TOWN OF HIGH LEVEL
DEVELOPMENT PERMIT

PERMIT NO.:	**DP25-059**
PROPOSED USE:	**Permitted Use – 694.26 ft2 Solar Collector (Solar Collectors)**
APPLICANT:	**Matthew Callghan, Firefly Solar**
LANDOWNER:	**Desmond & Maureen Smith**
LOCATION:	**Lot 14, Block 22, Plan 4507NY**

A development involving Application No. DP25-059 has been Approved with Conditions.

1. **The site shall be developed in accordance with the site drawings and information attached hereto as Schedule A.**

2. **The Applicant/Registered Owner shall provide the development authority with a copy of the required approvals from the Alberta Utilities Commission (AUC) and any other provincial or federal agency or utility company prior to the operation of any grid-connected solar energy system.**

3. **Development must be commenced within one (1) year from the Date of Issue. If at the expiry of this period, the development has not commenced, this Permit shall be null and void.**

4. **The Applicant/Registered Owner shall ensure there is no damage to municipal property resulting from this permit. Costs for repairs of municipal property will be assessed by the Town of High Level and will be charged back to the applicant.**

You are hereby authorized to proceed with the development specified, provided that any stated conditions are complied with, that all other applicable permits are obtained, and that the appropriate appeal period has been exhausted. Should an appeal be made against this decision to the Subdivision and Development Appeal Board, this Development Permit shall not come into effect until the appeal has been determined and the Permit upheld, modified or nullified.

DATE OF DECISION OF DEVELOPMENT PERMIT: **November 26, 2025**

DATE OF ISSUE OF DEVELOPMENT PERMIT: **December 18, 2025**

DATE OF VALIDITY OF DEVELOPMENT PERMIT: **December 18, 2025**

SIGNATURE OF DEVELOPMENT AUTHORITY: _____

Viv Thoss

NOTES:

1. If the development is found to be incorrectly placed, the applicant may be required to move or remove the development at the sole expense of the Applicant/Registered Owner. Any changes to the attached plans will require a new development permit.

2. An appeal can be made by filing a written notice of appeal along with payment to the **Subdivision and Development Appeal Board (10511 103rd Street, High Level, AB, T0H 1Z0)** within 21 days from the date of the receipt of this decision. In the case of an appeal made by a person referred to in section 685(2) of the *Municipal Government Act*, within 21 days after the date on which the notice of the issuance of the permit was given.

3. **This is a Development Permit ONLY.** Issuance of this Permit does not excuse the applicant from satisfying all other applicable municipal, provincial and/or federal requirements.

4. **Based on the site plan provided with the application, the existing dwelling is noted to be non-compliant as it is located within the south side yard setback. In order to bring the property into compliance, a development permit application for the dwelling can be submitted to the Town requesting a variance to the south side yard setback.**

OTHER PERMITS ARE REQUIRED

In the interest of public safety and as required by the Safety Codes Act construction permits must be obtained before commencing any work. Required permits may include building, electrical, gas, plumbing, and private sewage. Additionally, the Town of High Level requires permits for water & sewer connection, new accesses, and driveways.

