

# Q.PEAK DUO BLK ML-G10+ SERIES



**385-410 Wp | 132 Cells**  
**20.9% Maximum Module Efficiency**

**MODEL** Q.PEAK DUO BLK ML-G10+



6 busbar  
cell technology



12 busbar  
cell technology



## Breaking the 20% efficiency barrier

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.



## A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>1</sup>.



## Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology<sup>2</sup> and Hot-Spot Protect.



## Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).



## Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



## The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

<sup>1</sup> See data sheet on rear for further information.

<sup>2</sup> APT test conditions according to IEC/TS 62804-1:2015, method A (~1500 V, 96 h)

### The ideal solution for:



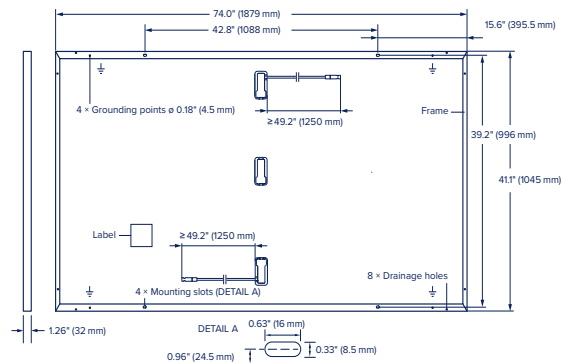
Rooftop arrays on  
residential buildings



# Q.PEAK DUO BLK ML-G10+ SERIES

## Mechanical Specification

|              |                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------|
| Format       | 74.0 in × 41.1 in × 1.26 in (including frame)<br>(1879 mm × 1045 mm × 32 mm)                              |
| Weight       | 48.5 lbs (22.0 kg)                                                                                        |
| Front Cover  | 0.13 in (3.2 mm) thermally pre-stressed glass<br>with anti-reflection technology                          |
| Back Cover   | Composite film                                                                                            |
| Frame        | Black anodised aluminium                                                                                  |
| Cell         | 6 × 22 monocrystalline Q.ANTUM solar half cells                                                           |
| Junction box | 2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in<br>(53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes |
| Cable        | 4 mm <sup>2</sup> Solar cable; (+) ≥ 49.2 in (1250 mm), (-) ≥ 49.2 in (1250 mm)                           |
| Connector    | Stäubli MC4; IP68                                                                                         |



## Electrical Characteristics

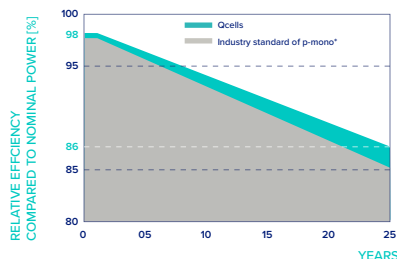
| POWER CLASS                                                                                   |                                    |                      | 385    | 390    | 395    | 400    | 405    | 410    |
|-----------------------------------------------------------------------------------------------|------------------------------------|----------------------|--------|--------|--------|--------|--------|--------|
| MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W/-0 W) |                                    |                      |        |        |        |        |        |        |
| Minimum                                                                                       | Power at MPP <sup>1</sup>          | P <sub>MPP</sub> [W] | 385    | 390    | 395    | 400    | 405    | 410    |
|                                                                                               | Short Circuit Current <sup>1</sup> | I <sub>SC</sub> [A]  | 11.04  | 11.07  | 11.10  | 11.14  | 11.17  | 11.20  |
|                                                                                               | Open Circuit Voltage <sup>1</sup>  | V <sub>OC</sub> [V]  | 45.19  | 45.23  | 45.27  | 45.30  | 45.34  | 45.37  |
|                                                                                               | Current at MPP                     | I <sub>MPP</sub> [A] | 10.59  | 10.65  | 10.71  | 10.77  | 10.83  | 10.89  |
|                                                                                               | Voltage at MPP                     | V <sub>MPP</sub> [V] | 36.36  | 36.62  | 36.88  | 37.13  | 37.39  | 37.64  |
|                                                                                               | Efficiency <sup>1</sup>            | η [%]                | ≥ 19.6 | ≥ 19.9 | ≥ 20.1 | ≥ 20.4 | ≥ 20.6 | ≥ 20.9 |

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup>

|         |                       |                      |       |       |       |       |       |       |
|---------|-----------------------|----------------------|-------|-------|-------|-------|-------|-------|
| Minimum | Power at MPP          | P <sub>MPP</sub> [W] | 288.8 | 292.6 | 296.3 | 300.1 | 303.8 | 307.6 |
|         | Short Circuit Current | I <sub>SC</sub> [A]  | 8.90  | 8.92  | 8.95  | 8.97  | 9.00  | 9.03  |
|         | Open Circuit Voltage  | V <sub>OC</sub> [V]  | 42.62 | 42.65 | 42.69 | 42.72 | 42.76 | 42.79 |
|         | Current at MPP        | I <sub>MPP</sub> [A] | 8.35  | 8.41  | 8.46  | 8.51  | 8.57  | 8.62  |
|         | Voltage at MPP        | V <sub>MPP</sub> [V] | 34.59 | 34.81 | 35.03 | 35.25 | 35.46 | 35.68 |

<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000 W/m<sup>2</sup>, 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • <sup>2</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

## Qcells PERFORMANCE WARRANTY

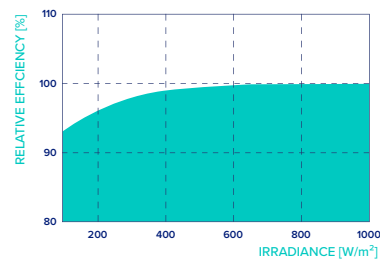


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

<sup>\*</sup>Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

|                                             |   |       |       |                                            |      |       |                          |
|---------------------------------------------|---|-------|-------|--------------------------------------------|------|-------|--------------------------|
| Temperature Coefficient of I <sub>SC</sub>  | α | [%/K] | +0.04 | Temperature Coefficient of V <sub>OC</sub> | β    | [%/K] | -0.27                    |
| Temperature Coefficient of P <sub>MPP</sub> | γ | [%/K] | -0.34 | Nominal Module Operating Temperature       | NMOT | [°F]  | 109 ± 5.4<br>(43 ± 3 °C) |

## Properties for System Design

|                                          |                        |                            |                                                 |                                               |
|------------------------------------------|------------------------|----------------------------|-------------------------------------------------|-----------------------------------------------|
| Maximum System Voltage                   | V <sub>sys</sub> [V]   | 1000 (IEC)/1000 (UL)       | PV module classification                        | Class II                                      |
| Maximum Series Fuse Rating               | [A DC]                 | 20                         | Fire Rating based on ANSI/UL 61730              | TYPE 2                                        |
| Max. Design Load, Push/Pull <sup>3</sup> | [lbs/ft <sup>2</sup> ] | 75 (3600 Pa)/55 (2660 Pa)  | Permitted Module Temperature on Continuous Duty | -40 °F up to +185 °F<br>(-40 °C up to +85 °C) |
| Max. Test Load, Push/Pull <sup>3</sup>   | [lbs/ft <sup>2</sup> ] | 113 (5400 Pa)/84 (4000 Pa) |                                                 |                                               |

<sup>3</sup> See Installation Manual

## Qualifications and Certificates

UL 61730, CE-compliant,  
Quality Controlled PV - TÜV Rheinland,  
IEC 61215:2016, IEC 61730:2016,  
U.S. Patent No. 9,893,215 (solar cells),



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

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# IQ8MC Microinverter

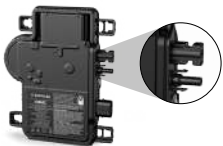
Our newest IQ8 Series Microinverters are the industry's first microgrid-forming\*, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55-nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to the IQ8 Series Microinverters that have integrated MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conforms with various regulations when installed according to the manufacturer's instructions.

## Easy to install

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

## High productivity and reliability

- Produces power even when the grid is down\*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

## Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

### NOTE:

- IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative. An IQ Gateway is required to make these changes during installation.

\*Meets UL 1741 only when installed with IQ System Controller 2 or 3.

