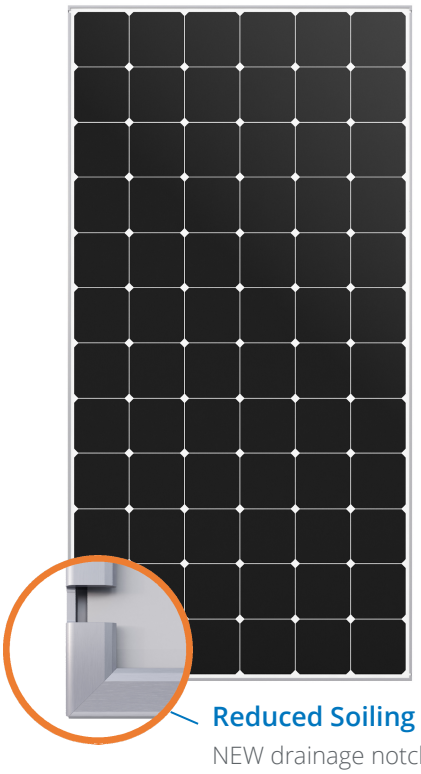
A SERIES

SUNPOWER®



Reduced Soiling
NEW drainage notch improves performance

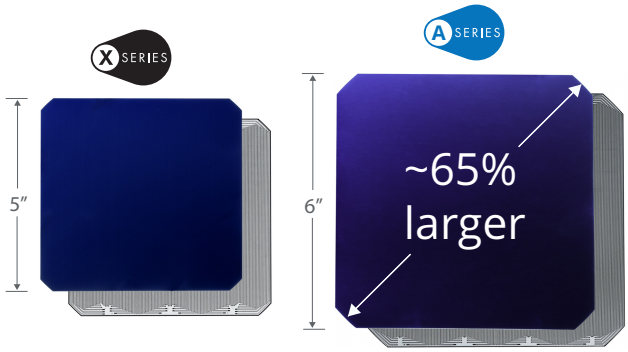
430-450W Commercial A-Series Panels

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]

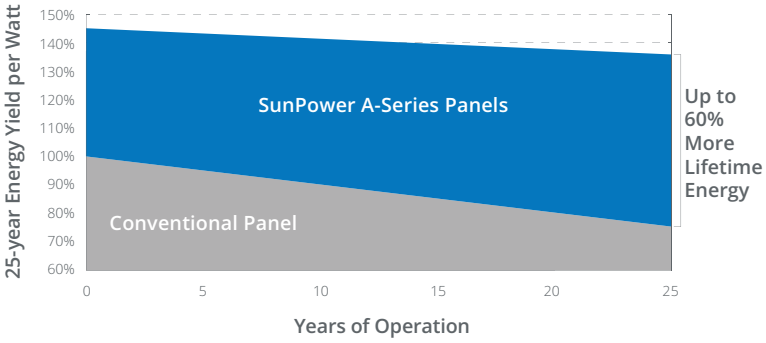
Highest Power Density Available

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]



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]

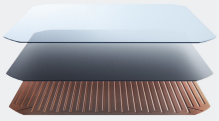


Best Reliability, Best Warranty

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.

BETTER PRODUCT · BETTER WARRANTY
25-yr SunPower Complete Confidence

SUNPOWER MAXEON SOLAR CELL TECHNOLOGY



Fundamentally Different. And Better.

- Most powerful cell in commercial solar[2]
- Delivers unmatched reliability[3]
- Patented solid metal foundation prevents breakage and corrosion

As sustainable as the energy it produces.

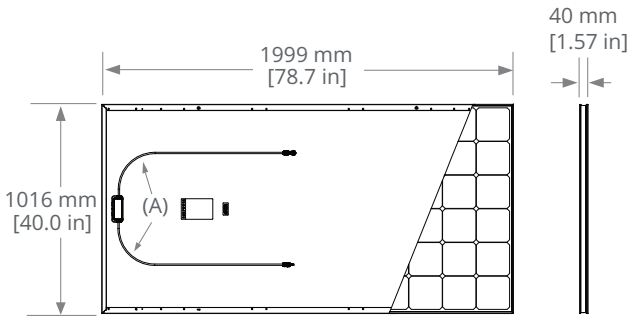
- Ranked #1 in Silicon Valley Toxics Coalition 2015 Solar Scorecard[4]
- Contributes to more LEED categories than conventional panels[5]

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

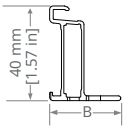
Electrical Data			
	SPR-A450-COM	SPR-A440-COM	SPR-A430-COM
Nominal Power (Pnom)[6]	450 W	440 W	430 W
Power Tolerance	+5/0%	+5/0%	+5/0%
Panel Efficiency	22.2%	21.7%	21.2%
Rated Voltage (Vmpp)	44.0 V	43.4 V	42.7 V
Rated Current (Impp)	10.2 A	10.2 A	10.1 A
Open-Circuit Voltage (Voc)	51.9 V	51.6 V	51.2 V
Short-Circuit Current (Isc)	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/m² front & back Snow: 125 psf, 6000 Pa, 612 kg/m² 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 CertifiedTM 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.