PLEASE NOTE

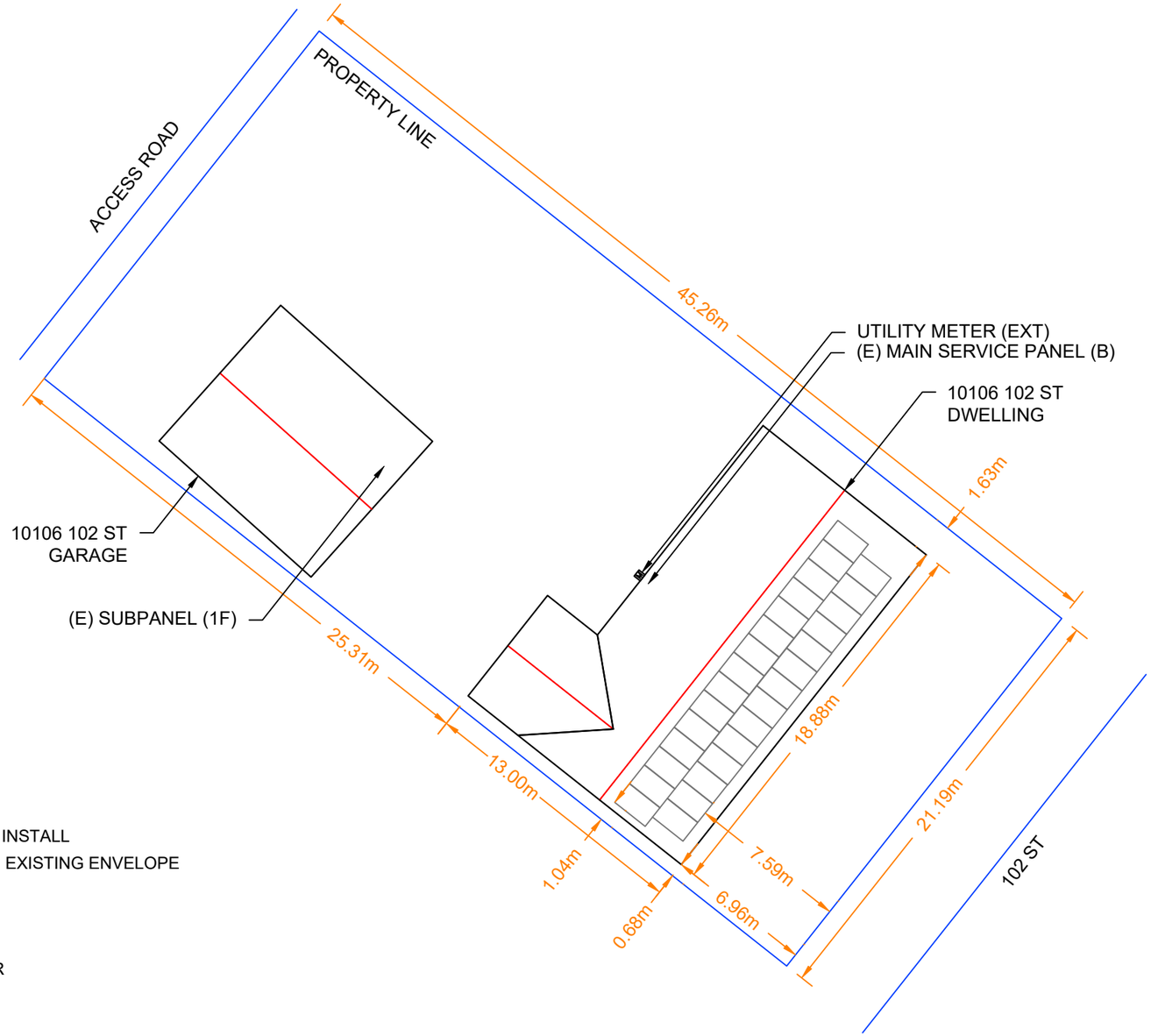
The Applicant and/or Registered Owner are responsible for applying for, and receiving, all necessary permits prior to beginning construction. Ensure that you or your contractors obtain all other required permits related to the development. For more information regarding how to obtain the required permits, contact Superior Safety Codes 1-866-999-4777. If you are unsure which additional municipal permits you may need, please contact development@highlevel.ca.

SCHEDULE A

Approved November 26, 2025

(12 pages)

Viv Thoss
Development Authority



NOTES:
- ALL ELECTRICAL BUILDING PENETRATIONS FOR SOLAR PV INSTALL TO BE PROPERLY SEALED TO MAINTAIN INTEGRITY OF THE EXISTING ENVELOPE
- (E) DENOTES EXISTING EQUIPMENT
- (N) DENOTES NEW EQUIPMENT
- (EXT) DENOTES EQUIPMENT LOCATED OUTSIDE
- (1F) DENOTES EQUIPMENT LOCATED INSIDE ON 1ST FLOOR
- (B) DENOTES EQUIPMENT LOCATED IN THE BASEMENT

SCALE: 1:250

AHJ: TOWN OF HIGH LEVEL, AB

GOVERNING CODE:

NATIONAL FIRE CODE – 2023 ALBERTA EDITION
NATIONAL BUILDING CODE - ALBERTA 2023
2024 CANADIAN ELECTRICAL CODE

NOTES:
- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

NEAREST URGENT CARE FACILITY
NAME:
ADDRESS:
PHONE NUMBER:

FIREFLY SOLAR

FIREFLY SOLAR
+1-888-912-9462
FIREFLYSOLAR.CA

PROJECT: 10106 102 ST
MUNICIPALITY: HIGH LEVEL, AB
ZIP CODE: T0H 1Z0
CLIENT: DESMOND (DES) SMITH (MAUREEN)
14.500 KW DC-STC / 10.440 KW AC

