether it's utilities ending Net Energy Metering (NEM), implementing Time-Of-Use (TOU) tariffs or markets opening up via demand response programs, the pairing of energy storage with solar will become the norm. Whether it makes economic sense today, or will tomorrow, Yotta DPI future-proofs your solar installation so that you can retrofit energy storage seamlessly at any point in the future.

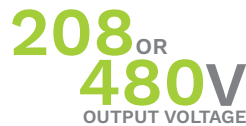
- Optimized for integration with Yotta's SolarLEAF energy storage technology anywhere in the array. The DPI system is inherently storage-ready without requiring any additional complex electrical infrastructure. The SolarLEAF can be simply installed between the solar module and the DPI by disconnecting the MC4 connectors and then reconnecting them to the SolarLEAF. Simple!
- No modification to the AC system is required.

www.yottaenergy.com

YOTTA ENERGY INC.
2101 E. Saint Elmo Road, Suite 150
Austin, TX 78744
+1 (512) 856 7788

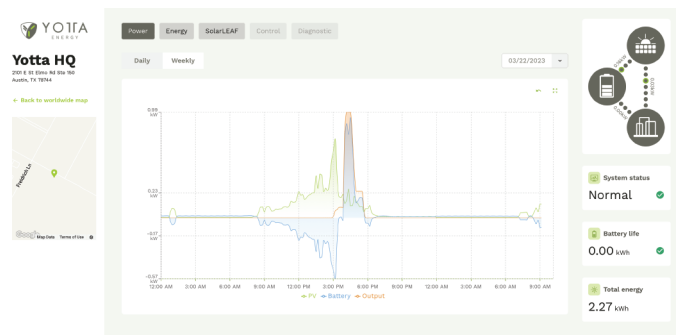
Yotta's **Dual Power Inverters (DPI-208 and DPI-480)** are native 3-phase microinverters that each support **four high capacity solar modules** and deliver outstanding **performance**. The internals are protected with silicone to **reduce stress** on the electronics, increase its **waterproof** properties, **dissipate heat**, and to provide **maximum system reliability**. Yotta's DPI-208 and DPI-480 are powerful **plug-and-play** MLPE inverters that install faster than any other solution in the market and comply with **rapid shutdown requirements**. Their design improves **thermal dissipation** while maximizing **power production**.

- DPI (Dual Power Inverter) designed to work with PV or Yotta's SolarLEAF energy storage technology
- Native 3-phase power output (208V or 480V)
- Low Voltage DC input (<60V)
- 4 Solar Module Input Channels, 2 MPPT's
- Continuous rated AC output power 1728VA @208V and 1800VA @480V
- Engineered for high-capacity PV modules
- Maximum input current 20A
- Integrated Safety Protection Relay
- Rapid Shutdown Compliant
- Adjustable Power Factor



Yotta Vision Monitoring

- **Monitors and Analyzes** each solar module and microinverter
- Allows **Remote Access** to the solar array
- Displays **Performance Issues** and **Alerts** the user to events
- **Real Time Communication**
- **Graphs** system solar output over time to boost troubleshooting