# IQ8MC Microinverter

| INPUT DATA (DC)                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             | UNITS | IQ8MC-72-M-US                                                                                                                                                                                                                                                                                      |  |                               |  |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------|--|
| Commonly used module pairings <sup>1</sup>            |                                                                                                                                                                                                                                                                                                                                                                                                                             | W     | 260–460                                                                                                                                                                                                                                                                                            |  |                               |  |
| Module compatibility                                  |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | To meet compatibility, PV modules must be within the following max. input DC voltage and max. module I <sub>sc</sub> .<br>Module compatibility can be checked at <a href="https://enphase.com/installers/microinverters/calculator">https://enphase.com/installers/microinverters/calculator</a> . |  |                               |  |
| MPPT voltage range                                    |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 25–45                                                                                                                                                                                                                                                                                              |  |                               |  |
| Operating range                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 18–58                                                                                                                                                                                                                                                                                              |  |                               |  |
| Min./Max. start voltage                               |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 22/58                                                                                                                                                                                                                                                                                              |  |                               |  |
| Max. input DC voltage                                 |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 60                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Max. continuous operating DC current                  |                                                                                                                                                                                                                                                                                                                                                                                                                             | A     | 14                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Max. input DC short-circuit current                   |                                                                                                                                                                                                                                                                                                                                                                                                                             | A     | 25                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Max. module I <sub>sc</sub>                           |                                                                                                                                                                                                                                                                                                                                                                                                                             | A     | 20                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Overvoltage class DC port                             |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | II                                                                                                                                                                                                                                                                                                 |  |                               |  |
| DC port backfeed current                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | mA    | 0                                                                                                                                                                                                                                                                                                  |  |                               |  |
| PV array configuration                                |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | Ungrounded array; no additional DC side protection required; AC side protection requires max 20 A per branch circuit                                                                                                                                                                               |  |                               |  |
| OUTPUT DATA (AC)                                      |                                                                                                                                                                                                                                                                                                                                                                                                                             | UNITS | IQ8MC-72-M-US @240 VAC                                                                                                                                                                                                                                                                             |  | IQ8MC-72-M-US @208 VAC        |  |
| Peak output power                                     |                                                                                                                                                                                                                                                                                                                                                                                                                             | VA    | 330                                                                                                                                                                                                                                                                                                |  | 315                           |  |
| Max. continuous output power                          |                                                                                                                                                                                                                                                                                                                                                                                                                             | VA    | 320                                                                                                                                                                                                                                                                                                |  | 310                           |  |
| Nominal grid voltage (L-L)                            |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 240, split-phase (L-L), 180°                                                                                                                                                                                                                                                                       |  | 208, single-phase (L-L), 120° |  |
| Min./Max. grid voltage <sup>2</sup>                   |                                                                                                                                                                                                                                                                                                                                                                                                                             | V     | 211–264                                                                                                                                                                                                                                                                                            |  | 183–229                       |  |
| Max. continuous output current                        |                                                                                                                                                                                                                                                                                                                                                                                                                             | A     | 1.33                                                                                                                                                                                                                                                                                               |  | 1.49                          |  |
| Nominal frequency                                     |                                                                                                                                                                                                                                                                                                                                                                                                                             | Hz    | 60                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Extended frequency range                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | Hz    | 47–68                                                                                                                                                                                                                                                                                              |  |                               |  |
| AC short circuit fault current over three cycles      |                                                                                                                                                                                                                                                                                                                                                                                                                             | Arms  | 2.70                                                                                                                                                                                                                                                                                               |  |                               |  |
| Max. units per 20 A (L-L) branch circuit <sup>3</sup> |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | 12                                                                                                                                                                                                                                                                                                 |  | 10                            |  |
| Total harmonic distortion                             |                                                                                                                                                                                                                                                                                                                                                                                                                             | %     | <5                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Overvoltage class AC port                             |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | III                                                                                                                                                                                                                                                                                                |  |                               |  |
| AC port backfeed current                              |                                                                                                                                                                                                                                                                                                                                                                                                                             | mA    | 18                                                                                                                                                                                                                                                                                                 |  |                               |  |
| Power factor setting                                  |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | 1.0                                                                                                                                                                                                                                                                                                |  |                               |  |
| Grid-tied power factor (adjustable)                   |                                                                                                                                                                                                                                                                                                                                                                                                                             | —     | 0.85 leading ... 0.85 lagging                                                                                                                                                                                                                                                                      |  |                               |  |
| Peak efficiency                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             | %     | 97.4                                                                                                                                                                                                                                                                                               |  | 97.2                          |  |
| CEC weighted efficiency                               |                                                                                                                                                                                                                                                                                                                                                                                                                             | %     | 97.0                                                                                                                                                                                                                                                                                               |  | 96.5                          |  |
| Nighttime power consumption                           |                                                                                                                                                                                                                                                                                                                                                                                                                             | mW    | 33                                                                                                                                                                                                                                                                                                 |  | 25                            |  |
| MECHANICAL DATA                                       |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | UNITS                                                                                                                                                                                                                                                                                              |  |                               |  |
| Ambient temperature range                             |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | –40°C to 65°C (–40°F to 149°F)                                                                                                                                                                                                                                                                     |  |                               |  |
| Relative humidity range                               |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | 4% to 100% (condensing)                                                                                                                                                                                                                                                                            |  |                               |  |
| DC connector type                                     |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | Stäubli MC4                                                                                                                                                                                                                                                                                        |  |                               |  |
| Dimensions (H × W × D); Weight                        |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | 212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2"); 1.1 kg (2.43 lbs)                                                                                                                                                                                                                                  |  |                               |  |
| Cooling                                               |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | Natural convection – no fans                                                                                                                                                                                                                                                                       |  |                               |  |
| Approved for wet locations; Pollution degree          |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | Yes; PD3                                                                                                                                                                                                                                                                                           |  |                               |  |
| Enclosure                                             |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | Class II double-insulated, corrosion-resistant polymeric enclosure                                                                                                                                                                                                                                 |  |                               |  |
| Environ. category; UV exposure rating                 |                                                                                                                                                                                                                                                                                                                                                                                                                             |       | NEMA Type 6; outdoor                                                                                                                                                                                                                                                                               |  |                               |  |
| COMPLIANCE                                            |                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                                                                                                                                                                                                                                    |  |                               |  |
| Certifications                                        | CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01.<br>This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020, and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to the manufacturer’s instructions. |       |                                                                                                                                                                                                                                                                                                    |  |                               |  |

(1) No enforced DC/AC ratio.

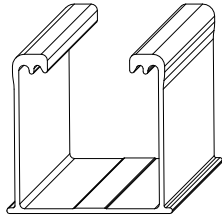
(2) Nominal voltage range can be extended beyond nominal if required by the utility.

(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

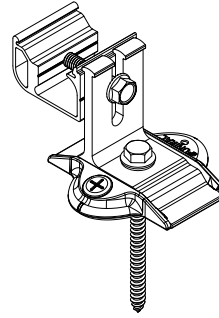
IQ8MC-MC4-DSH-00049-4.0-EN-US-2024-02-09

# Revision history

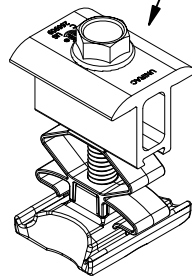
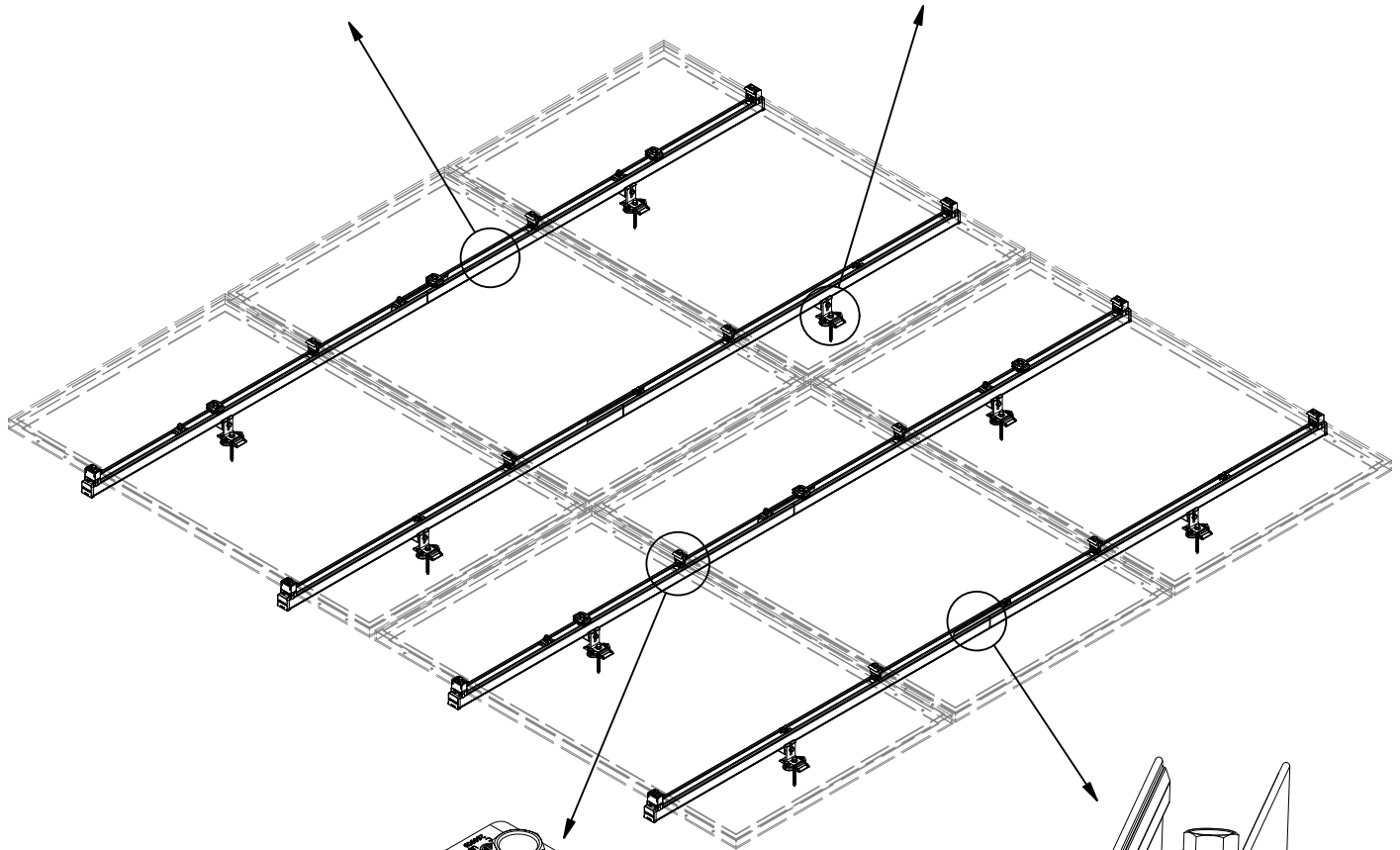
| REVISION      | DATE           | DESCRIPTION                                                              |
|---------------|----------------|--------------------------------------------------------------------------|
| DSH-00049-4.0 | February 2024  | Added information about IEEE 1547 interconnection standard requirements. |
| DSH-00049-3.0 | October 2023   | Included NEC 2023 specification in the “Compliance” section.             |
| DSH-00049-2.0 | September 2023 | Updated module compatibility information.                                |
| DSH-00049-1.0 | May 2023       | Preliminary release.                                                     |