SUNPOWER®

PANELCLAW®

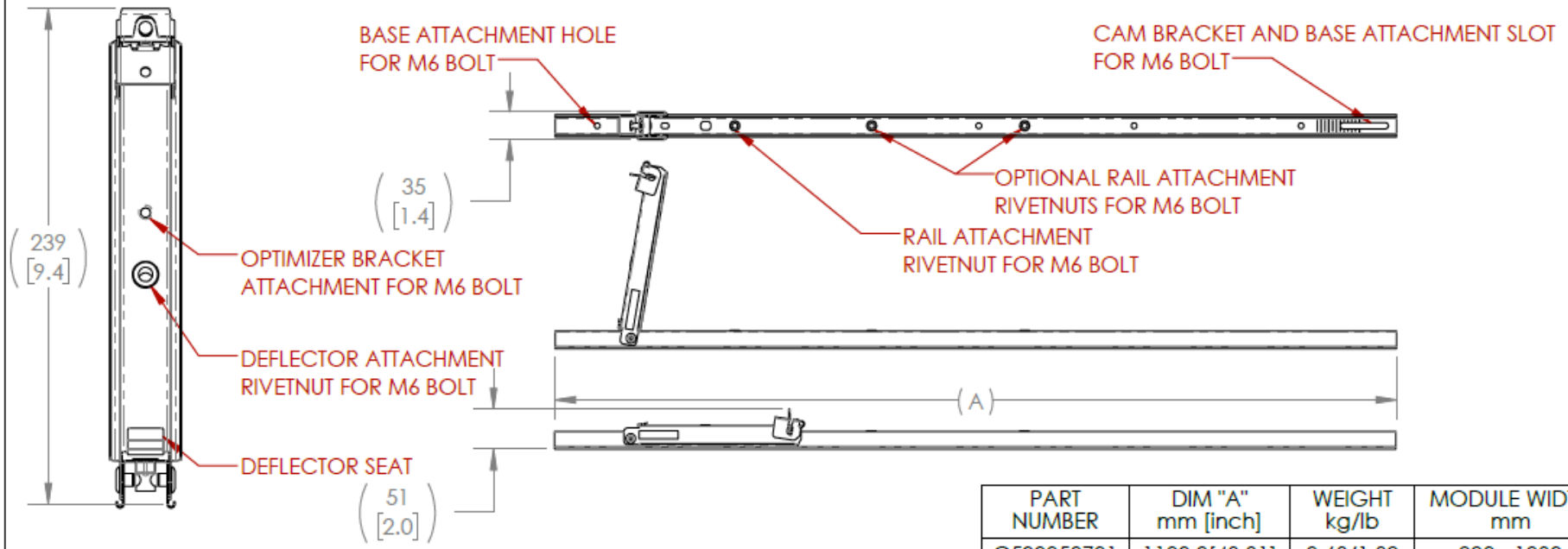
clawFR 10 Degree 5 Degree and Dual Tilt

Component Cut Sheets

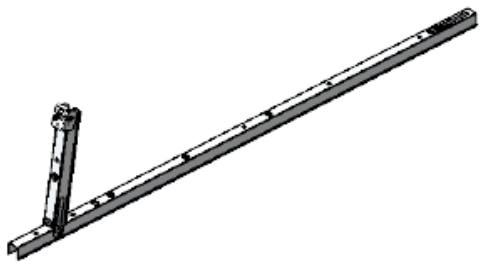
Component Cut Sheet

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



5000507XX

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

MODULE CONNECTOR, 10 DEGREE, CFR

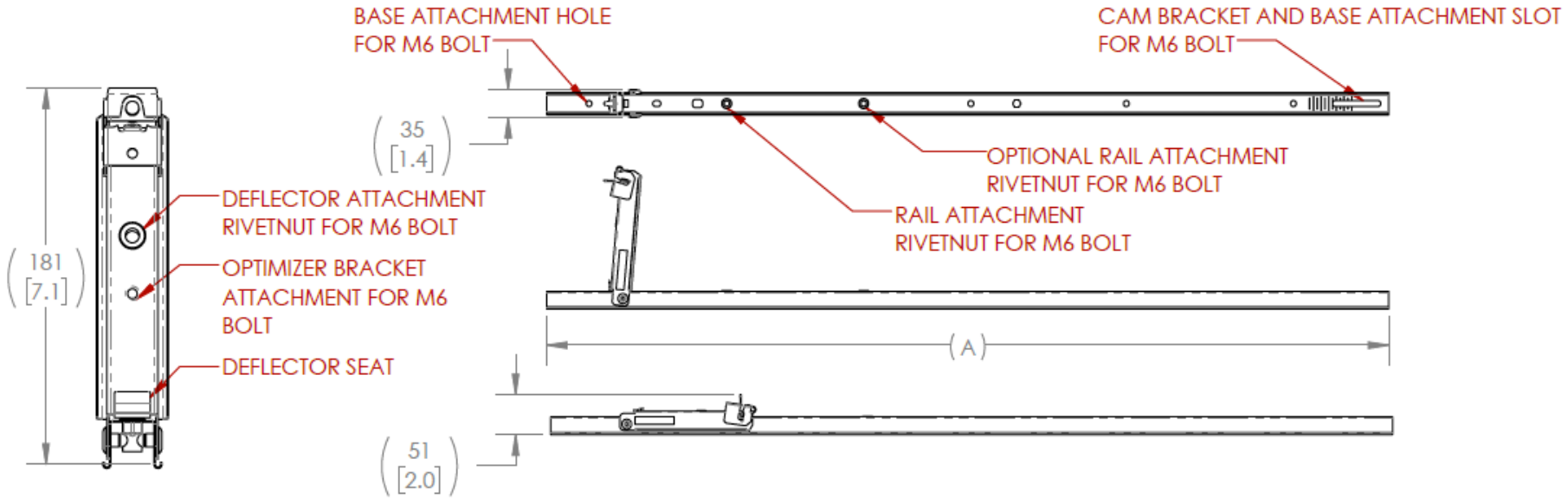
SIZE	DWG. NO.	REV
A	C5000507XX	C

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

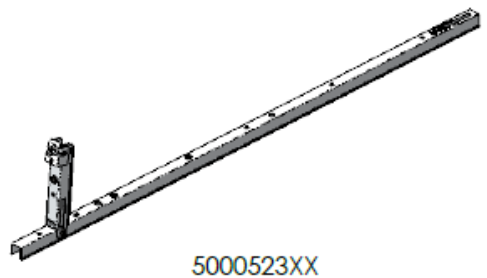
Component Cut Sheet

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

MATERIAL
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DIMENSIONS ARE IN mm [INCHES]

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PANELCLAW®

MODULE CONNECTOR, 5 DEGREE, CFR

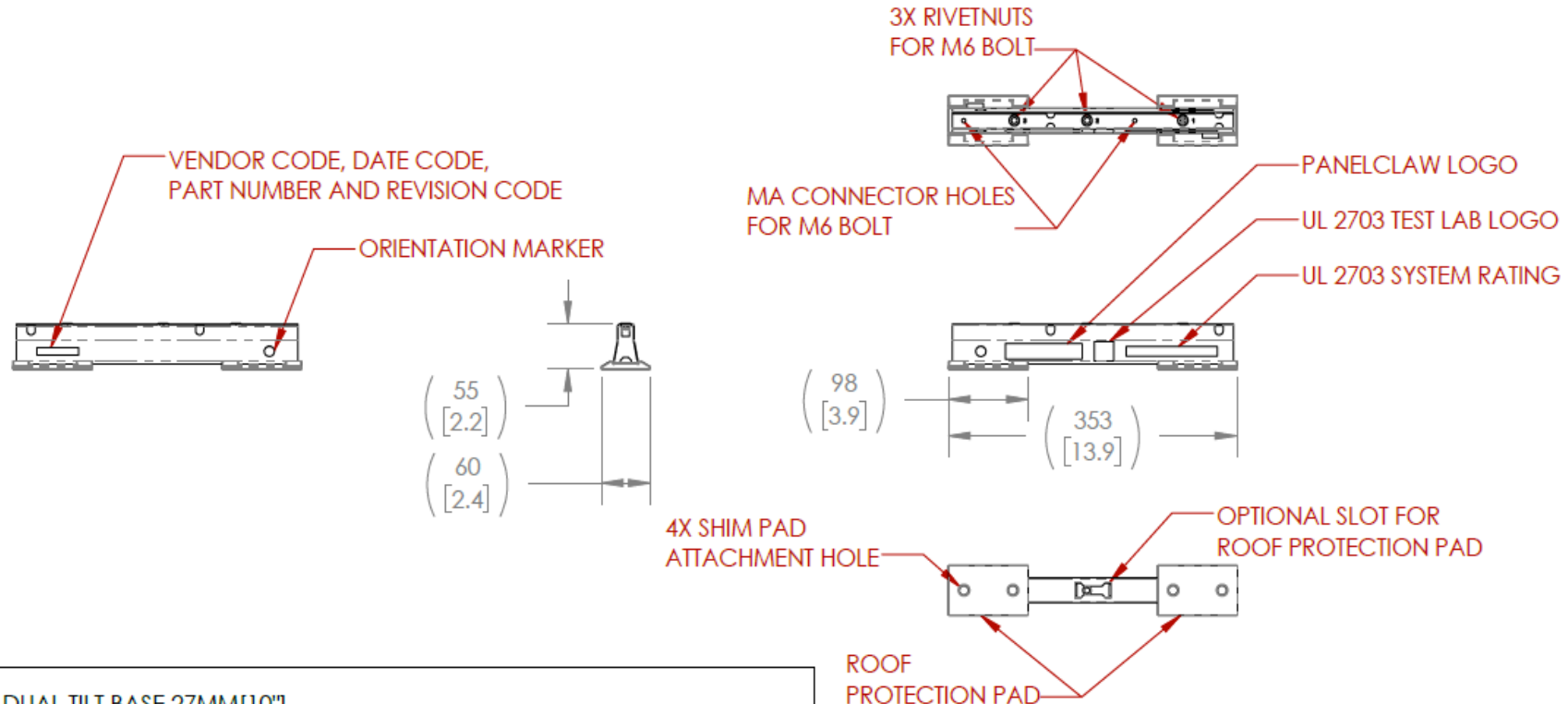
SIZE	DWG. NO.	REV
A	C5000523XX	C

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)