DPI-208 & DPI-480 3-Phase Microinverter Data Sheet

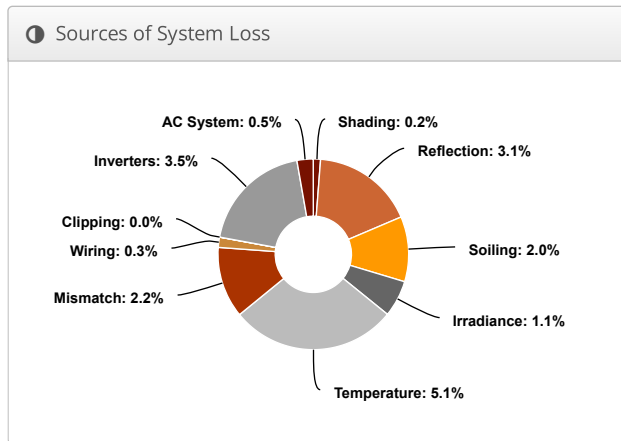
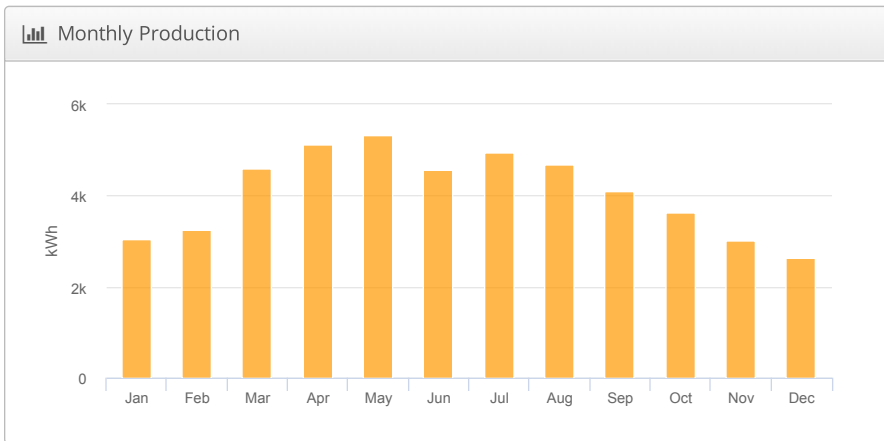
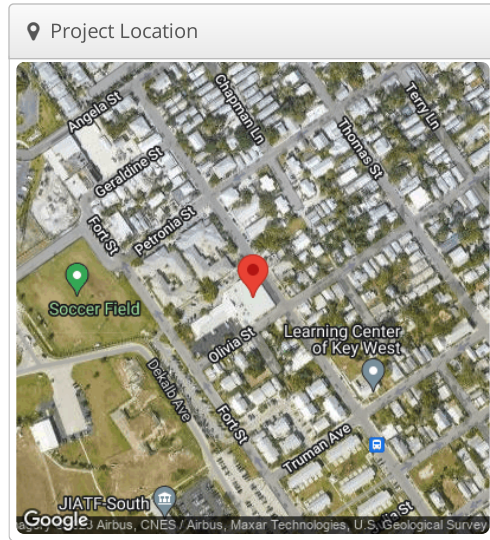
| MODEL | DPI-208 | DPI-480 |
|--|---|--|
| INPUT DATA (DC) | | |
| Peak Power Tracking Voltage | 32V-45V | |
| Operating Voltage Range | 26V-60V | |
| Maximum Input Voltage | 60V | |
| Maximum Input Current | 20A x 4 | |
| Maximum Input Short Circuit Current | 25A per input | |
| OUTPUT DATA (AC) | | |
| Maximum Continuous Output Power | 1728VA | 1800VA |
| Nominal Output Voltage/Range ⁽¹⁾ | 208V/183V-229V | 480V/422V-528V |
| Adjustable Output Voltage Range | 166V-240V | 385V-552V |
| Nominal Output Current | 4.8Ax3 | 2.17Ax3 |
| Maximum Output Fault Current (AC) and Duration | L-L:85.4Apk, 13.6ms of duration, 4.967Arms | L-L:35.1Apk, 13.9ms of duration, 2.199Arms |
| Grid Connections | 208V 3-Phase (208Y/120V, 240 Delta, 240 Delta High Leg) | 480V 3-Phase (480Y/277V, 480 Delta) |
| Nominal Output Frequency/Range ⁽¹⁾ | 60Hz/59.3Hz-60.5Hz | |
| Adjustable Output Frequency Range | 55Hz-65Hz | |
| Power Factor | 0.99/0.8 leading...0.8 lagging | |
| Maximum Units per 30A branch ⁽²⁾ | 5 | 11 |
| AC Bus Cable | AWG 10 | |
| EFFICIENCY | | |
| Peak Efficiency | 96.5% | |
| Nominal MPPT Efficiency | 99.5% | |
| Night Power Consumption | 40mW | |
| MECHANICAL DATA | | |
| Operating Ambient Temperature Range ⁽³⁾ | -40°F to +149°F(-40°C to +65°C) | |
| Storage Temperature Range | -40°F to +185°F(-40°C to +85°C) | |
| Dimensions (W x H x D) | 14" x 9.5" x 1.8" (359mm X 242mm X 46mm) | |
| Weight | 13 lbs (6kg) | |
| DC Connector Type | Stäubli MC4 PV-ADBP4-S2&ADSP4-S2 | |
| Cooling | Natural Convection - No Fans | |
| Enclosure Environmental Rating | Type 6 | |
| FEATURES | | |
| Communication (Inverter To ECU) ⁽⁴⁾ | Encrypted ZigBee | |
| Isolation Design | High Frequency Transformers, Galvanically Isolated | |
| Energy Management | Yotta EMA (Web and App) | |
| Warranty | 10 Years Standard ; 25 Years Optional | |
| CERTIFICATE & COMPLIANCE | | |
| Safety, EMC & Grid Compliances | UL-1741; CA Rule 21 (UL 1741 SA and UL 1741 SB); CSA C22.2 No. 107.1-16; FCC Part 15; ANSI C63.4; ICES-003; IEEE1547; NEC2014 & NEC2017 Section 690.11 DC Arc-Fault circuit; Protection NEC2014 & NEC2017 & NEC2020 Section 690.12 Rapid Shutdown of PV systems on Building | |
|  Meets the standard requirements for Distributed Energy Resources (UL-1741) and identified with the CSA Listed Mark | | |

(1) Nominal voltage/frequency range can be extended beyond nominal if required by the utility.
 (2) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.
 (3) Inverter may enter low power mode in environments with poor ventilation or limited heat dissipation
 (4) Recommend no more than 80 inverters register to one ECU for stable communication. "