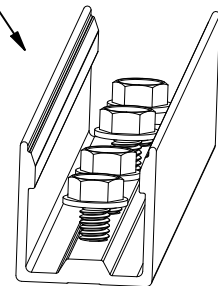
RAIL  
SEE PAGE NH-P01



STRONGHOLD ATTACHMENT KIT  
SEE PAGE NH-A04



COMBO CLAMP  
SEE PAGE NH-A03



RAIL SPLICE  
SEE PAGE NH-P02



1411 BROADWAY BLVD. NE  
ALBUQUERQUE, NM 87102 USA  
PHONE: 505.242.6411  
WWW.UNIRAC.COM

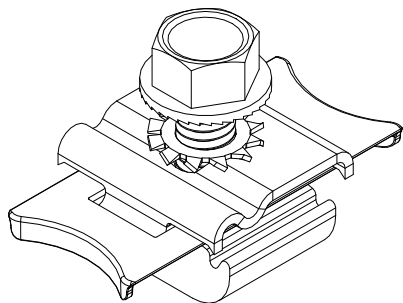
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|----------------|-----------------|
| PRODUCT LINE:  | NXT HORIZON     |
| DRAWING TYPE:  | PART & ASSEMBLY |
| DESCRIPTION:   | MODULE ASSEMBLY |
| REVISION DATE: | 9/30/2021       |

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

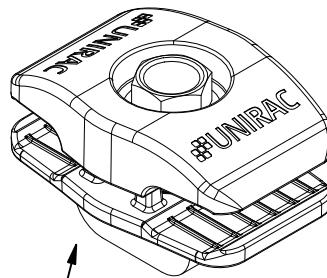
PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS  
LEGAL NOTICE

NH-A01

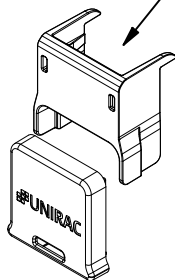
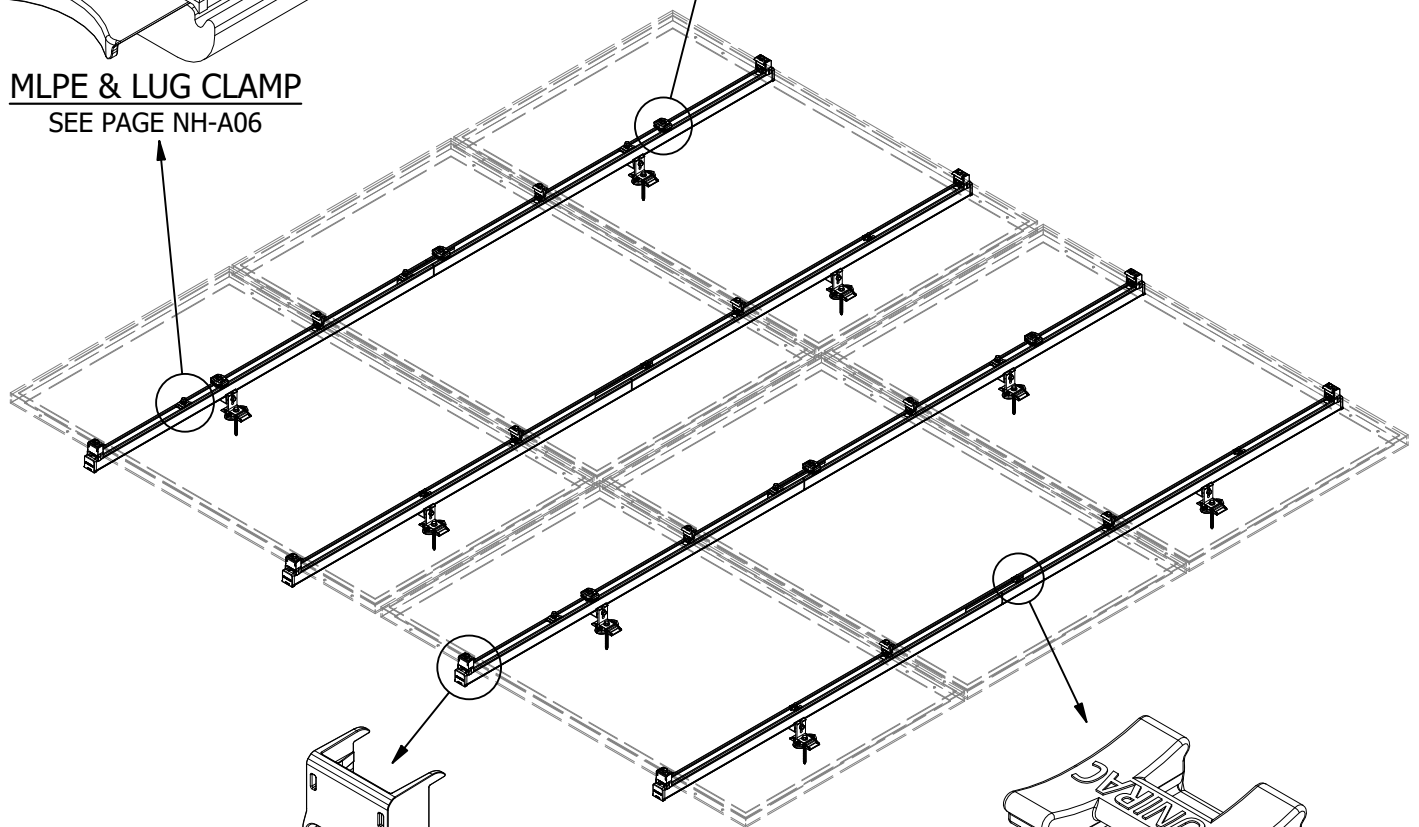
SHEET