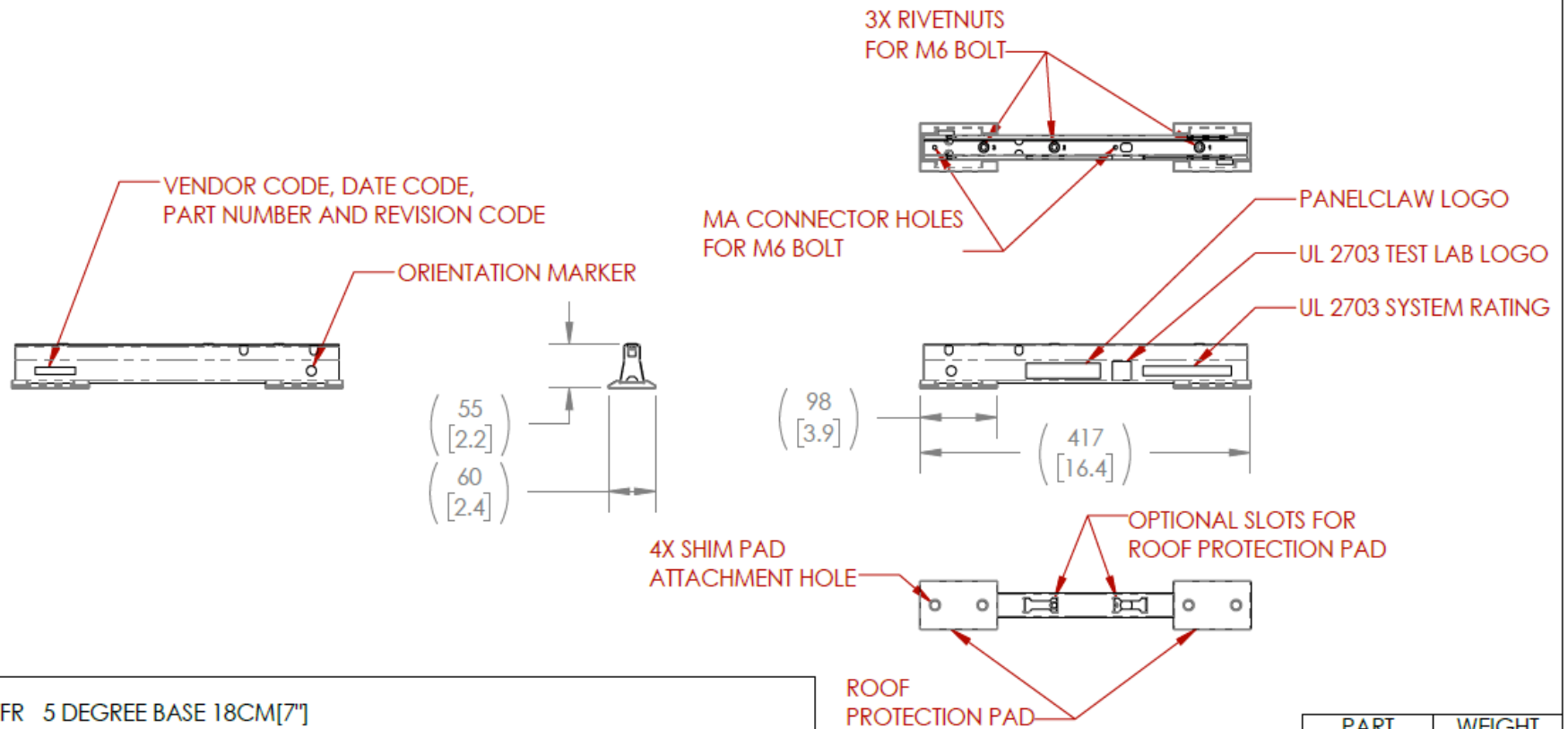
BASE, 01, CFR

SIZE	DWG. NO.	REV
A	C500050201	A

DIMENSIONS ARE IN mm [INCHES] | SCALE: NONE | WT SEE TABLE kg/lb | SHEET 1 OF 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
STEEL W/ZAM COATING;
TPV (Thermoplastic Vulcanizate)

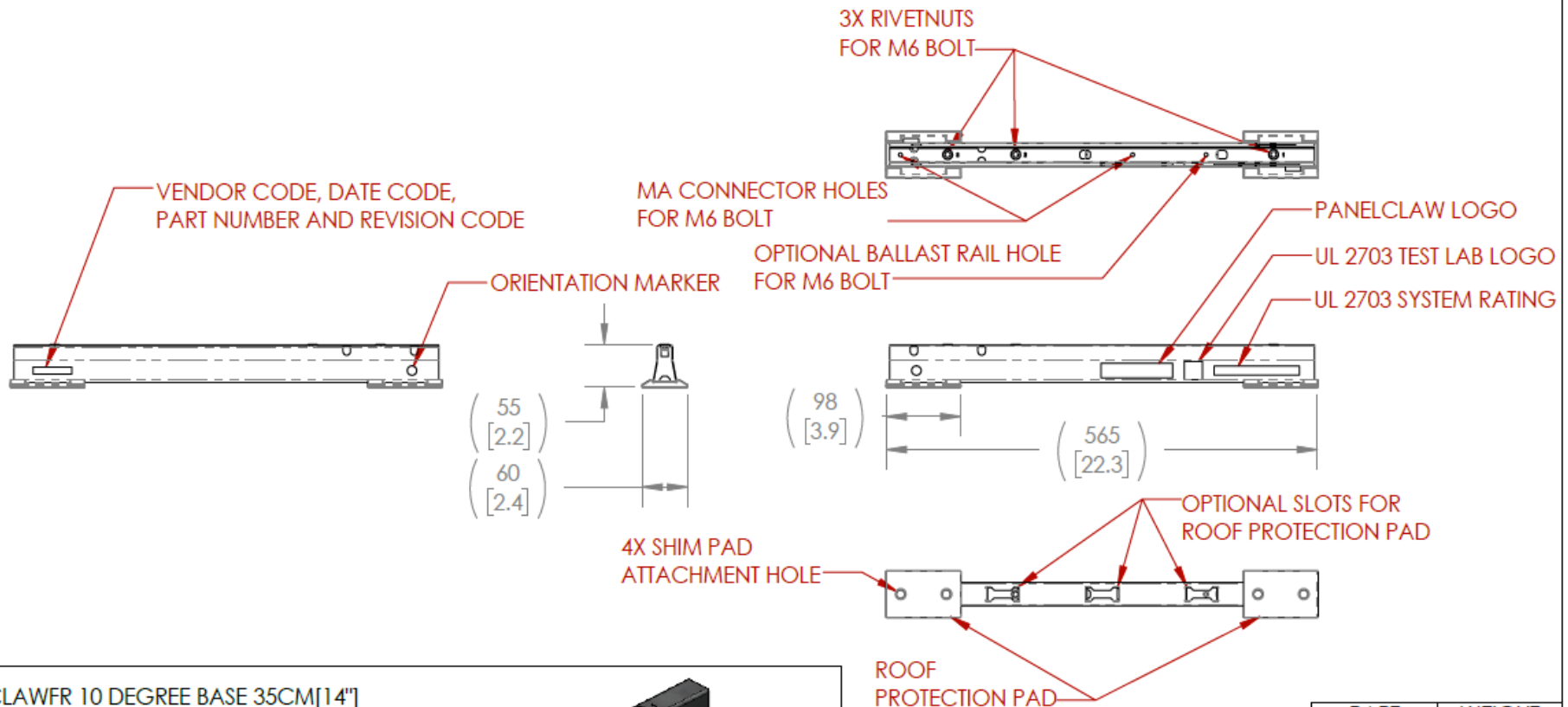
BASE, 02, CFR

SIZE	DWG. NO.	REV
A	C500050202	A

DIMENSIONS ARE IN mm [INCHES] | 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

MATERIAL
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DIMENSIONS ARE IN mm [INCHES]