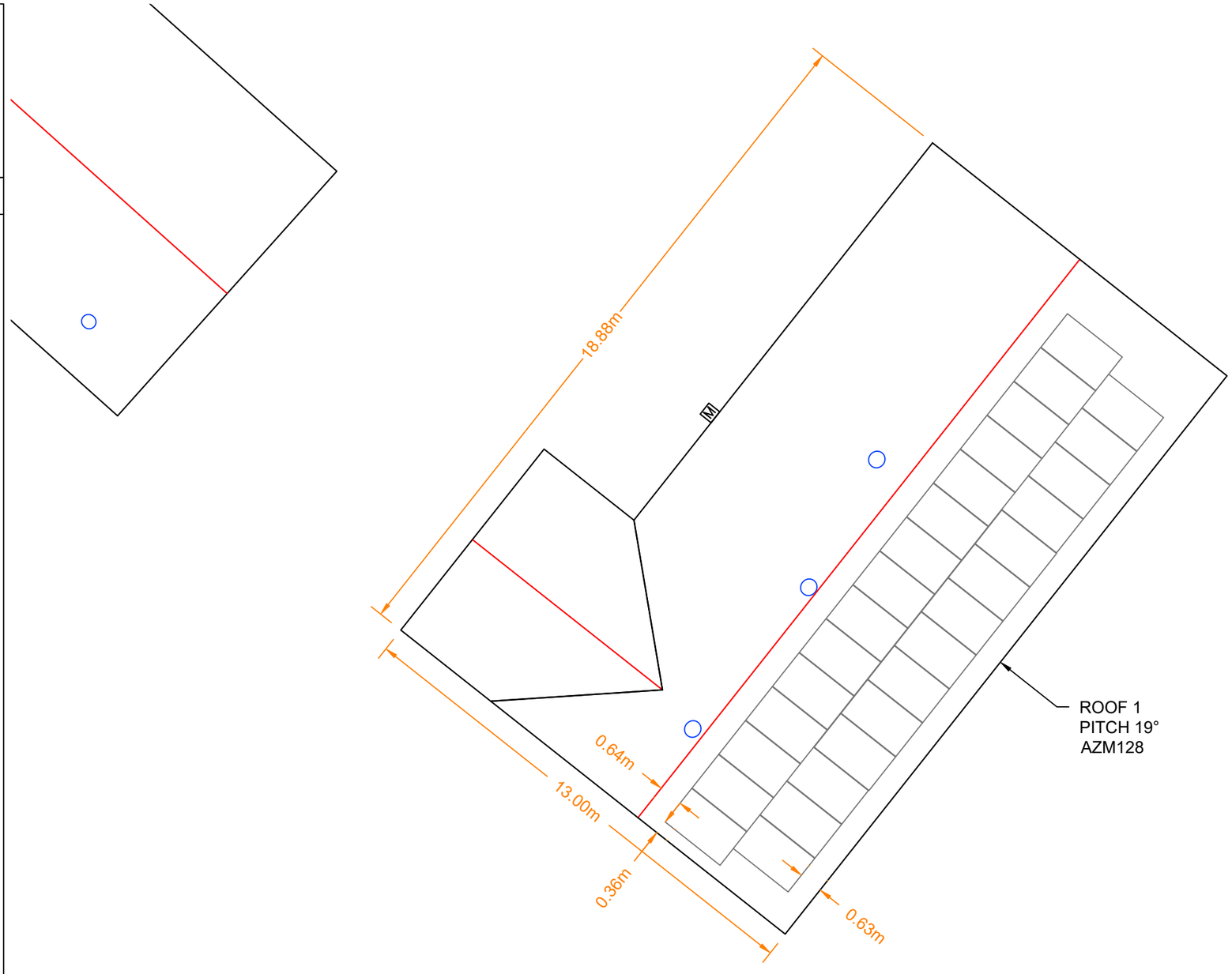
AUTHOR: ----
DATE: 27/SEP/25
REV: -

SITE PLAN

G1

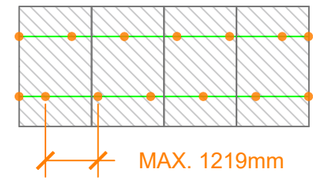
LEGEND

- METER
- PVC VENT
- METAL VENT
- VENT BOX
- STRUCTURAL DELIMITER
- SERVICE MAST
- SATELLITE
- ANTENNA
- SNOW GUARD
- DOWNSPOUT
- ELECTRICAL
- MOUNT
- RAIL
- TOP CHORD
- CHIMNEY
- STAKEOUT PATH
- TRENCHING PATH



SCALE: 1:125

MOUNTING PATTERN SAMPLE



MAXIMUM MOUNT SPACING: 1219mm
TOP CHORD SPACING: 406mm O/C
MOUNT PATTERN: STAGGERED

ALL HARDWARE, INCLUDING MOUNTING AND RACKING, TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS.

ROOF MATERIAL: SHINGLE
TOTAL ROOF AREA: 218.86 M²
TOTAL ARRAY AREA: 64.49 M²
TOTAL ARRAY PERCENT COVERAGE: 29.47%

MODULE WATTAGE: 500 W
NUMBER OF PANELS: 29
SYSTEM SIZE: 14.500 kW

NOTES:
- SOLAR PANEL LAYOUT SUBJECT TO CHANGE ACCORDING TO EXISTING CONDITIONS
- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