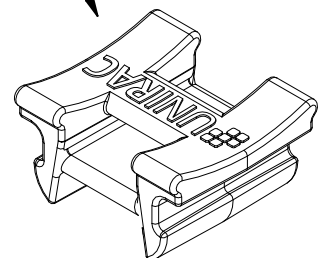
MLPE & LUG CLAMP  
SEE PAGE NH-A06



NS WIRE MGMT CLIP  
SEE PAGE NH-A07



RAIL & CLAMP CAP KIT  
SEE PAGE NH-A09



WIRE MGMT CLIP  
SEE PAGE NH-A08



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|                |                 |
|----------------|-----------------|
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| DESCRIPTION:   | MODULE ASSEMBLY |
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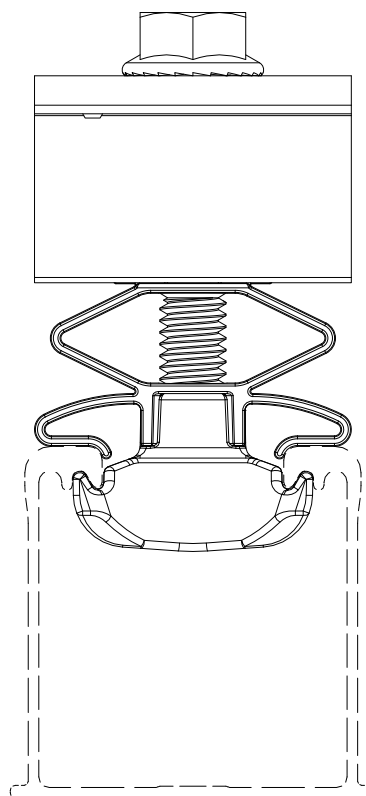
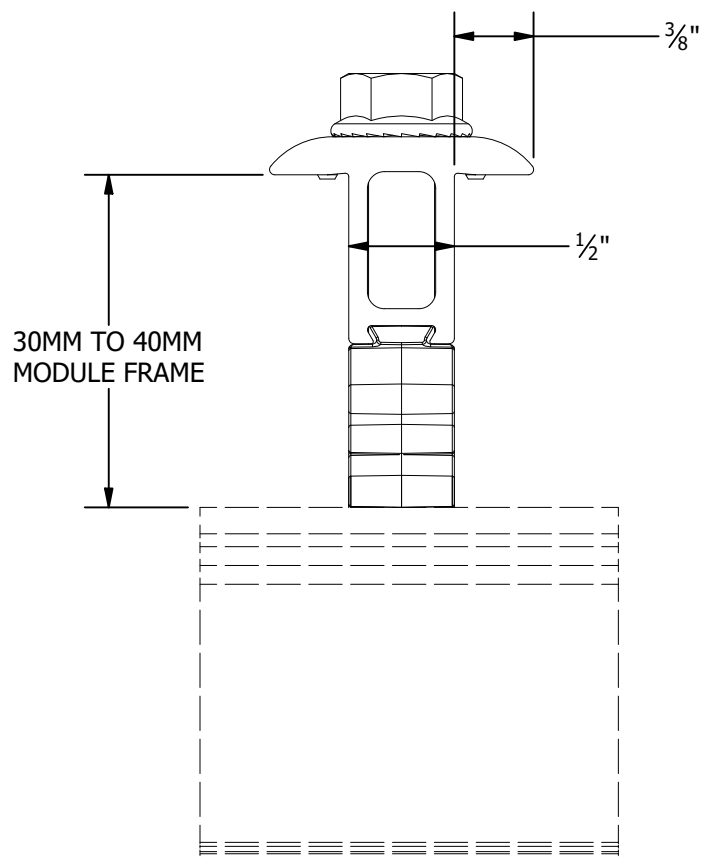
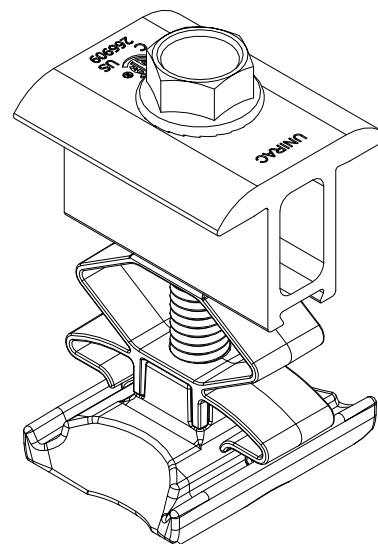
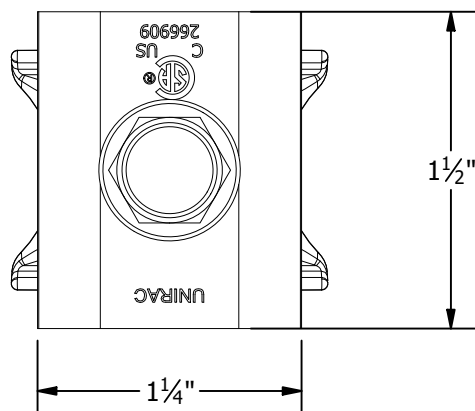
DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS  
LEGAL NOTICE

NH-A02

SHEET

| PART # TABLE |                                |
|--------------|--------------------------------|
| P/N          | DESCRIPTION                    |
| CCLAMPM1     | NXT HORIZON COMBO CLAMP - MILL |
| CCLAMPD1     | NXT HORIZON COMBO CLAMP - DARK |



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|                |                 |
|----------------|-----------------|
| PRODUCT LINE:  | NXT HORIZON     |
| DRAWING TYPE:  | PART & ASSEMBLY |
| DESCRIPTION:   | COMBO CLAMP     |
| REVISION DATE: | 9/30/2021       |

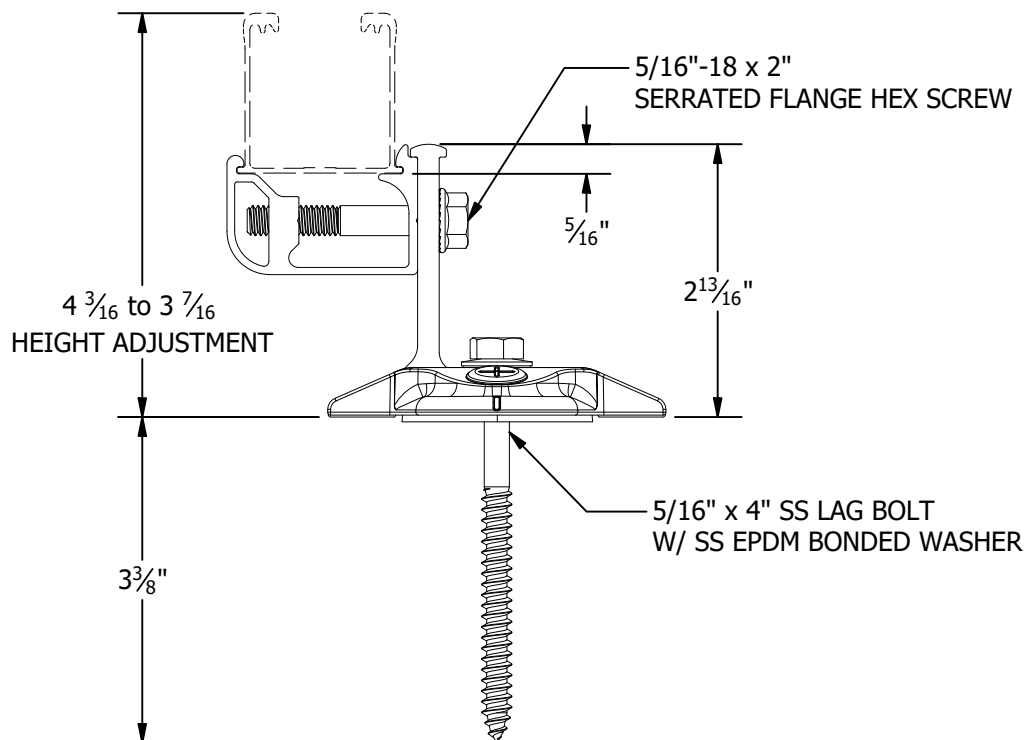
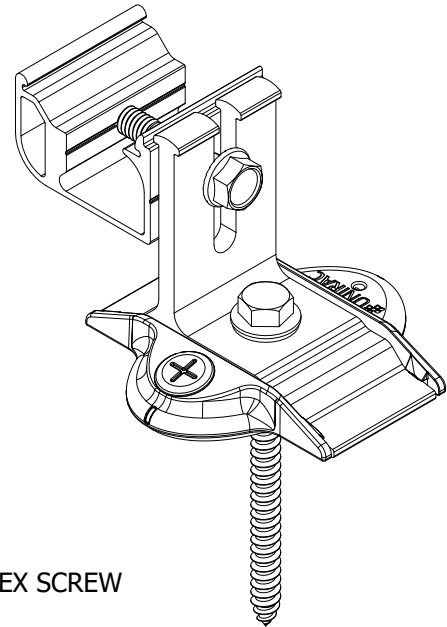
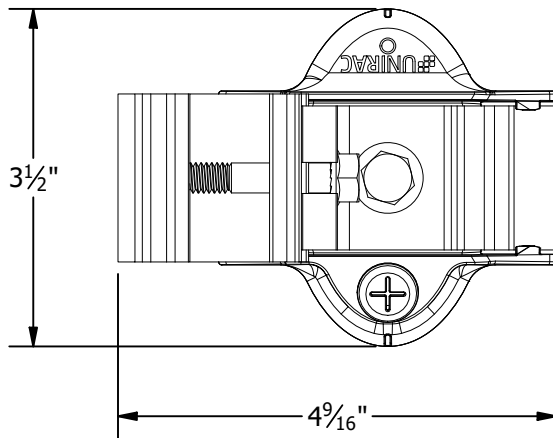
DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS  
LEGAL NOTICE

NH-A03

SHEET

| PART # TABLE |                               |
|--------------|-------------------------------|
| P/N          | DESCRIPTION                   |
| SHCPKTM1     | STRONGHOLD ATT KIT COMP MILL  |
| SHCPKTD1     | STRONGHOLD ATT KIT COMP DRK   |
| SHCPKTM1-NS  | STRONGHOLD ATT COMP MILL (NS) |
| SHCPKTD1-NS  | STRONGHOLD ATT COMP DRK (NS)  |



1411 BROADWAY BLVD. NE  
ALBUQUERQUE, NM 87102 USA  
PHONE: 505.242.6411  
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PRODUCT LINE: NXT HORIZON