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BASE, 03, CFR

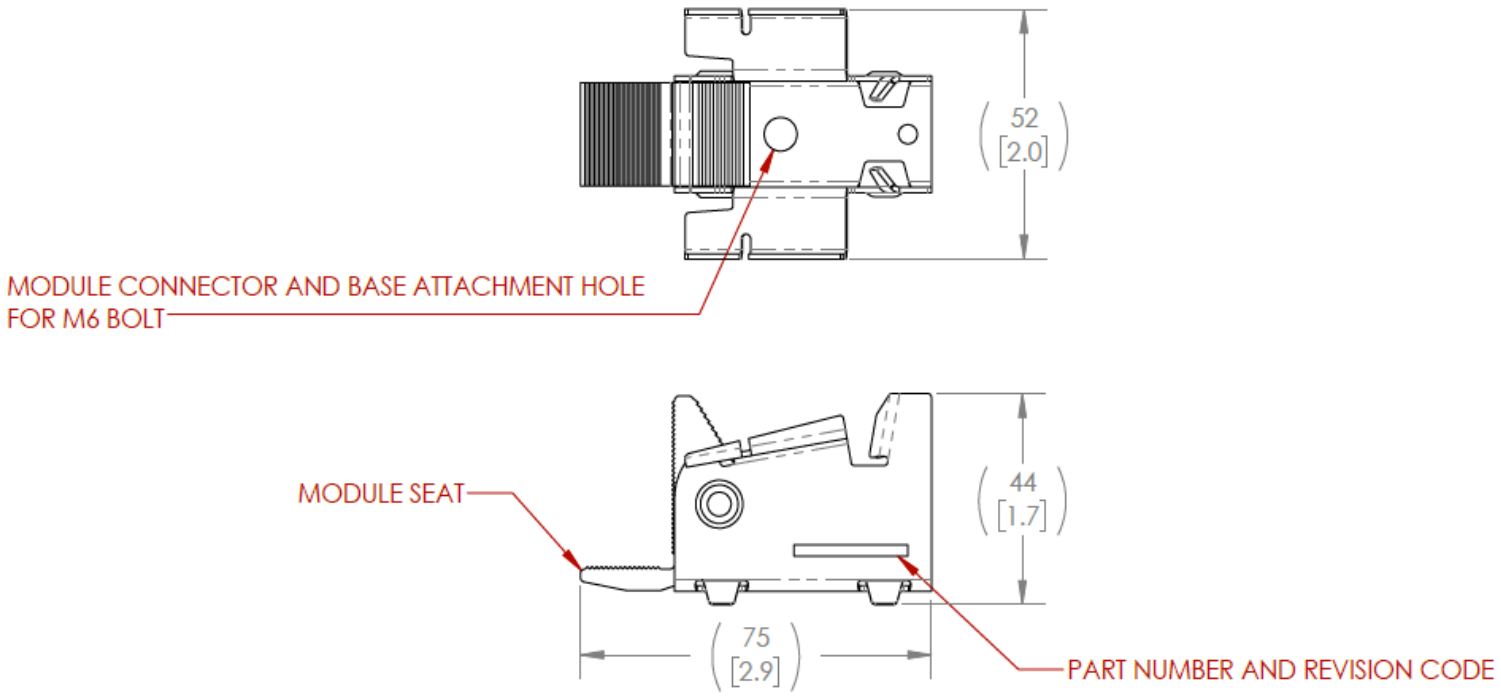
SIZE	DWG. NO.	REV
A	C500050203	A

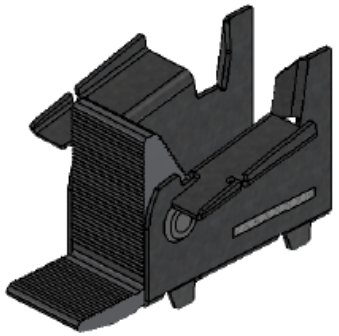
SCALE: NONE | WT SEE TABLE kg/lb | SHEET 3 OF 3

Component Cut Sheet

10 Degree and Dual Tilt "Cam"

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





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CAM, 10 DEGREE, CFR

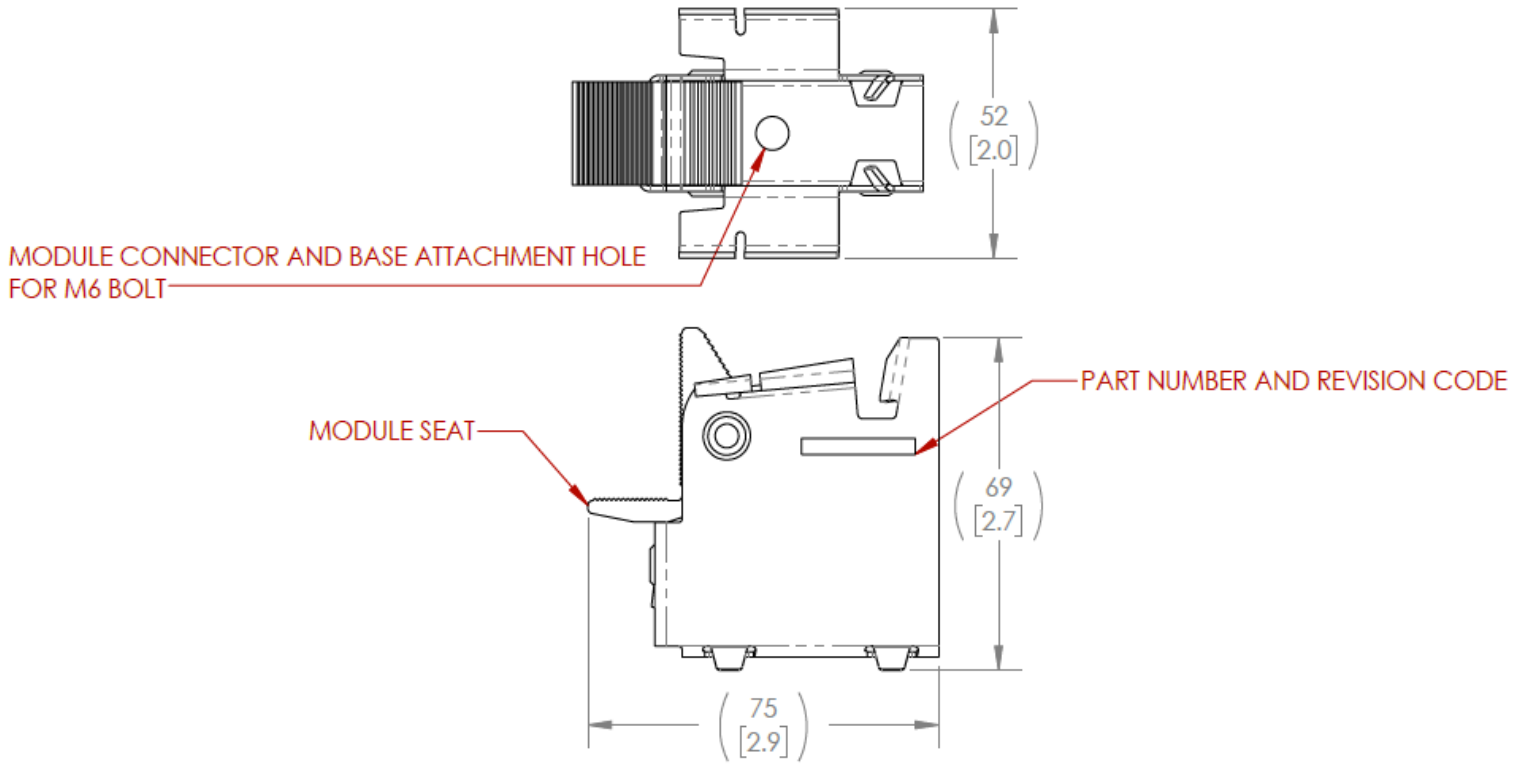
SIZE	DWG. NO.	REV
A	C5000500	A

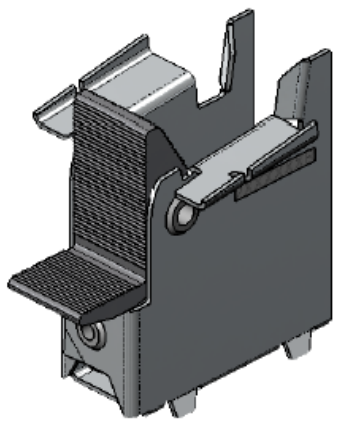
SCALE: NONE | WT 0.08/0.17 kg/lb | SHEET 1 OF 1

