

ENGINEERING DRAWINGS

Front

Side

Back

Length: +/- 2mm

Width: +/- 2mm

Height: +/- 1mm

Row Pitch: +/- 2mm

ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE

Current-Voltage & Power-Voltage Curves (400W)

Temperature Dependence of Isc, Voc, Pmax

ELECTRICAL CHARACTERISTICS

| Module Type                 | JKM380M 6RL3-B | JKM385M 6RL3-B | JKM390M 6RL3-B | JKM395M 6RL3-B | JKM400M 6RL3-B |        |        |        |        |        |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|--------|--------|--------|--------|--------|
| STC                         | NOCT           | STC            | NOCT           | STC            | NOCT           |        |        |        |        |        |
| Maximum Power (Pmax)        | 380Wp          | 283Wp          | 385Wp          | 284Wp          | 390Wp          | 292Wp  | 395Wp  | 294Wp  | 400Wp  | 299Wp  |
| Maximum Power Voltage (Vmp) | 36.95V         | 33.72V         | 37.32V         | 33.90V         | 37.15V         | 36.13V | 37.27V | 36.13V | 37.39V | 36.25V |
| Maximum Power Current (Imp) | 10.30A         | 8.39A          | 10.34A         | 8.45A          | 10.50A         | 8.52A  | 10.40A | 8.41A  | 10.70A | 8.49A  |
| Open-circuit Voltage (Voc)  | 44.22V         | 41.74V         | 44.31V         | 41.85V         | 44.47V         | 41.97V | 44.59V | 42.09V | 44.71V | 42.20V |
| Short-circuit Current (Isc) | 11.12A         | 8.98A          | 11.22A         | 9.06A          | 11.32A         | 9.14A  | 11.42A | 9.22A  | 11.52A | 9.30A  |
| Module Efficiency STC (%)   | 19.91%         |                | 20.37%         |                | 20.43%         |        | 20.69% |        | 20.76% |        |

\*STC: ☀ Irradiance 1000W/m²

☼ Cell Temperature 25°C

NOCT: ☀ Irradiance 800W/m²

☼ Ambient Temperature 20°C

☼ AM = 1.5

☼ Wind Speed 1m/s

Power measurement tolerance: +/- 3%

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

PRODUCT LINE: SOLARMOUNT

DRAWING TYPE: PART DETAIL

DESCRIPTION: RAIL

REVISION DATE: October 2016

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE NOMINAL

PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS

LEGAL NOTICE

SM-PO1

SHEET

MECHANICAL CHARACTERISTICS

|                 |                                                                               |
|-----------------|-------------------------------------------------------------------------------|
| No. of Cells    | 132 (2x66)                                                                    |
| Dimensions      | 1855x1029x35mm (73.03x40.51x 1.37 in)                                         |
| Weight          | 21.5 kg (47.40 lbs)                                                           |
| Front Glass     | 3.2mm, Anti-Reflect on Coating<br>High Transmission, Low Iron, Tempered Glass |
| Frame           | Anodized Aluminum Alloy                                                       |
| Junction Box    | IP67 Rated                                                                    |
| Output Cables   | 12 AWG, 2053mm (80.83in) or Customized Length                                 |
| Connector       | Slaubi MC4                                                                    |
| Fire Type       | Type 1                                                                        |
| Pressure Rating | 5400Pa (Snow) & 2400Pa (Wind)                                                 |

TEMPERATURE CHARACTERISTICS

|                                           |           |
|-------------------------------------------|-----------|
| Temperature Coefficients of Pmax          | -0.35%/°C |
| Temperature Coefficients of Voc           | -0.28%/°C |
| Temperature Coefficients of Isc           | 0.048%/°C |
| Nominal Operating Cell Temperature (NOCT) | 45 ± 2°C  |

MAXIMUM RATINGS

|                            |               |
|----------------------------|---------------|
| Operating Temperature (°C) | -40°C ~ +85°C |
| Maximum System Voltage     | 1000VDC       |
| Maximum Series Fuse Rating | 20A           |