DRAWING TYPE: PARTS ASSEMBLY

DESCRIPTION: STRONGHOLD ATTACHMENT

REVISION DATE: 9/22/2021

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

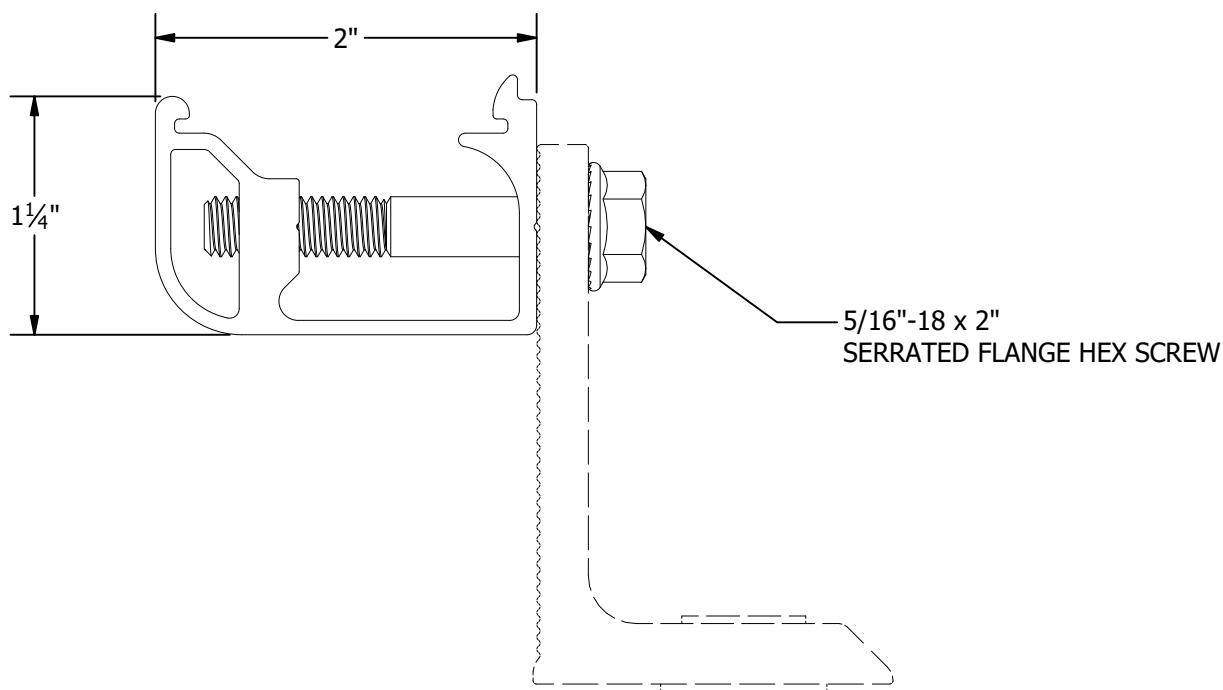
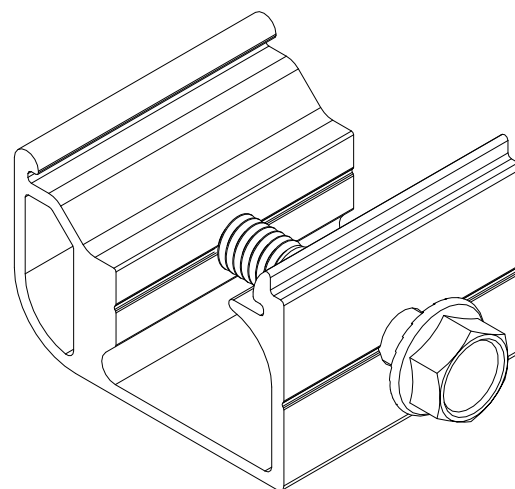
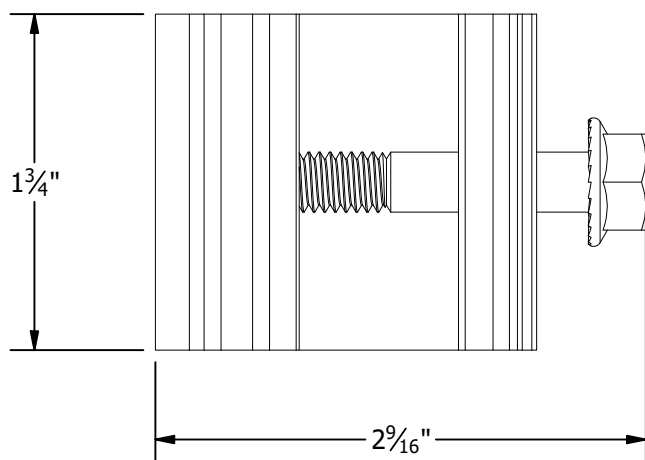
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ONE OR MORE US PATENTS

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NH-A04

SHEET

| PART # TABLE |                            |
|--------------|----------------------------|
| P/N          | DESCRIPTION                |
| SHCLMPM1     | STRONGHOLD RAIL CLAMP MILL |
| SHCLMPD1     | STRONGHOLD RAIL CLAMP DRK  |



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|                |                       |
|----------------|-----------------------|
| PRODUCT LINE:  | NXT HORIZON           |
| DRAWING TYPE:  | PARTS ASSEMBLY        |
| DESCRIPTION:   | STRONGHOLD RAIL CLAMP |
| REVISION DATE: | 9/22/2021             |

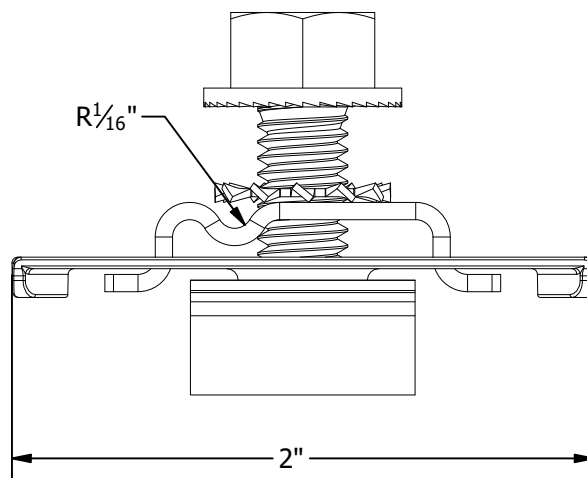
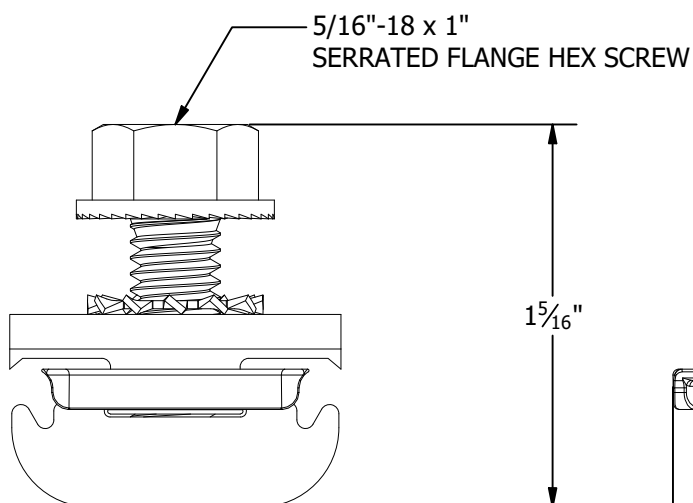
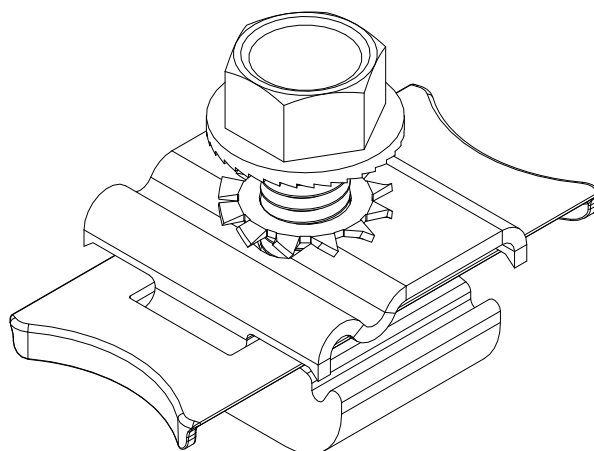
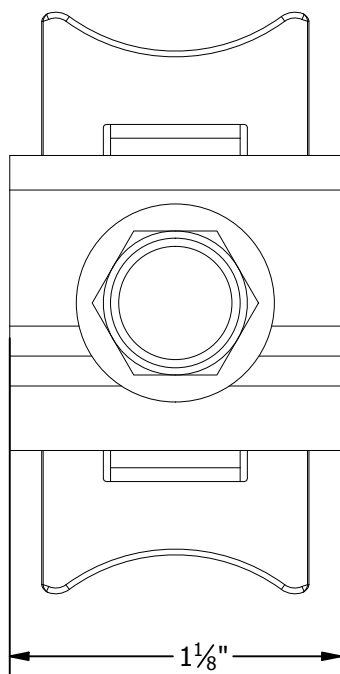
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ALL DIMENSIONS ARE  
NOMINAL

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NH-A05

SHEET

| PART # TABLE |                              |
|--------------|------------------------------|
| P/N          | DESCRIPTION                  |
| LUGMLPE1     | NXT HORIZON MLPE & LUG CLAMP |



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|                |                  |
|----------------|------------------|
| PRODUCT LINE:  | NXT HORIZON      |
| DRAWING TYPE:  | PARTS ASSEMBLY   |
| DESCRIPTION:   | MLPE & LUG CLAMP |
| REVISION DATE: | 9/22/2021        |