Component Cut Sheet

5 Degree
“Cam”

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





MATERIAL
STEEL W/ZAM COATING; ALUMINUM

DIMENSIONS ARE IN mm [INCHES]

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CAM, 5 DEGREE, CFR

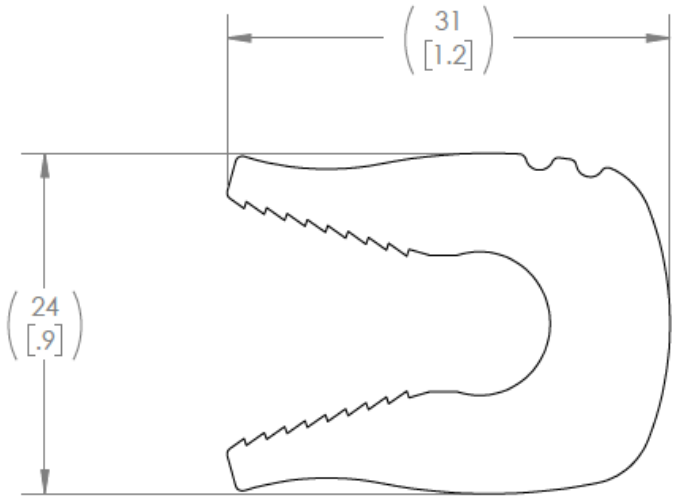
SIZE	DWG. NO.	REV
A	C5000515	A

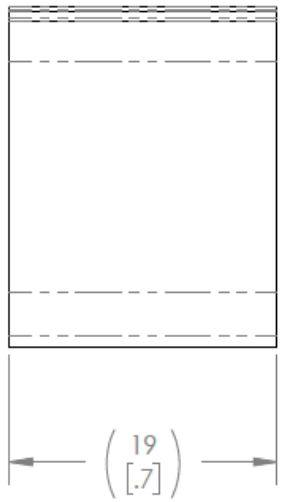
SCALE: NONE | WT 0.11/0.24 kg/lb | SHEET 1 OF 1

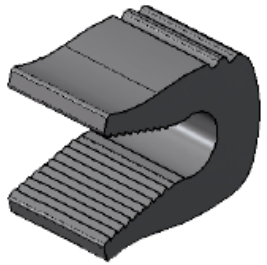
Component Cut Sheet

“Claw”

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







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CAM CLAW, CFR

SIZE	DWG. NO.	REV
A	C2000673	A

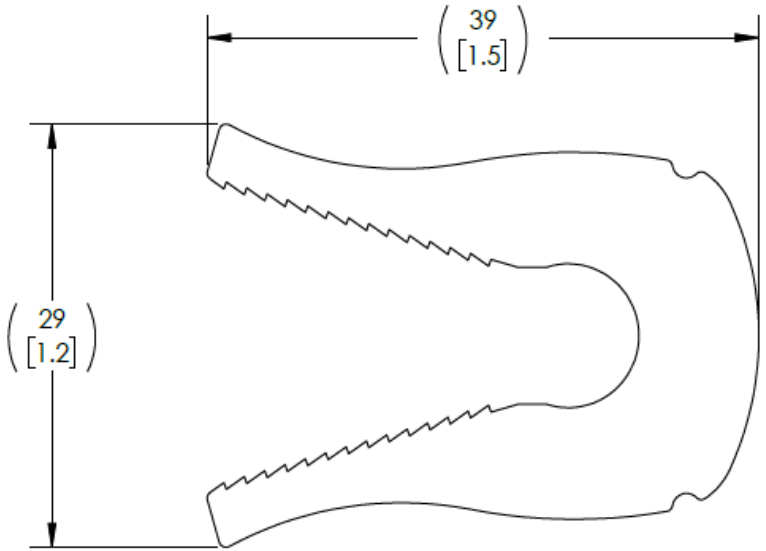
SCALE: NONE | WT 0.02/0.05 kg/lb | SHEET 1 OF 1

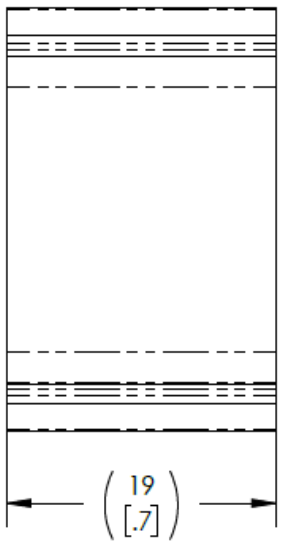
Component Cut Sheet

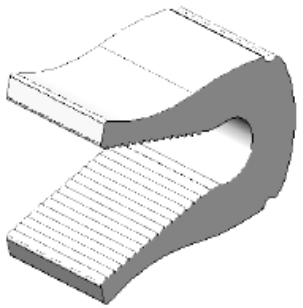
“Claw, CS”

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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ALUMINUM

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Fax: 978.688.5100
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PANELCLAW®

CAM CLAW, CS, CFR

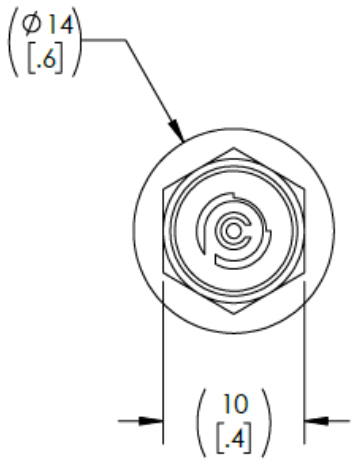
SIZE	DWG. NO.	REV
A	C2000815	A

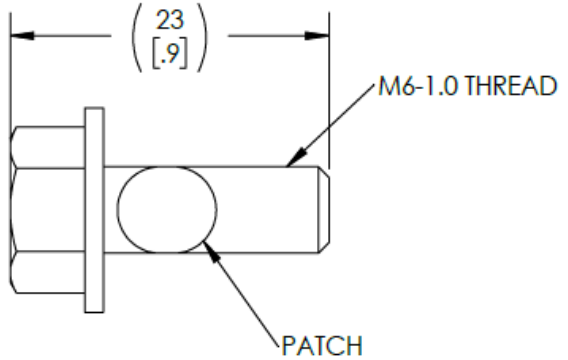
SCALE: NONE | WT 0.03/0.06 kg/lb | SHEET 1 OF 1

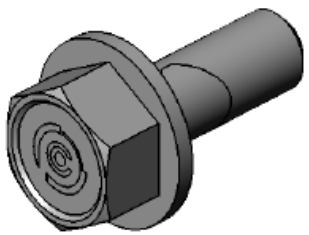
Component Cut Sheet

“M6X16 Bolt”

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







MATERIAL
STEEL

DIMENSIONS ARE IN mm [INCHES]

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North Andover, MA 01845
Phone: 978.688.4900
Fax: 978.688.5100
www.panelclaw.com