PACKAGING CONFIGURATION

2 pallets = 1 stack; 30pcs/pallets, 60pcs/stack, 720pcs/40' HD Container

ISO 9001:2015 Quality Standards

ISO 14001:2004 Environmental Standards

IEC 62125, IEC 61730 certified products

UL16730 Certification

ISO 45001:2018 Occupational Health & Safety Standards

UL LISTED

IEC

CE

MICRO-INVERTER

Technical Specifications

| Model                                       | HM-1200NT                                                                                                                                                                                                                     | HM-1500NT   |             |             |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Input Data (DC)                             |                                                                                                                                                                                                                               |             |             |             |
| Commonly used module power (W)              | 240 to 405+                                                                                                                                                                                                                   | 300 to 505+ |             |             |
| Maximum input voltage (V)                   | 60                                                                                                                                                                                                                            |             |             |             |
| MPPT voltage range (V)                      | 16-60                                                                                                                                                                                                                         |             |             |             |
| Start-up voltage (V)                        | 22                                                                                                                                                                                                                            |             |             |             |
| Maximum input current (A)                   | 4 × 11.5                                                                                                                                                                                                                      | 4 × 11.5    |             |             |
| Output Data (AC)                            |                                                                                                                                                                                                                               |             |             |             |
| Peak output power (VA)                      | 1260                                                                                                                                                                                                                          | 1200        | 1500        | 1350        |
| Maximum continuous output power (VA)        | 1200                                                                                                                                                                                                                          | 1109        | 1438        | 1246        |
| Maximum continuous output current (A)       | 5                                                                                                                                                                                                                             | 5.33        | 5.99        | 5.99        |
| Nominal output voltage/range (V)            | 240/211-264                                                                                                                                                                                                                   | 208/183-228 | 240/211-264 | 208/183-228 |
| Nominal frequency/range (Hz)                | 60/55-65                                                                                                                                                                                                                      |             |             |             |
| Power factor (adjustable)                   | >0.99 default<br>0.8 leading...0.8 lagging                                                                                                                                                                                    |             |             |             |
| Total harmonic distortion                   | <3%                                                                                                                                                                                                                           |             |             |             |
| Maximum units per 10AWG branch <sup>2</sup> | 4                                                                                                                                                                                                                             | 4           | 4           | 4           |
| Efficiency                                  |                                                                                                                                                                                                                               |             |             |             |
| CEC peak efficiency                         | 96.7%                                                                                                                                                                                                                         |             |             |             |
| CEC weighted efficiency                     | 96.5%                                                                                                                                                                                                                         |             |             |             |
| Nominal MPPT efficiency                     | 99.8%                                                                                                                                                                                                                         |             |             |             |
| Nighttime power consumption(mW)             | <50                                                                                                                                                                                                                           |             |             |             |
| Mechanical Data                             |                                                                                                                                                                                                                               |             |             |             |
| Ambient temperature range (°C)              | -40 to +65                                                                                                                                                                                                                    |             |             |             |
| Dimensions (W × H × D mm)                   | 280 × 176 × 33                                                                                                                                                                                                                |             |             |             |
| Weight (kg)                                 | 3.35                                                                                                                                                                                                                          |             |             |             |
| Enclosure rating                            | Outdoor-NEMA 6 (IP67)                                                                                                                                                                                                         |             |             |             |
| Cooling                                     | Natural convection – No fans                                                                                                                                                                                                  |             |             |             |
| Features                                    |                                                                                                                                                                                                                               |             |             |             |
| Communication                               | 2.4GHz Proprietary RF (Nordic)                                                                                                                                                                                                |             |             |             |
| Monitoring                                  | S-Miles Cloud <sup>3</sup>                                                                                                                                                                                                    |             |             |             |
| Warranty                                    | Up to 25 years                                                                                                                                                                                                                |             |             |             |
| Compliance                                  | UL 1741, IEEE 1547, UL 1741 SA (240 Vac), CA Rule 21 (240 Vac), CSA C22.2 No. 107.1-16, FCC Part 15B, FCC Part 15C<br>Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems |             |             |             |
| PV Rapid Shutdown                           |                                                                                                                                                                                                                               |             |             |             |

\*1 Nominal voltage/frequency range can vary depending on local requirements.

\*2 Refer to local requirements for exact number of microinverters per branch.

\*3 Hoymiles Monitoring System.