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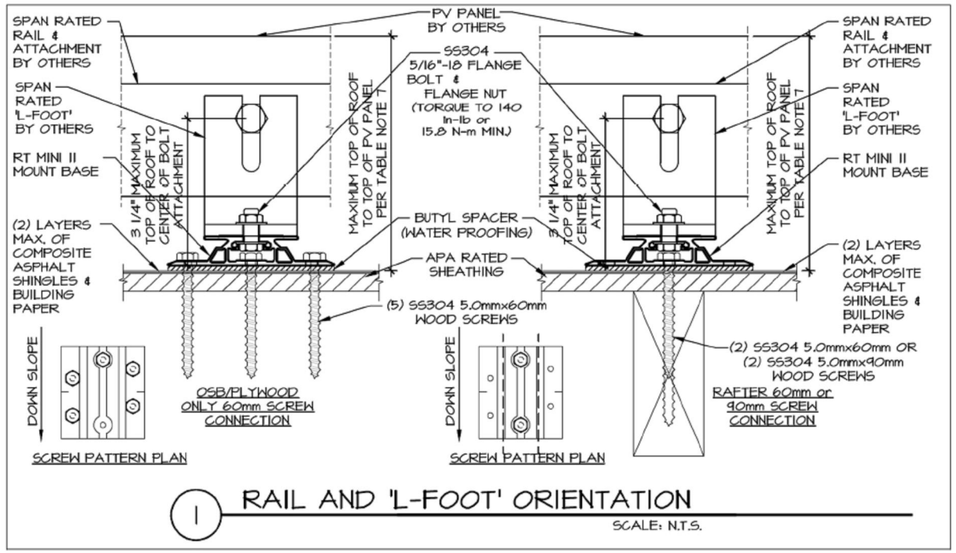
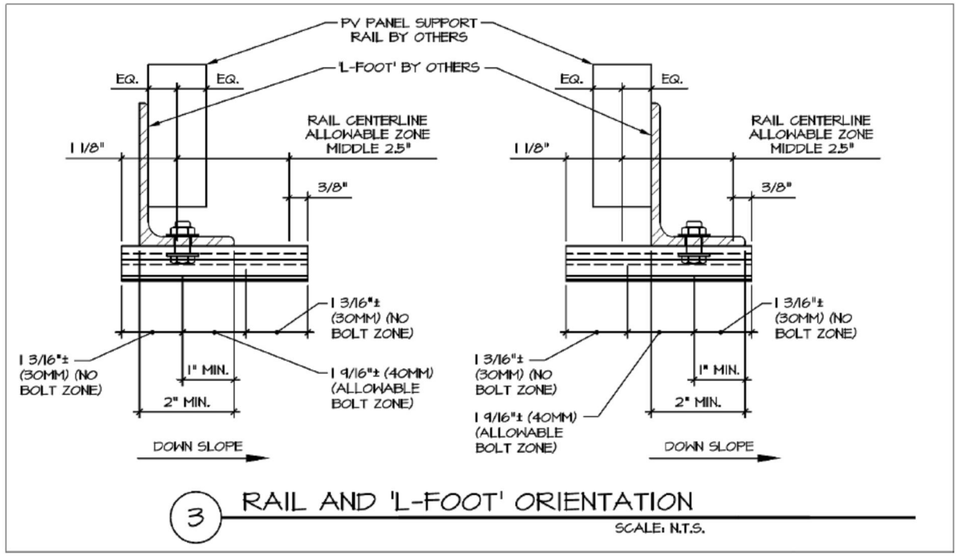
PANEL LAYOUT