PANELCLAW®

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

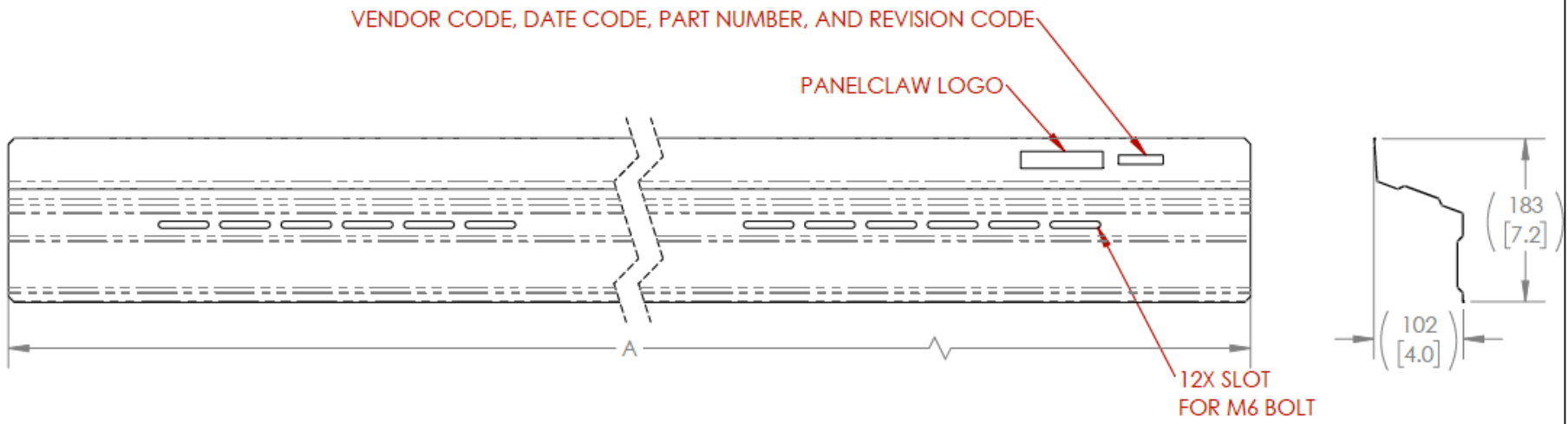
SIZE	DWG. NO.	REV
A	C2000697	A

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

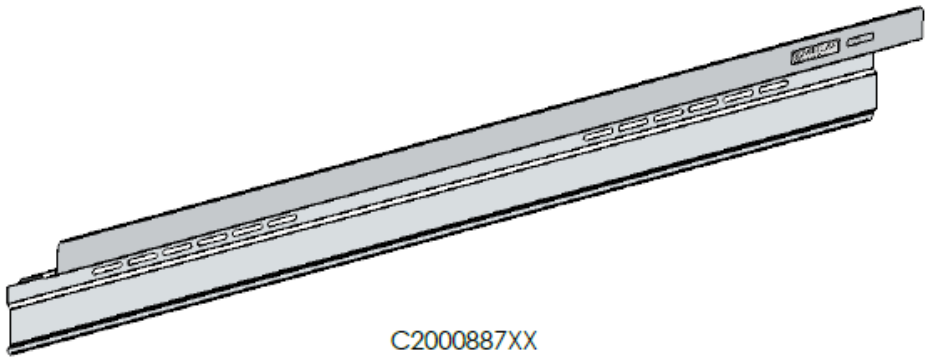
Component Cut Sheet

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



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



C2000887XX

MATERIAL
STEEL W/ ZAM COATING

DIMENSIONS ARE IN mm [INCHES]

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Fax: 978.688.5100
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DEFLECTOR, 10D, CFR

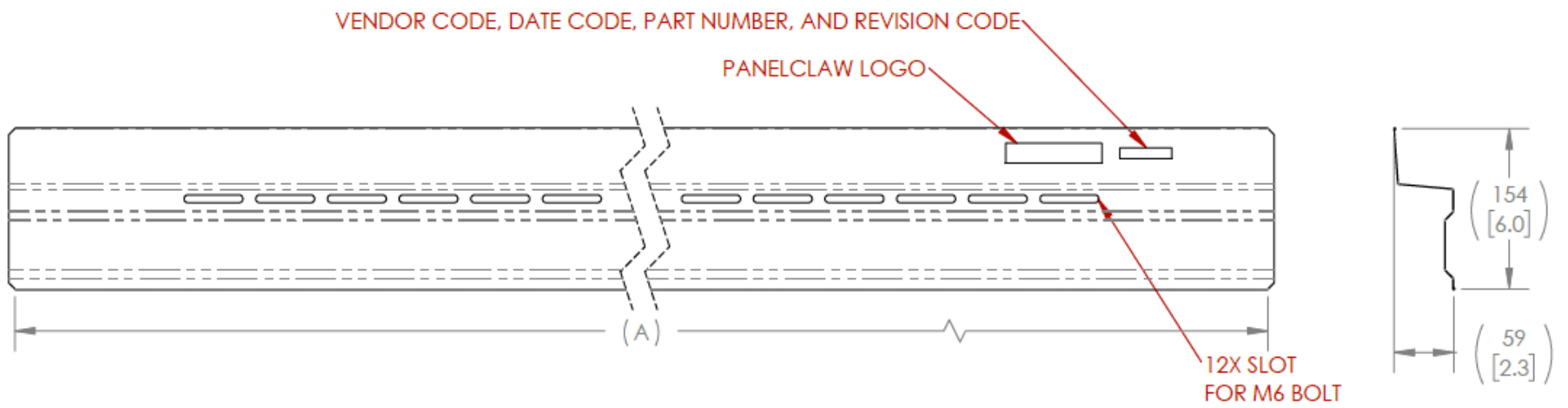
SIZE	DWG. NO.	REV
A	C2000887XX	C

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

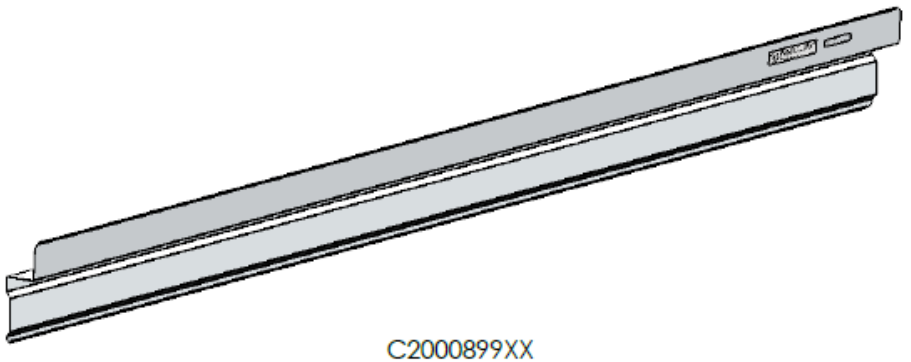
Component Cut Sheet

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



C2000899XX

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, 5D, CFR

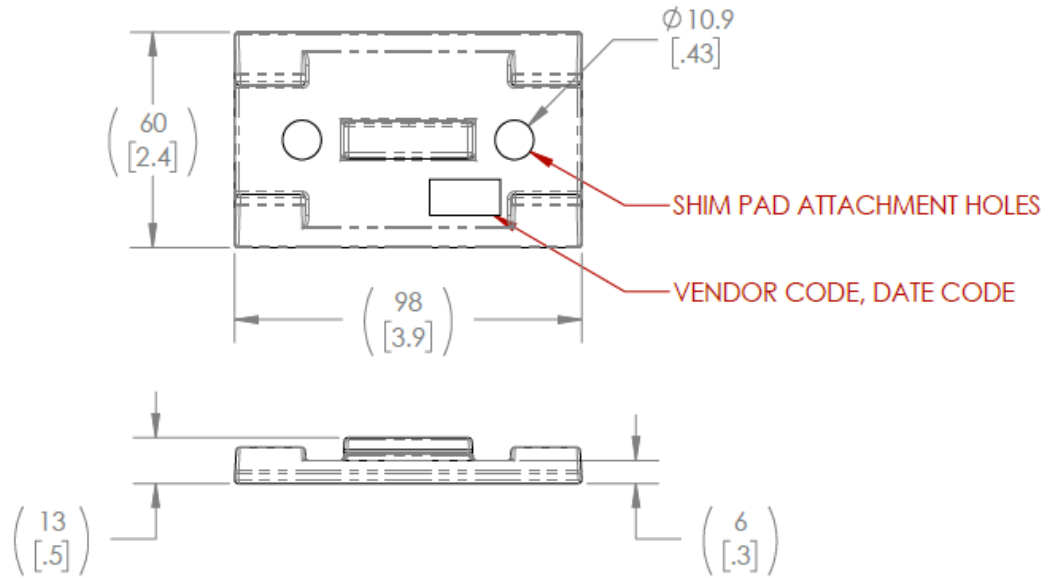
SIZE	DWG. NO.	REV
A	C2000899XX	B

DIMENSIONS ARE IN mm [INCHES] | 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