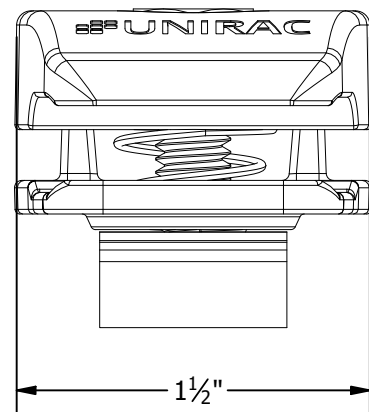
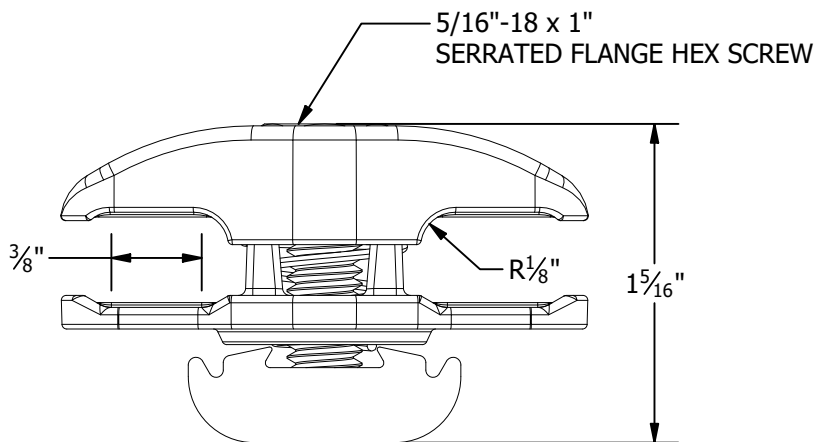
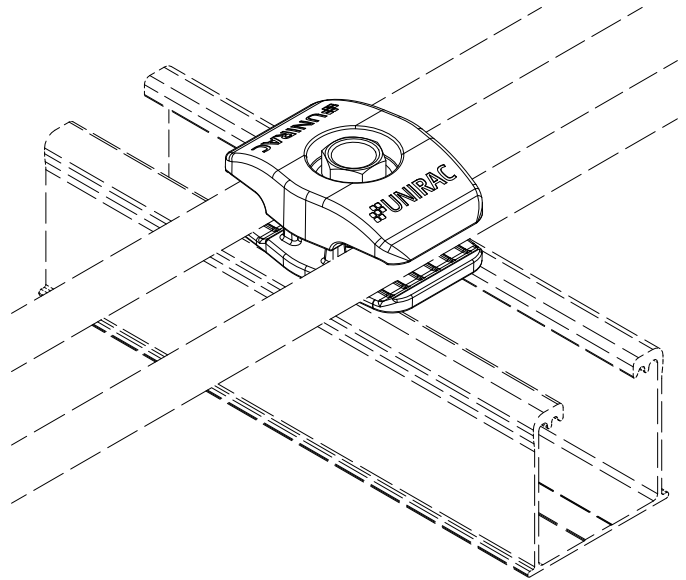
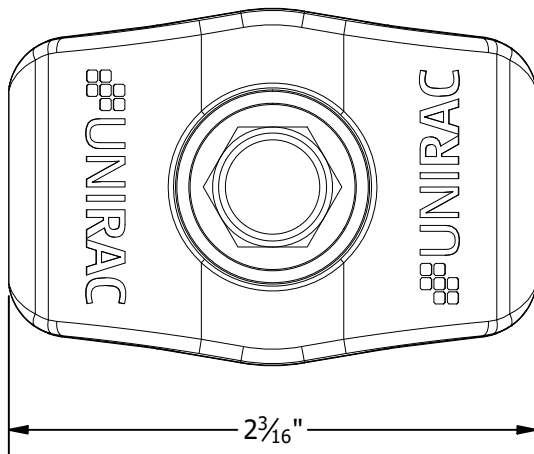
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NH-A06

SHEET

| PART # TABLE |                               |
|--------------|-------------------------------|
| P/N          | DESCRIPTION                   |
| WRMCNSD1     | NXT HORIZON NS WIRE MGMT CLIP |



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|                |                   |
|----------------|-------------------|
| PRODUCT LINE:  | NXT HORIZON       |
| DRAWING TYPE:  | PARTS ASSEMBLY    |
| DESCRIPTION:   | NS WIRE MGMT CLIP |
| REVISION DATE: | 9/22/2021         |

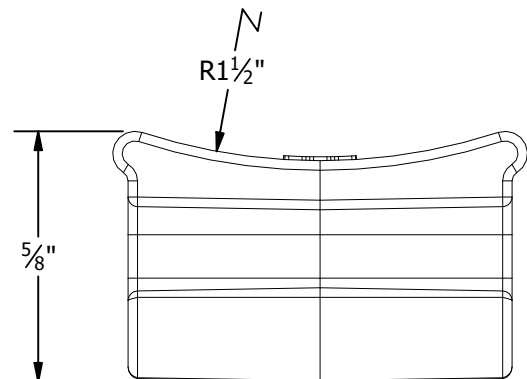
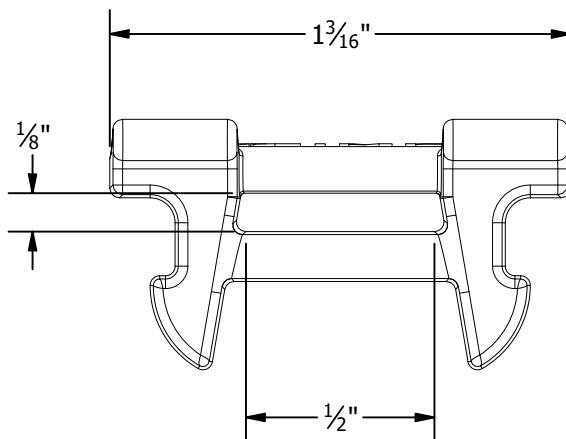
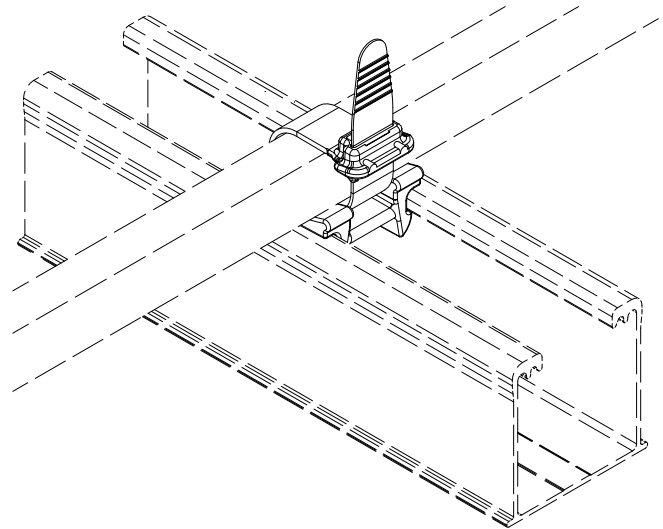
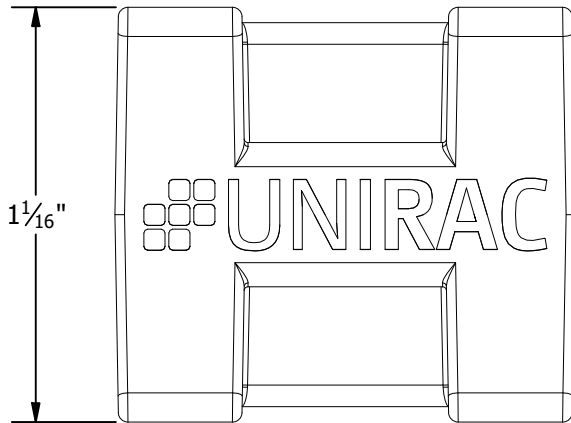
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ALL DIMENSIONS ARE  
NOMINAL

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LEGAL NOTICE

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SHEET

| PART # TABLE |                            |
|--------------|----------------------------|
| P/N          | DESCRIPTION                |
| WRMCLPD1     | NXT HORIZON WIRE MGMT CLIP |



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PRODUCT LINE: NXT HORIZON

DRAWING TYPE: PARTS

DESCRIPTION: WIRE MGMT CLIP

REVISION DATE: 10/27/2021

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ALL DIMENSIONS ARE  
NOMINAL