Technical Specifications

| Model                                       | HM-600NT                                                                                                                                                                                                                      | HM-700NT    | HM-800NT    |             |             |             |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Input Data (DC)                             |                                                                                                                                                                                                                               |             |             |             |             |             |
| Commonly used module power (W)              | 240 to 405+                                                                                                                                                                                                                   | 280 to 470+ | 320 to 540+ |             |             |             |
| Maximum input voltage (V)                   | 60                                                                                                                                                                                                                            |             |             |             |             |             |
| MPPT voltage range (V)                      | 16-60                                                                                                                                                                                                                         |             |             |             |             |             |
| Start-up voltage (V)                        | 22                                                                                                                                                                                                                            |             |             |             |             |             |
| Maximum input current (A)                   | 2 × 11.5                                                                                                                                                                                                                      | 2 × 11.5    | 2 × 12.5    |             |             |             |
| Maximum input short circuit current (A)     | 2 × 15                                                                                                                                                                                                                        |             |             |             |             |             |
| Number of MPPTs                             | 2                                                                                                                                                                                                                             |             |             |             |             |             |
| Number of Inputs per MPPT                   | 1                                                                                                                                                                                                                             |             |             |             |             |             |
| Output Data (AC)                            |                                                                                                                                                                                                                               |             |             |             |             |             |
| Peak output power (VA)                      | 600                                                                                                                                                                                                                           | 700         | 800         |             |             |             |
| Maximum continuous output power (VA)        | 590                                                                                                                                                                                                                           | 696         | 766         |             |             |             |
| Maximum continuous output current (A)       | 2.46                                                                                                                                                                                                                          | 2.84        | 2.90        | 3.35        | 3.19        | 3.68        |
| Nominal output voltage/range (V)            | 240/211-264                                                                                                                                                                                                                   | 208/183-228 | 240/211-264 | 208/183-228 | 240/211-264 | 208/183-228 |
| Nominal frequency/range (Hz)                | 60/55-65                                                                                                                                                                                                                      |             |             |             |             |             |
| Power factor (adjustable)                   | > 0.99 default<br>0.8 leading ... 0.8 lagging                                                                                                                                                                                 |             |             |             |             |             |
| Total harmonic distortion                   | < 3%                                                                                                                                                                                                                          |             |             |             |             |             |
| Maximum units per 10AWG branch <sup>2</sup> | 9                                                                                                                                                                                                                             | 8           | 8           | 7           | 7           | 6           |
| Maximum units per 12AWG branch <sup>2</sup> | 6                                                                                                                                                                                                                             | 5           | 5           | 4           | 5           | 4           |
| Efficiency                                  |                                                                                                                                                                                                                               |             |             |             |             |             |
| CEC peak efficiency                         | 96.7%                                                                                                                                                                                                                         |             |             |             |             |             |
| CEC weighted efficiency                     | 96.5%                                                                                                                                                                                                                         |             |             |             |             |             |
| Nominal MPPT efficiency                     | 99.8%                                                                                                                                                                                                                         |             |             |             |             |             |
| Nighttime power consumption (mW)            | <50                                                                                                                                                                                                                           |             |             |             |             |             |
| Mechanical Data                             |                                                                                                                                                                                                                               |             |             |             |             |             |
| Ambient temperature range (°C)              | -40 to +65                                                                                                                                                                                                                    |             |             |             |             |             |
| Dimensions (W × H × D mm)                   | 250 × 170 × 28                                                                                                                                                                                                                |             |             |             |             |             |
| Weight (kg)                                 | 2.6                                                                                                                                                                                                                           |             |             |             |             |             |
| Enclosure rating                            | Outdoor-NEMA 6 (IP67)                                                                                                                                                                                                         |             |             |             |             |             |
| Cooling                                     | Natural convection – No fans                                                                                                                                                                                                  |             |             |             |             |             |
| Features                                    |                                                                                                                                                                                                                               |             |             |             |             |             |
| Communication                               | 2.4GHz Proprietary RF (Nordic)                                                                                                                                                                                                |             |             |             |             |             |
| Type of Isolation                           | Galvanically Isolated HF Transformer                                                                                                                                                                                          |             |             |             |             |             |
| Monitoring                                  | S-Miles Cloud <sup>3</sup>                                                                                                                                                                                                    |             |             |             |             |             |
| Warranty                                    | Up to 25 years                                                                                                                                                                                                                |             |             |             |             |             |
| Compliance                                  | UL 1741, IEEE 1547, UL 1741 SA (240 Vac), CA Rule 21 (240 Vac), CSA C22.2 No. 107.1-16, FCC Part 15B, FCC Part 15C<br>Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems |             |             |             |             |             |
| PV Rapid Shutdown                           |                                                                                                                                                                                                                               |             |             |             |             |             |

\*1 Nominal voltage/frequency range can vary depending on local requirements.

\*2 Refer to local requirements for exact number of microinverters per branch.

\*3 Hoymiles Monitoring System.

RACKING SYSTEM- RAIL

2" BOLT LOCATION

3" BOLT LOCATION

2 3/8"

3"

Standard Rail Lengths:

132"  
168"  
208"  
240"

UNIRAC

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

PRODUCT LINE: SOLARMOUNT

DRAWING TYPE: PART DETAIL

DESCRIPTION: RAIL

REVISION DATE: October 2016

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE NOMINAL

PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS

LEGAL NOTICE

SM-PO1

SHEET

RACKING SYSTEM- STAND-OFF

SOLARMOUNT

UNIRAC

SOLARMOUNT defined the standard in solar racking. Features are designed to get installers off the roof faster. Our grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Systems can be configured with standard or light rail to meet your design requirements at the lowest cost possible. The superior aesthetics package provides a streamlined clean edge for enhanced curb appeal, with no special brackets required for installation.