MATERIAL
TPV (Thermoplastic Vulcanizate)

DIMENSIONS ARE IN mm [INCHES]

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

ROOF PROTECTION PAD, BASE, CFR

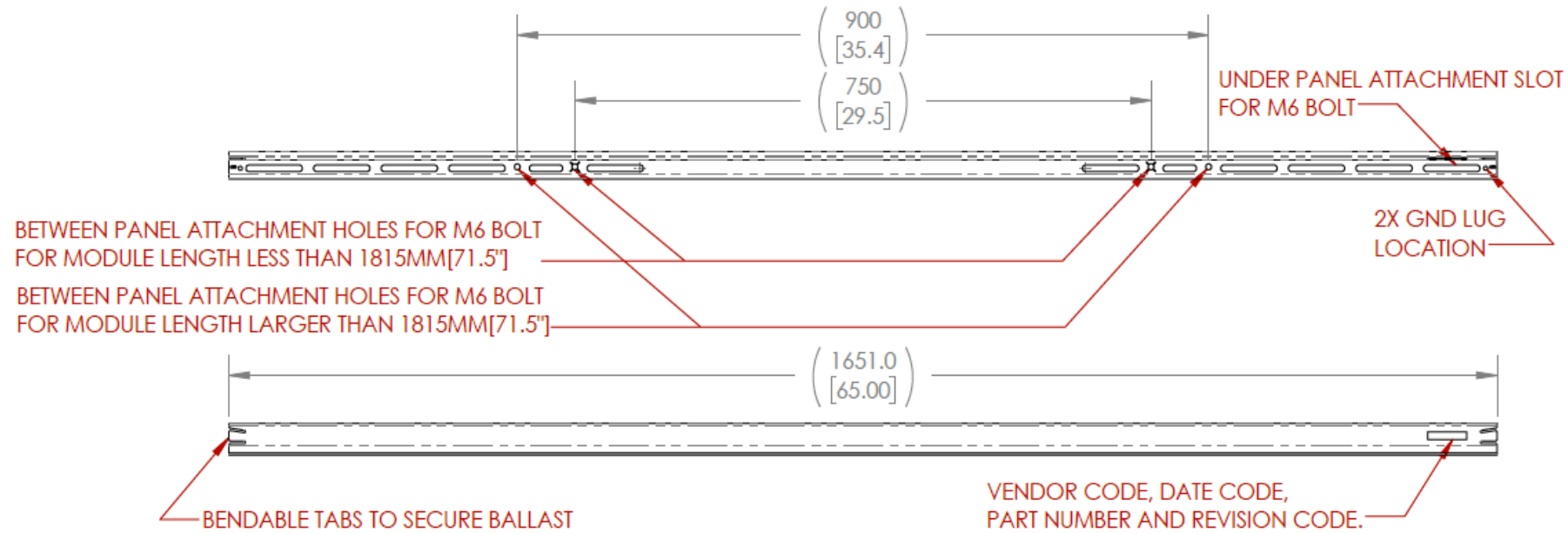
SIZE	DWG. NO.	REV
A	C2000678	A

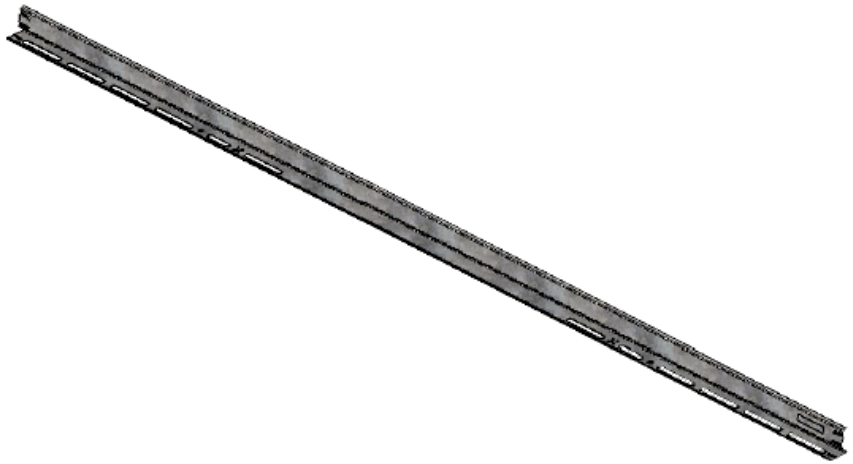
SCALE: NONE | WT 0.04/0.08 kg/lb | SHEET 1 OF 1