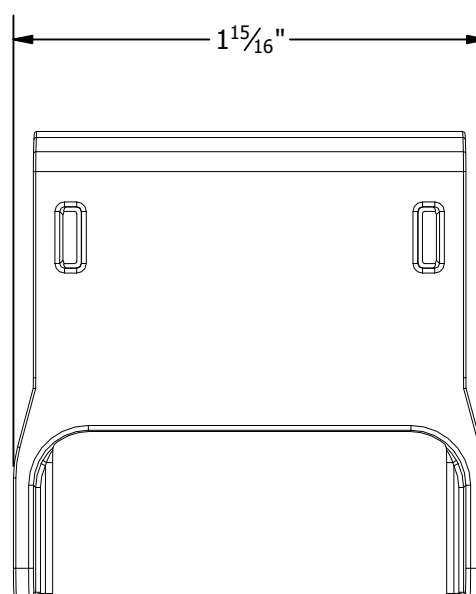
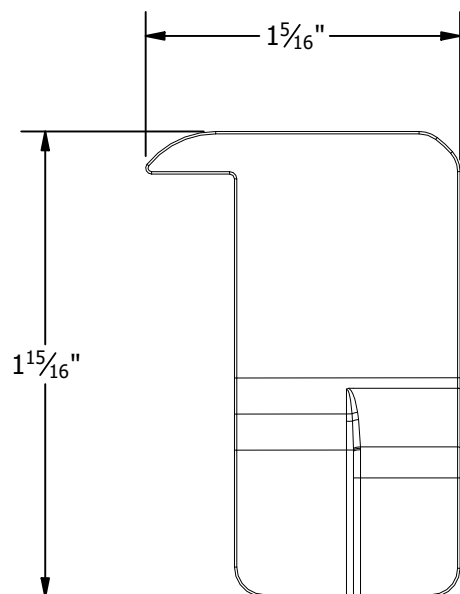
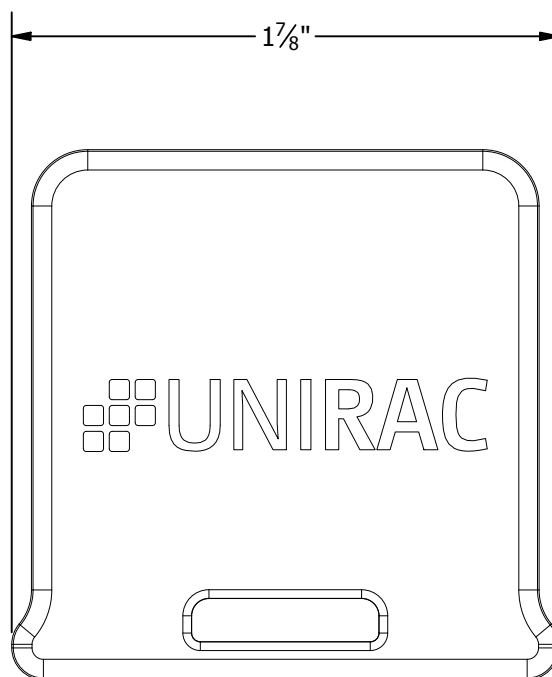
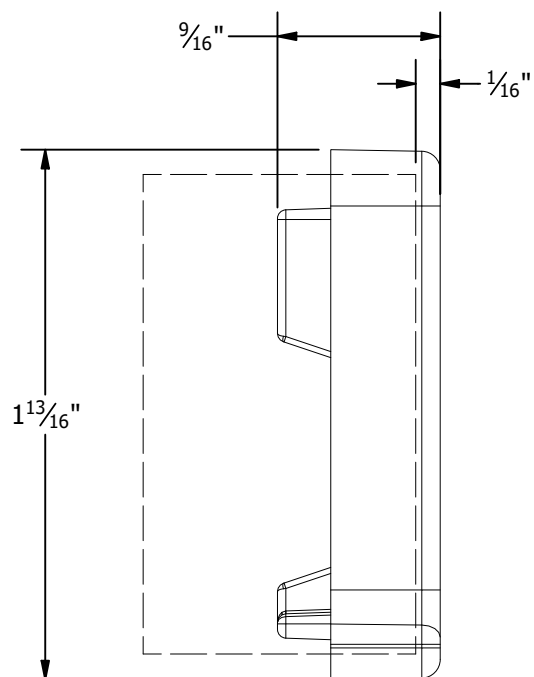
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SHEET

| PART # TABLE |                               |
|--------------|-------------------------------|
| P/N          | DESCRIPTION                   |
| ENDCAPD1     | NXT HORIZON RL & CLMP CAP KIT |



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PRODUCT LINE: NXT HORIZON

DRAWING TYPE: PARTS

DESCRIPTION: RAIL & CLAMP CAP

REVISION DATE: 9/15/2021

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

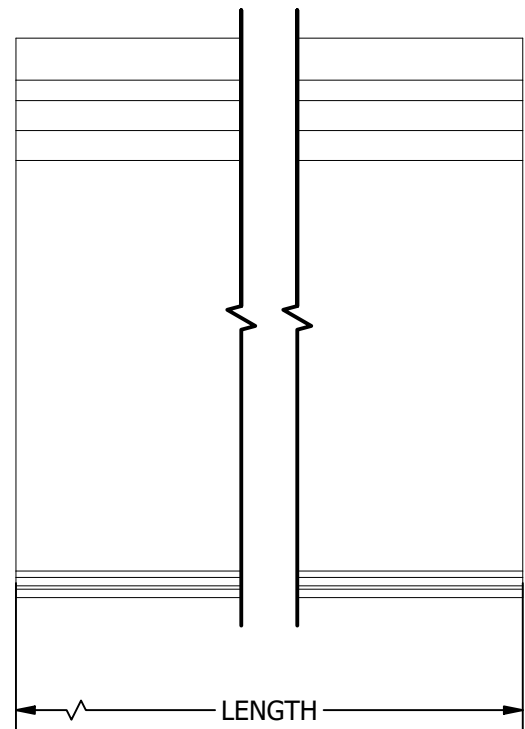
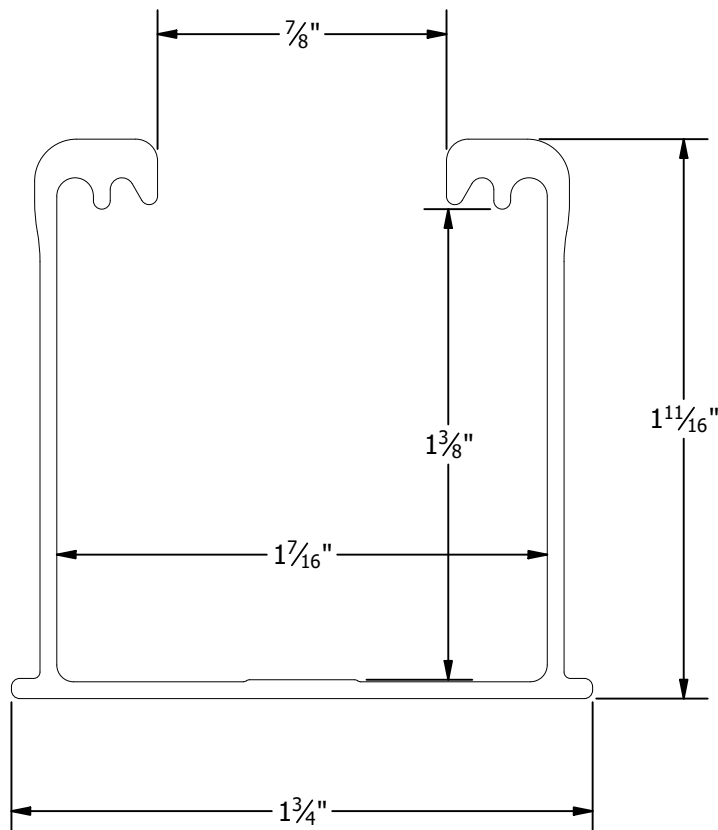
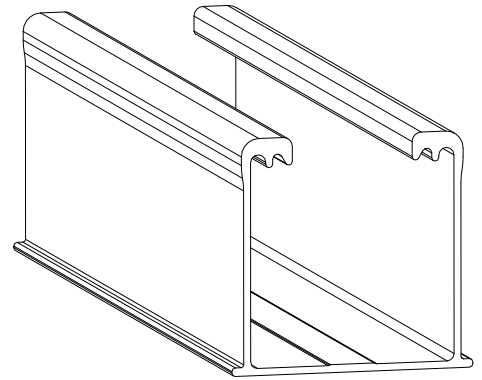
PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS

LEGAL NOTICE

NH-A09

SHEET

| PART # TABLE |                            |        |
|--------------|----------------------------|--------|
| P/N          | DESCRIPTION                | LENGTH |
| 084RLM1      | NXT HORIZON RAIL 84" MILL  | 84"    |
| 084RLD1      | NXT HORIZON RAIL 84" DARK  | 84"    |
| 168RLM1      | NXT HORIZON RAIL 168" MILL | 168"   |
| 168RLD1      | NXT HORIZON RAIL 168" DARK | 168"   |
| 208RLM1      | NXT HORIZON RAIL 208" MILL | 208"   |
| 208RLD1      | NXT HORIZON RAIL 208" DARK | 208"   |
| 246RLM1      | NXT HORIZON RAIL 246" MILL | 246"   |
| 246RLD1      | NXT HORIZON RAIL 246" DARK | 246"   |