G2



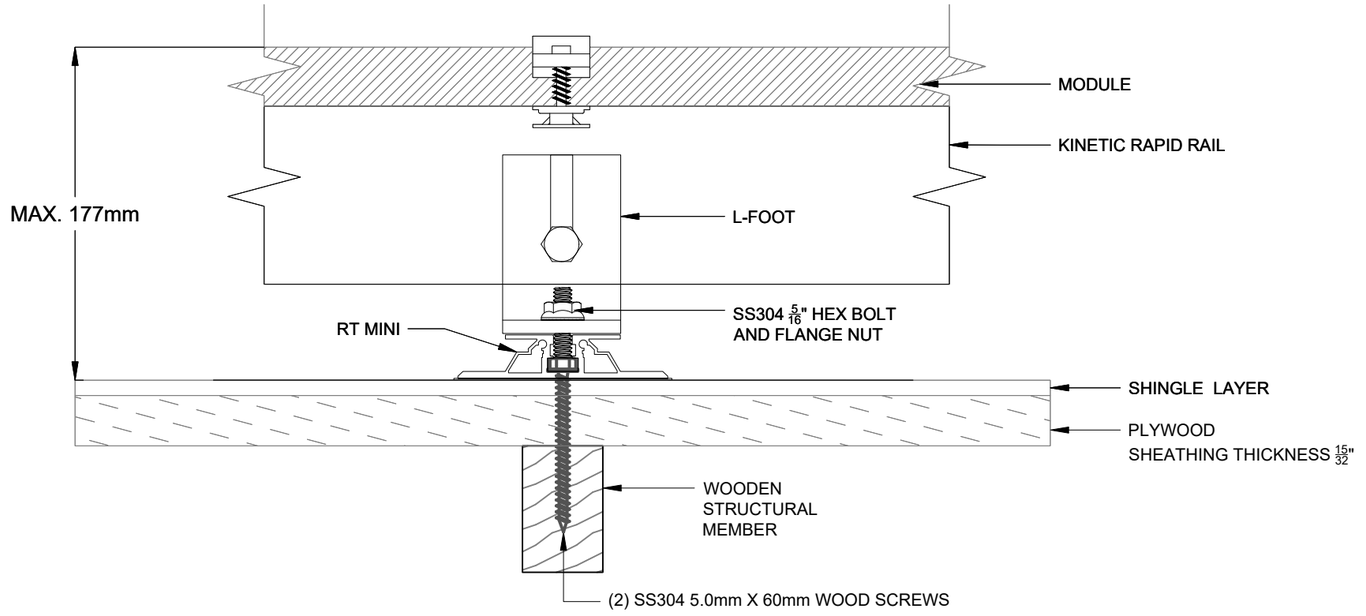
1 RAIL AND 'L-FOOT' ORIENTATION

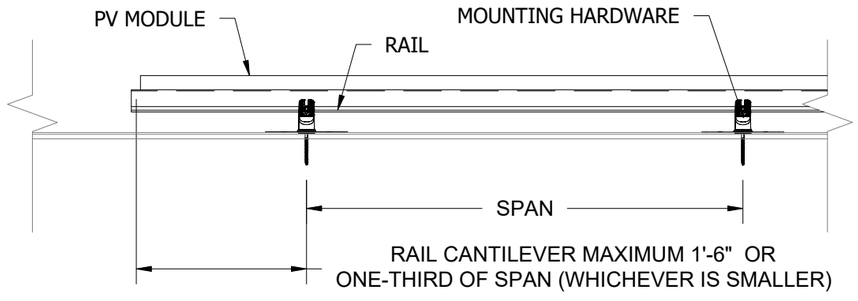
SCALE: N.T.S.



3 RAIL AND 'L-FOOT' ORIENTATION

SCALE: N.T.S.





PANEL TYPE: LONGI LR8-54HGBB-500W

PANEL SIZE: 1961.00mm X 1134.00mm

RACKING TYPE: KINETIC RAPID RAIL

MOUNT TYPE: RT MINI II

SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

NOTES:

- SCALE AS SHOWN
- ALL DIMENSIONS IN METERS UNLESS OTHERWISE STATED

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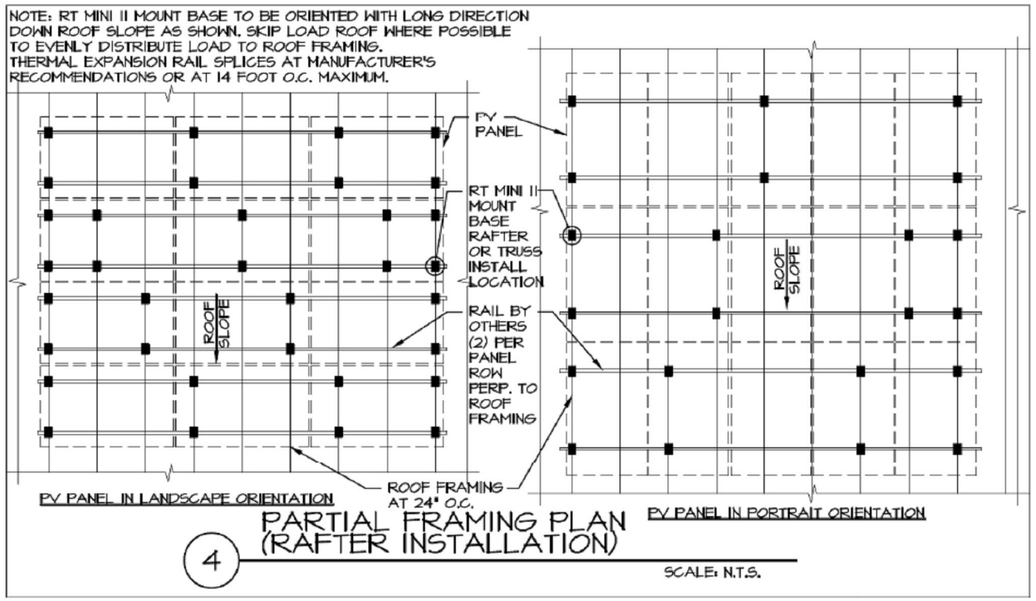
REV: -