Now Featuring:  
THE NEW FACE OF SOLAR RACKING  
Superior Aesthetics Package

LOSE ALL OF THE COPPER & LUGS

System grounding through Enphase microinverters and trunk cables

SMALL IS THE NEXT NEW BIG THING

Light Rail is Fully Compatible with all SM Components

ENHANCED DESIGN & LAYOUT TOOLS

Featuring: Google Map Capabilities within U-Builder

FAST INSTALLATION. SUPERIOR AESTHETICS

OPTIMIZED COMPONENTS • VERSATILITY • DESIGN TOOLS • QUALITY PROVIDER

ROOF ATTACHMENT

PART TABLE

| P/N     | DESCRIPTION                     |
|---------|---------------------------------|
| 004085M | FLASHLOC COMP KIT MILL, 20 PACK |
| 004085D | FLASHLOC COMP KIT DARK, 20 PACK |

5/16" x 4" SS LAG BOLT  
W/ SS EPDM BONDED WASHER

SS SERRATED T-BOLT

SS SERRATED FLANGE NUT

FLASHLOC BASE-  
MILL OR DARK

3 3/4"

3 1/2"

6 7/8"

2 1/4"

UNIRAC

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

PRODUCT LINE: SOLARMOUNT

DRAWING TYPE: PART DRAWING

DESCRIPTION: FLASHLOC COMP KIT

REVISION DATE: 4/28/2020

DRAWING NOT TO SCALE  
ALL DIMENSIONS ARE  
NOMINAL

PRODUCT PROTECTED BY  
ONE OR MORE US PATENTS

LEGAL NOTICE

FL-A01

SHEET

ROOF FLASHING SEALANT

CHEMLINK

POLYMER INNOVATION

M-1<sup>®</sup>

Structural  
Adhesive/Sealant

Technical Data Sheet

Polyether Technology

CSI Section No. 07 92 13

Chem Link  
Construction & Maintenance  
Telephone: 800-826-1681  
Fax: 269-679-4448  
353 E. Lyons Street  
Schoolcraft, MI 49087  
www.chemlink.com

Last Revision: 04/20/18  
Document No. DS1270

Product Description

M-1<sup>®</sup> is a moisture curing, polyether adhesive/sealant designed for applications in damp, dry, or cold climates. M-1<sup>®</sup> is solvent free and contains no isocyanates. M-1<sup>®</sup> will not shrink upon curing, will not discolor when exposed to UV light, and can not "out-gas", or bubble on damp surfaces as urethane sealants often do. M-1<sup>®</sup> is capable of joint movement in excess of 35% in both compression and extension. M-1<sup>®</sup> can be used effectively in many difficult construction site conditions such as wet or dry climates and at temperatures as low as 32°F (0°C).

Applicable Performance Standards

• ASTM C920, Type S, Grade NS, Class 35  
Uses NT, T, M, G, A, & O  
• ASTM E84, Class A  
• Federal Specification TT-S-00230-C Type II, Class B  
• Corps of Engineers GRD-C-541, Type II, Class B  
• Canadian Standards Board CAN 19, 13-M82  
• SWR Institute Validated (Sealant Waterproofing and Restoration)

Regulatory Compliance

• Conforms to OTC Rule for Sealants and Caulks  
• Meets requirements of California Regs: CARB, BAAQMD and SCAQMD  
• This product does not contain cancer-causing chemicals listed in California Proposition 65.  
• Conforms to USDA Requirements for Non-food Contact

Green Standards:

• LEED 2.2 for New Construction and Major Renovations  
Low Emitting Materials (Section 4.1) 1 Point  
• NAHB Model Green Home Building Guidelines: 5 Global Impact Points  
• VOC Content: less than 17 grams / liter ASTM D2369  
EPA Method 24 (tested at 240°F / 115°C)

Advantages

• Solvent free, 100% solids will not shrink  
• Non-slump, applies vertically and overhead  
• 20 minute skin over  
• No outgassing on damp surfaces  
• Good color stability, will not suntan  
• Paintable within 24 hours (See limitations)  
• Gun grade, no special tools or mixing required  
• Application at temperatures as low as 32°F (0°C)

Colors

White, Gray, Tan, Limestone & Black  
\* Color matching is available in batch quantity only

Packaging

• 5 oz Squeeze Tube (148 ml)  
36 tubes/carton, 40 cartons/pallet  
• 10.1 oz (300 ml)  
24 cartridges/carton, 45 cartons/pallet  
• 20 oz (600 ml)  
12 sausages/carton, 40 cartons/pallet  
• 28 oz (825 ml)  
12 cartridges/carton, 40 cartons/pallet  
White only - Other colors available by special order  
• 2 and 5 gallon pails or 50 gallon drums available by special order

ATTENTION: CAUTION

ISO 9001

ISO 14001

ISO 45001

ISO 50001

ISO 26000

ISO 28000

ISO 31000

ISO 34000

ISO 38000

ISO 43000

ISO 45000

ISO 46000

ISO 47000

ISO 48000

ISO 49000

ISO 50000

ISO 51000

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