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PRODUCT LINE: NXT HORIZON

DRAWING TYPE: PART DETAIL

DESCRIPTION: RAIL

REVISION DATE: 9/13/2021

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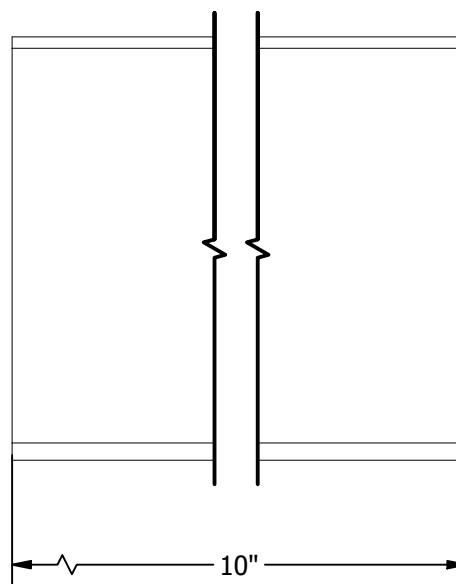
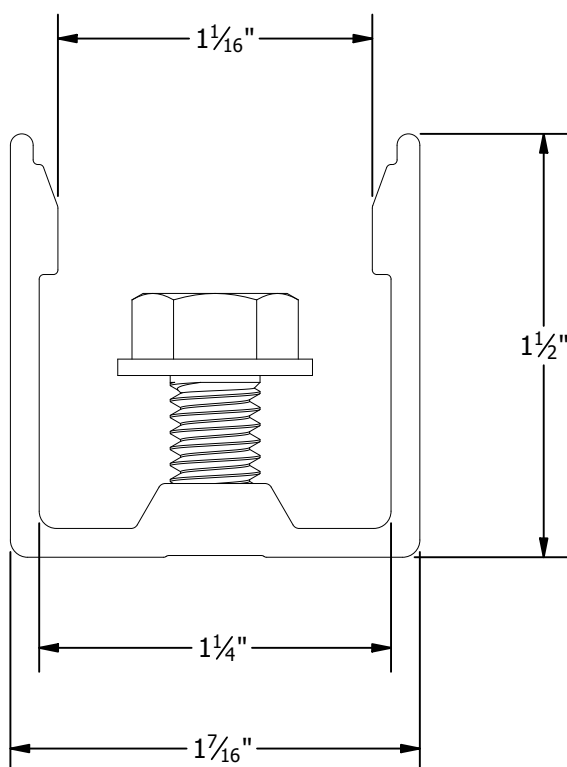
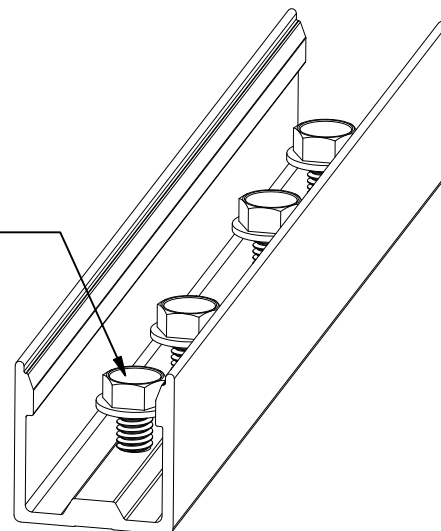
LEGAL NOTICE

NH-P01

SHEET

| PART # TABLE |                         |        |
|--------------|-------------------------|--------|
| P/N          | DESCRIPTION             | LENGTH |
| RLSPLCM1     | NXT HORIZON RAIL SPLICE | 10"    |

4X - 5/16"-18 x 5/8"  
HEX FLANGE SCREW - TYPE F



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PRODUCT LINE: NXT HORIZON

DRAWING TYPE: PART DETAIL

DESCRIPTION: RAIL SPLICE

REVISION DATE: 9/22/2021

DRAWING NOT TO SCALE  
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NOMINAL

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NH-P02

SHEET

## IQ Combiner 4/4C

The **IQ Combiner 4/4C** with IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure. It streamlines IQ Microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

### Smart

- Includes IQ Gateway for communication and control
- Includes Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Supports Wi-Fi, Ethernet, or cellular connectivity
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

### Simple

- Mounts on single stud with centered brackets
- Supports bottom, back and side conduit entry
- Allows up to four 2-pole branch circuits for 240VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

### Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed
- X2-IQ-AM1-240-4 and X2-IQ-AM1-240-4C comply with IEEE 1547:2018 (UL 1741-SB, 3<sup>rd</sup> Ed.)



X-IQ-AM1-240-4C

X2-IQ-AM1-240-4C (IEEE 1547:2018)

X-IQ-AM1-240-4

X2-IQ-AM1-240-4 (IEEE 1547:2018)



# IQ Combiner 4/4C

## MODEL NUMBER

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IQ Combiner 4<br>X-IQ-AM1-240-4<br>X2-IQ-AM1-240-4 (IEEE 1547:2018)    | IQ Combiner 4 with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 ± 0.5%) and consumption monitoring (± 2.5%). Includes a silver solar shield to match the IQ Battery and IQ System Controller 2 and to deflect heat.                                                                                                                                                                                                                                                                                                   |
| IQ Combiner 4C<br>X-IQ-AM1-240-4C<br>X2-IQ-AM1-240-4C (IEEE 1547:2018) | IQ Combiner 4C with IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 ± 0.5%) and consumption monitoring (± 2.5%). Includes Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat. |

## ACCESSORIES AND REPLACEMENT PARTS (not included, order separately)

|                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supported microinverters                                                                                          | IQ6, IQ7, and IQ8. (Do not mix IQ6/7 Microinverters with IQ8)                                                                                                                                                                                                                                                                                                                 |
| Communications Kit<br>COMMS-CELLMODEM-M1-06<br>CELLMODEM-M1-06-SP-05<br>CELLMODEM-M1-06-AT-05                     | - Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan<br>- 4G based LTE-M1 cellular modem with 5-year Sprint data plan<br>- 4G based LTE-M1 cellular modem with 5-year AT&T data plan                                                                                                                                                                |
| Circuit Breakers<br>BRK-10A-2-240V<br>BRK-15A-2-240V<br>BRK-20A-2P-240V<br>BRK-15A-2P-240V-B<br>BRK-20A-2P-240V-B | Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers.<br>Circuit breaker, 2 pole, 10A, Eaton BR210<br>Circuit breaker, 2 pole, 15A, Eaton BR215<br>Circuit breaker, 2 pole, 20A, Eaton BR220<br>Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support<br>Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support |
| XA-SOLARSHIELD-ES                                                                                                 | Replacement solar shield for IQ Combiner 4/4C                                                                                                                                                                                                                                                                                                                                 |
| XA-PLUG-120-3                                                                                                     | Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)                                                                                                                                                                                                                                                                                        |
| X-IQ-NA-HD-125A                                                                                                   | Hold-down kit for Eaton circuit breaker with screws                                                                                                                                                                                                                                                                                                                           |
| Consumption monitoring CT<br>(CT-200-SPLIT/CT-200-CLAMP)                                                          | A pair of 200A split core current transformers                                                                                                                                                                                                                                                                                                                                |

## ELECTRICAL SPECIFICATIONS

|                                                        |                                                                                            |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Rating                                                 | Continuous duty                                                                            |
| System voltage                                         | 120/240VAC, 60 Hz                                                                          |
| Eaton BR series busbar rating                          | 125A                                                                                       |
| Max. continuous current rating                         | 65A                                                                                        |
| Max. continuous current rating (input from PV/storage) | 64A                                                                                        |
| Max. fuse/circuit rating (output)                      | 90A                                                                                        |
| Branch circuits (solar and/or storage)                 | Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included) |
| Max. total branch circuit breaker rating (input)       | 80A of distributed generation/95A with IQ Gateway breaker included                         |
| IQ Gateway breaker                                     | 10A or 15A rating GE/Siemens/Eaton included                                                |
| Production metering CT                                 | 200A solid core pre-installed and wired to IQ Gateway                                      |

## MECHANICAL DATA

|                                |                                                                                                                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions (WxHxD)             | 37.5 cm x 49.5 cm x 16.8 cm (14.75 in x 19.5 in x 6.63 in). Height is 53.5 cm (21.06 in) with mounting brackets.                                                                                                                                                                                              |
| Weight                         | 7.5 kg (16.5 lbs)                                                                                                                                                                                                                                                                                             |
| Ambient temperature range      | -40°C to +46°C (-40°F to 115°F)                                                                                                                                                                                                                                                                               |
| Cooling                        | Natural convection, plus heat shield                                                                                                                                                                                                                                                                          |
| Enclosure environmental rating | Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction                                                                                                                                                                                                                                             |
| Wire sizes                     | • 20A to 50A breaker inputs: 14 to 4 AWG copper conductors<br>• 60A breaker branch input: 4 to 1/0 AWG copper conductors<br>• Main lug combined output: 10 to 2/0 AWG copper conductors<br>• Neutral and ground: 14 to 1/0 copper conductors<br>• Always follow local code requirements for conductor sizing. |
| Altitude                       | Up to 3,000 meters (9,842 feet)                                                                                                                                                                                                                                                                               |

## INTERNET CONNECTION OPTIONS

|                  |                                                                                                                                                                                    |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Integrated Wi-Fi | IEEE 802.11b/g/n                                                                                                                                                                   |
| Cellular         | CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Mobile Connect cellular modem is required for all Enphase Energy System installations. |
| Ethernet         | Optional, IEEE 802.3, Cat5E (or Cat6) UTP Ethernet cable (not included)                                                                                                            |

## COMPLIANCE

|                         |                                                                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compliance, IQ Combiner | CA Rule 21 (UL 1741-SA)<br>IEEE 1547:2018 - UL 1741-SB, 3 <sup>rd</sup> Ed. (X2-IQ-AM1-240-4 and X2-IQ-AM1-240-4C)<br>CAN/CSA C22.2 No. 107.1, Title 47 CFR, Part 15, Class B, ICES 003<br>Production metering: ANSI C12.20 accuracy class 0.5 (PV production)<br>Consumption metering: accuracy class 2.5 |
| Compliance, IQ Gateway  | UL 60601-1/CANCSA 22.2 No. 61010-1                                                                                                                                                                                                                                                                         |