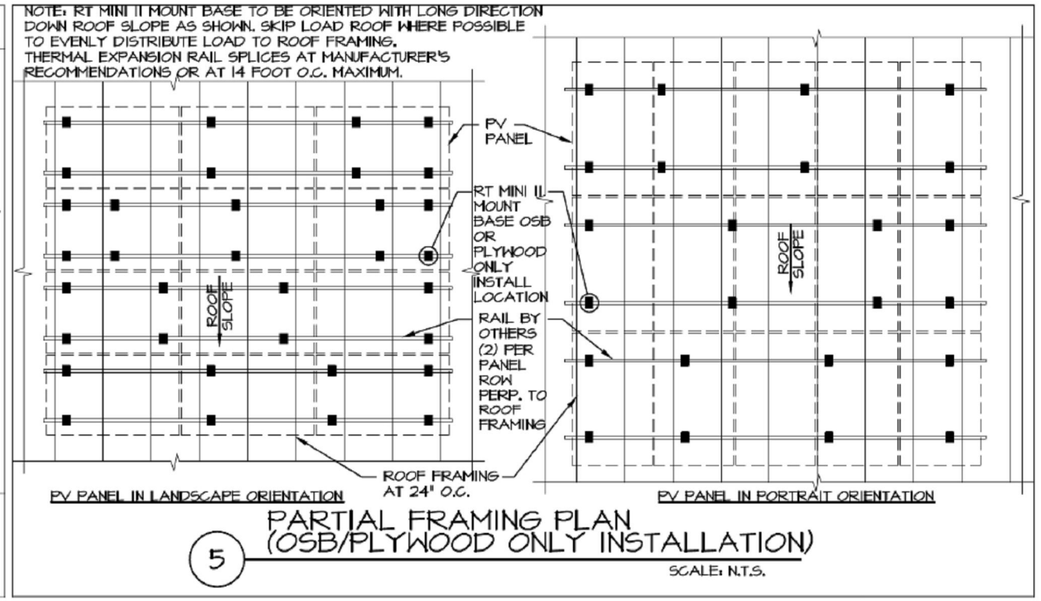
ATTACHMENT DETAILS

G3



4 PARTIAL FRAMING PLAN (RAFTER INSTALLATION)

SCALE: N.T.S.



5 PARTIAL FRAMING PLAN (OSB/PLYWOOD ONLY INSTALLATION)

SCALE: N.T.S.

PANEL TYPE: LONGI LR8-54HGBB-500W

PANEL SIZE: 1961.00mm X 1134.00mm

RACKING TYPE: KINETIC RAPID RAIL

MOUNT TYPE: RT MINI II

SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

NOTES:

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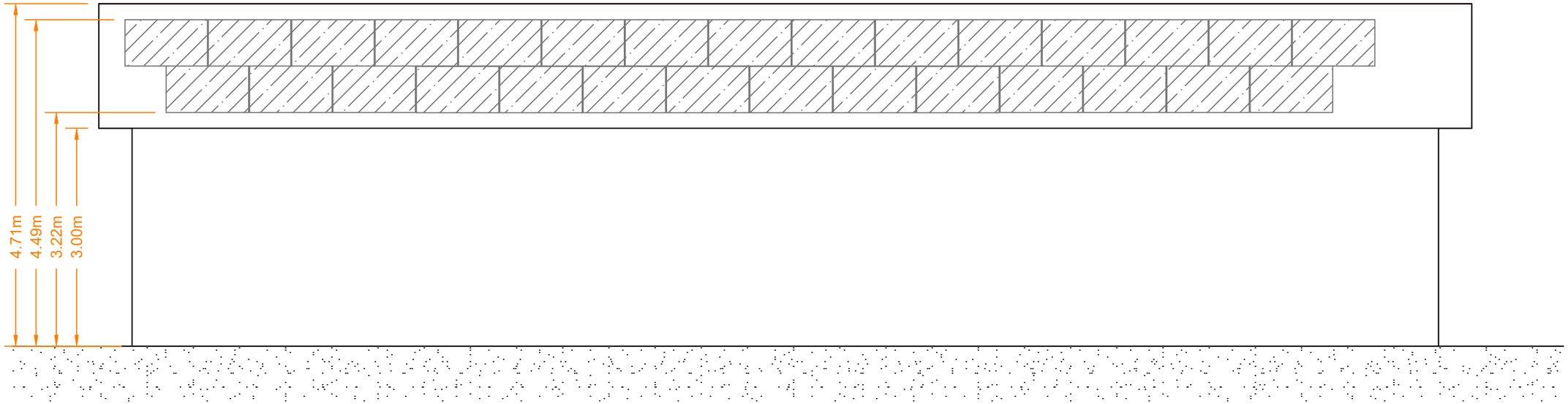
AUTHOR: ----
DATE: 27/SEP/25
REV: -

RACK CONNECTION DETAILS

G4



SOUTHEAST ELEVATION

SCALE: NTS

PANEL TYPE: LONGI LR8-54HGBB-500W
PANEL SIZE: 1961.00mm X 1134.00mm
RACKING TYPE: KINETIC RAPID RAIL
MOUNT TYPE: RT MINI II
SOLAR SYSTEM DEAD LOAD: 0.14kN/m²

NOTES:
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AUTHOR: ----
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REV: -

SIDE HOUSE ELEVATION

G5

HPDC

Advanced HPDC cell technology delivers superior module efficiency up to 22.9%

Lower temperature coefficient of Pmax: -0.28 %/ °C, more power production at higher ambient temperatures