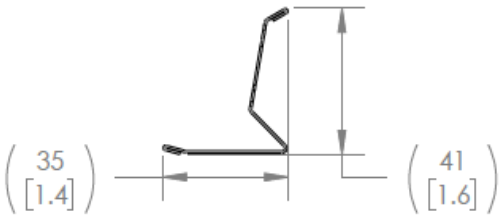
Component Cut Sheet

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







MATERIAL
STEEL W/ZAM COATING

PANELCLAW

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

RAIL, CFR

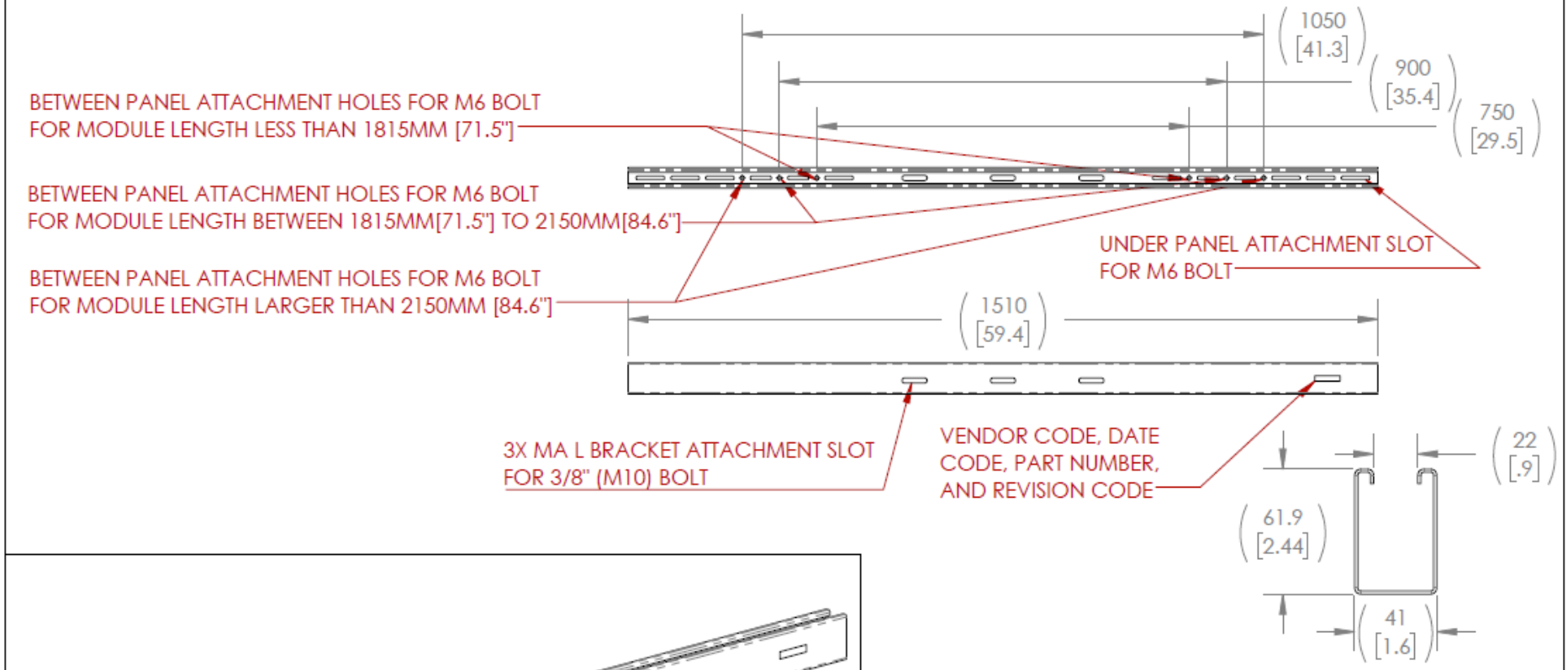
SIZE	DWG. NO.	REV
A	C2000695	B

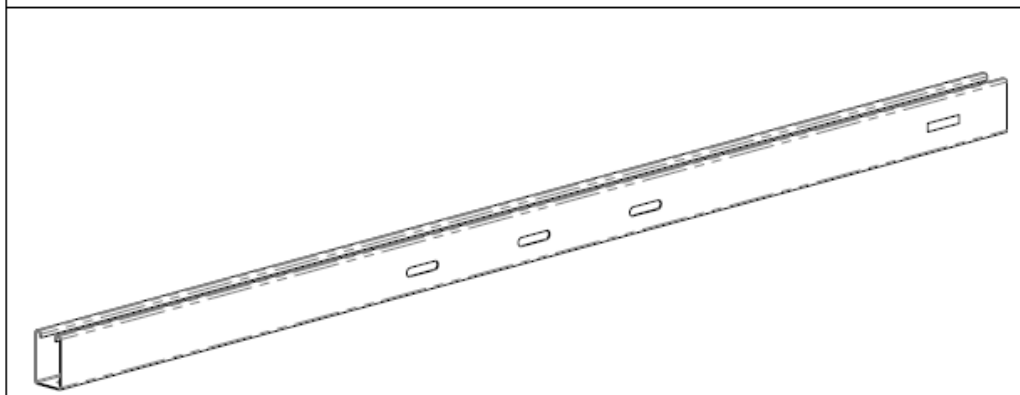
DIMENSIONS ARE IN mm [INCHES] | SCALE: NONE | WT 0.79/1.75 kg/lb | SHEET 1 OF 1

Component Cut Sheet

Universal
“MA Strut”

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





MATERIAL
STEEL W/ ZAM COATING

DIMENSIONS ARE IN mm [INCHES]

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1600 Osgood St., Suite 2023,
North Andover, MA 01845
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www.panelclaw.com

MA STRUT, 2500, CFR

SIZE	DWG. NO.	REV
A	C2000930	A

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

For Questions or Feedback Contact sales@panelclaw.com

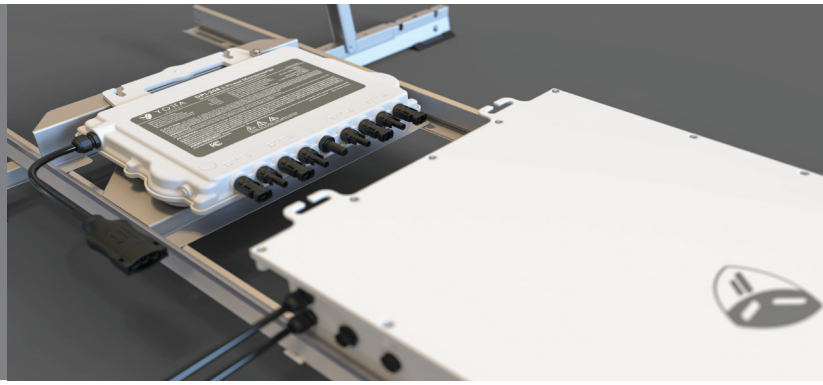
YOTTA ENERGY

Value Beyond Power Conversion

DPI-208 & DPI-480

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.

Value Beyond Power Conversion | DPI-208 & DPI-480

Simplified Deployment

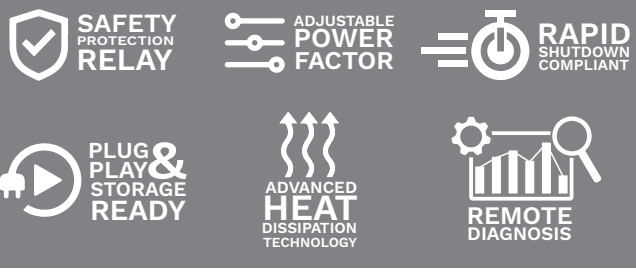
While a streamlined system design path is prized in the office, time spent in the field on rooftops and job sites is frequently where project budgets fall apart. The DPI's design engineers kept this front-of-mind with the following value-adds.

- 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.

Ver. 2.0 March 2023

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YOTTA ENERGY

DPI-208 & DPI-480

3-Phase Microinverters

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**

3 PHASE GRID

208 OR 480V OUTPUT VOLTAGE

PLUG & PLAY STORAGE READY

RAPID SHUTDOWN COMPLIANT

SAFETY PROTECTION RELAY

ADJUSTABLE POWER FACTOR

ADVANCED HEAT DISSIPATION TECHNOLOGY

REMOTE DIAGNOSIS

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

Ver. 5.2
April 2023

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” × 9.5” × 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 Meets the standard requirements for Distributed Energy Resources (UL-1741) and identified with the CSA Listed Mark	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	

(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. "

www.yottaenergy.com

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Austin, TX 78744
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PC Dual - A440 Top Roof(SW) Douglas Comm Center, 111 OLIVIA STREET, KEY WEST, FL,

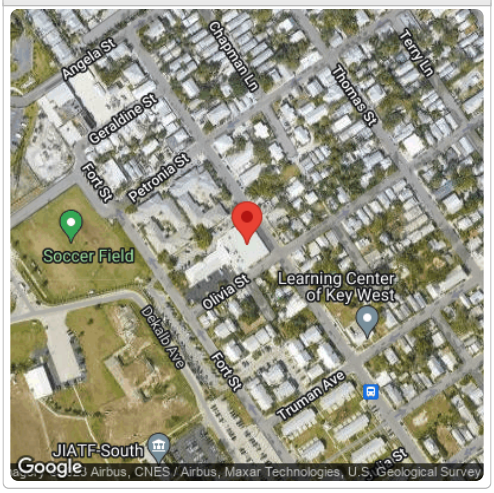
Report

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

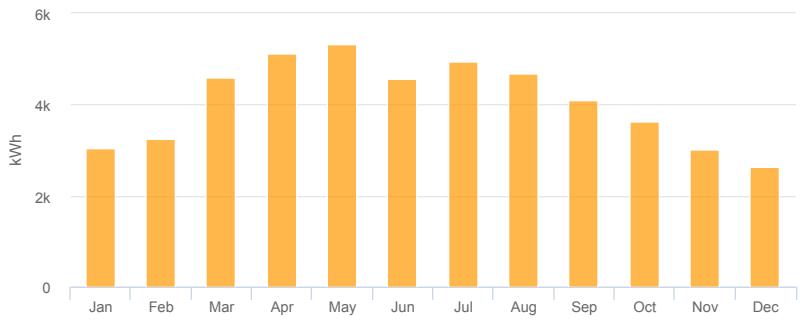
System Metrics

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

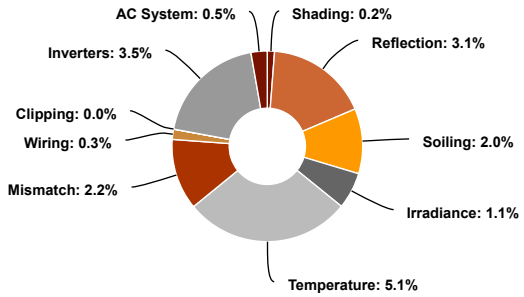
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	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