PC Dual - A440 Top Roof(SW) Douglas Comm Center, 111 OLIVIA STREET, KEY WEST, FL,

| Report | |
|---|--------------------------------------|
| Project Name | Douglas Comm Center |
| Project Address | 111 OLIVIA STREET, KEY WEST, FL, |
| Prepared By | Bob Williams bobw@saltservice.net |
|  | |

| System Metrics | |
|-----------------------|--|
| Design | PC Dual - A440 Top Roof(SW) |
| Module DC Nameplate | 28.2 kW |
| Inverter AC Nameplate | 30.0 kW Load Ratio: 0.94 |
| Annual Production | 48.91 MWh |
| Performance Ratio | 85.4% |
| kWh/kWp | 1,736.9 |
| Weather Dataset | TMY, 10km Grid (24.55,-81.85), NREL (prospector) |
| Simulator Version | 34dd91d93f-2d85c5c137-1646ec5f5a-c726c14e3e |



| ⚡ Annual Production | | | |
|----------------------------------|-------------------------------------|-----------------|--------------|
| | Description | Output | % Delta |
| Irradiance (kWh/m ²) | Annual Global Horizontal Irradiance | 2,047.1 | |
| | POA Irradiance | 2,034.4 | -0.6% |
| | Shaded Irradiance | 2,029.9 | -0.2% |
| | Irradiance after Reflection | 1,966.0 | -3.1% |
| | Irradiance after Soiling | 1,926.7 | -2.0% |
| | Total Collector Irradiance | 1,926.7 | 0.0% |
| Energy (kWh) | Nameplate | 55,680.3 | |
| | Output at Irradiance Levels | 55,057.2 | -1.1% |
| | Output at Cell Temperature Derate | 52,239.4 | -5.1% |
| | Output After Mismatch | 51,099.7 | -2.2% |
| | Optimal DC Output | 50,938.9 | -0.3% |
| | Constrained DC Output | 50,938.9 | 0.0% |
| | Inverter Output | 49,156.1 | -3.5% |
| | Energy to Grid | 48,910.3 | -0.5% |
| Temperature Metrics | | | |
| Avg. Operating Ambient Temp | | 25.5 °C | |
| Avg. Operating Cell Temp | | 35.1 °C | |
| Simulation Metrics | | | |
| | | Operating Hours | 4660 |
| | | Solved Hours | 4660 |

| ☁ Condition Set | | | | | | | | | | | | |
|------------------------------|--|-------------|--|-------------------|---|---|---|---|---|---|---|---|
| Description | Condition Set 2 | | | | | | | | | | | |
| Weather Dataset | TMY, 10km Grid (24.55,-81.85), NREL (prospector) | | | | | | | | | | | |
| Solar Angle Location | Meteo Lat/Lng | | | | | | | | | | | |
| Transposition Model | Perez Model | | | | | | | | | | | |
| Temperature Model | Sandia Model | | | | | | | | | | | |
| Temperature Model Parameters | Rack Type | a | b | Temperature Delta | | | | | | | | |
| | Fixed Tilt | -3.56 | -0.075 | 3°C | | | | | | | | |
| | Flush Mount | -2.81 | -0.0455 | 0°C | | | | | | | | |
| | East-West | -3.56 | -0.075 | 3°C | | | | | | | | |
| | Carport | -3.56 | -0.075 | 3°C | | | | | | | | |
| Soiling (%) | J | F | M | A | M | J | J | A | S | O | N | D |
| | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Irradiation Variance | 5% | | | | | | | | | | | |
| Cell Temperature Spread | 4° C | | | | | | | | | | | |
| Module Binning Range | 0% to 5% | | | | | | | | | | | |
| AC System Derate | 0.50% | | | | | | | | | | | |
| Module Characterizations | Module | Uploaded By | Characterization | | | | | | | | | |
| | SPR-A440-COM (SunPower) | HelioScope | Sunpower_SPR_A440_COM_Preliminary.PAN, PAN | | | | | | | | | |
| Component Characterizations | Device | Uploaded By | Characterization | | | | | | | | | |
| | 30K-3P-208V-N (Sol-Ark) | HelioScope | Spec Sheet | | | | | | | | | |

| 📦 Components | | |
|--------------|-------------------------------|--------------|
| Component | Name | Count |
| Inverters | 30K-3P-208V-N (Sol-Ark) | 1 (30.0 kW) |
| Strings | 10 AWG (Copper) | 8 (550.0 ft) |
| Module | SunPower, SPR-A440-COM (440W) | 64 (28.2 kW) |

| 🔌 Wiring Zones | | | |
|----------------|----------------|-------------|--------------------|
| Description | Combiner Poles | String Size | Stringing Strategy |
| Wiring Zone | - | 8-8 | Along Racking |

| 🏠 Field Segments | | | | | | | | | |
|------------------|-----------|------------------------|------|-----------|------------------|------------|--------|---------|---------|
| Description | Racking | Orientation | Tilt | Azimuth | Intrarow Spacing | Frame Size | Frames | Modules | Power |
| Field Segment 1 | East-West | Landscape (Horizontal) | 10° | 236.2591° | 0.2 ft | 1x1 | 32 | 64 | 28.2 kW |

Detailed Layout