Anti-LID, anti-LeTID, and anti-PID with low power degradation

Excellent low irradiance performance

Weather resistant and certified to withstand rain, hail, wind, and snow

LONGi Lifecycle Quality ensures high product quality and long-term performance

30-year
Warranty for Extra Linear Power Output

25-year
Warranty for Materials and Processing

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730
ISO9001:2015: ISO Quality Management System
ISO14001: 2015: ISO Environment Management System
ISO45001: 2018: Occupational Health and Safety
IEC62941: Guideline for module design qualification and type approval

LONGi

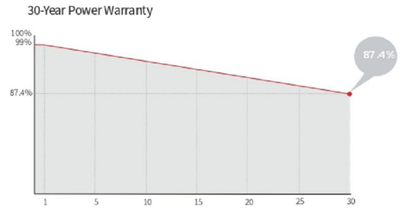
LONGi Solar Technology (Canada) Inc. | 43/F, 5288th Avenue S.W., Calgary, Alberta T2P1G1 | us-info@longi.com | https://www.longi.com/us

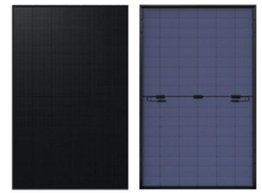
Hi-MO 7 LR8-54HGBB 495~510W

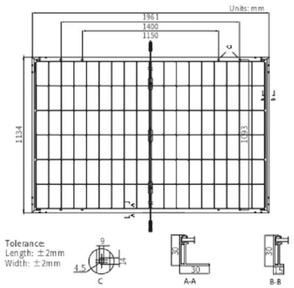
22.9%	0~3%	<1%	0.4%	HALF-CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

Additional Value

30-Year Power Warranty







Mechanical Parameters

Cell Orientation	108 (6×18)
Junction Box	IP68
Output Cable	4mm², +400, -200mm/±1200mm length can be customized
Glass	Dual glass, 2.0+2.0mm heat strengthened glass
Frame	Anodized aluminum alloy frame
Weight	28kg
Dimension	1961×1134×30mm
Packaging	36pcs per pallet / 180pcs per 20' GP / 864pcs per 40' HC

Electrical Characteristics

STC : AM1.5 1000W/m² 25°C | NOCT : AM1.5 800W/m² 20°C 1m/s | Test uncertainty for Pmax: ±3%

Modul Type	LR8-54HGBB-495W		LR8-54HGBB-500W		LR8-54HGBB-505W		LR8-54HGBB-510W	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Max. Power(Pmax/W)	495	377	500	380	505	383	510	386
Open Circuit Voltage(Voc/V)	39.42	37.47	39.58	37.62	39.75	37.78	39.91	37.93
Short Circuit Current (Isc/A)	15.90	12.77	15.95	12.81	16.00	12.85	16.05	12.89
Voltage at Maximum Power (Vmp/V)	32.98	31.34	33.14	31.49	33.31	31.65	33.47	31.80
Current at Maximum Power (Imp/A)	15.01	12.02	15.09	12.06	15.16	12.10	15.24	12.14
Module Efficiency (%)	22.3		22.5		22.7		22.9	

Electrical characteristics with different rear side power gain (reference to 500W front)

Pmax /W	Voc/V	Isc/A	Vmp/V	Imp /A	Pmax gain
525	39.58	16.75	33.14	15.84	5%
550	39.58	17.54	33.14	16.59	10%
575	39.68	18.34	33.24	17.30	15%
600	39.68	19.14	33.24	18.05	20%
625	39.68	19.93	33.24	18.80	25%

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	ΦPmax: 80±10%
	ΦVoc: 98±5%
	ΦIsc: 80±10%
Fire Rating	UL Type 29 IEC Class C

Mechanical Loading

Front Side Maximum Static Loading (e.g. snow, wind)	5400Pa
Rear Side Maximum Static Loading (e.g. wind)	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.045%/°C
Temperature Coefficient of Voc	-0.230%/°C
Temperature Coefficient of Pmax	-0.280%/°C

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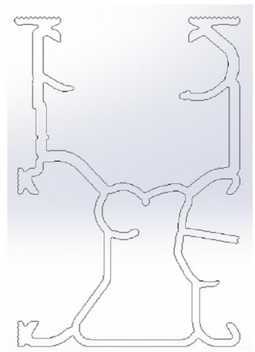
LONGi Solar Technology (Canada) Inc.
43/F, 5288th Avenue S.W., Calgary, Alberta T2P1G1
us-info@longi.com
https://www.longi.com/us

FIREFLY SOLAR	FIREFLY SOLAR +1-888-912-9462 FIREFLYSOLAR.CA	PROJECT: 10106 102 ST MUNICIPALITY: HIGH LEVEL, AB ZIP CODE: T0H 1Z0 CLIENT: DESMOND (DES) SMITH (MAUREEN) 14.500 KW DC-STC / 10.440 KW AC	AUTHOR: ---- DATE: 27/SEP/25 REV: -	PANEL SPECIFICATIONS	A1

Rapid Rail



Properties	
Area:	0.5683 in^2
Moments of inertia:	X: 0.2834 in^4 Y: 0.1502 in^4
Product of inertia:	XY: 0.0028 in^4
Radii of gyration:	X: 0.7062 in Y: 0.5140 in
Principal moments of inertia of the area, at the centroid:	I: 0.15009 in^4 J: 0.28353 in^4
Material:	Aluminum

Kinetic
SOLAR RACKING AND MOUNTING

65 Martin Ross Ave, Toronto, ON
416-665-3755
www.kineticsolar.com

FIREFLY SOLAR	FIREFLY SOLAR +1-888-912-9462 FIREFLYSOLAR.CA	PROJECT: 10106 102 ST MUNICIPALITY: HIGH LEVEL, AB ZIP CODE: T0H 1Z0 CLIENT: DESMOND (DES) SMITH (MAUREEN) 14.500 KW DC-STC / 10.440 KW AC	AUTHOR: ---- DATE: 27/SEP/25 REV: -	RACKING SPECIFICATIONS	A2

RT-MINI II

A Self-flashing PV Mount Featuring Roof Tech´s AlphaSeal®

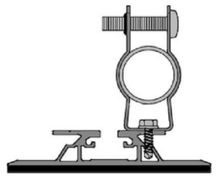
RT-MINI II is suitable for all systems with any L-Foot

- No Caulking or Pre-Drilling Required
- Universal Attachment to Any Slope
- Metal, EPDM, TPO, SBS, & Asphalt Roofs
- Wide Range of Applications & Ultimate Flexibility on the Roof
- No Need to Bend Rails
  N-S & Rotational Adjustments

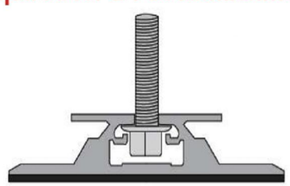
Installation Manual

ICC ESR 3575

Conduit Strap Installation



RT2-04-FBN25
Hex Flange Bolt and Nut Set
Required for L-Foot Attachment



RT-MINI II

Flexible Flashing Certified by the International Code Council (ICC)

Components

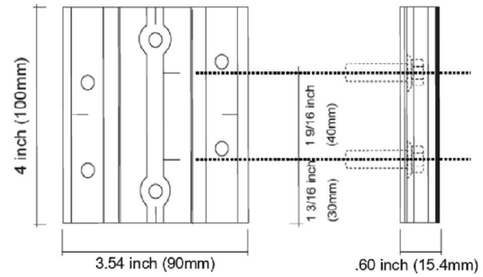
RT2-00-MINIBK2

MINI II base : 20 ea.
Screw : 40 ea.
Extra RT-Butyl : 4 ea.

Optional Items:

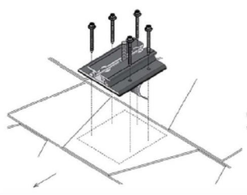
5 x 60mm Mounting Screw (RT2-04-SD5-60) : 100 ea./Bag
5/16 X 25MM Flange Bolt & Nut (RT2-04-FBN25) : 100 ea./Bag
RT-Butyl (RT2-04-MNBUTYL) : 10 ea./Box

Dimensions in (mm)

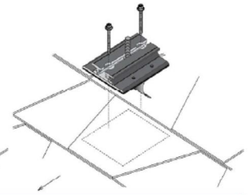


Deck Installation

OSB & PLYWOOD ONLY



Rafter Installation

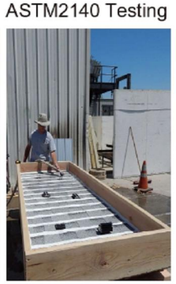


Roof Tech Inc. AlphaSeal™ Technology has been used on over one million residential PV systems since 1994. It is the first PV mounting system with Flexible Flashing certified by the ICC, engineered to withstand wind speeds up to 180 mph and ground snow up to 90 psf.

Engineered to ASTM D 1761
(Standard Test Methods for Mechanical Fasteners in Wood)

ICC ESR-3575

ASTM2140 Testing

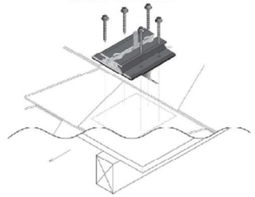


P.E. Letters

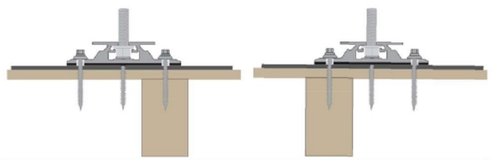
Support & Downloads

Hybrid Installation

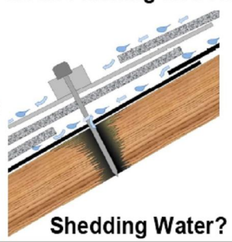
Rafter and Deck



Offset Rafter Attachment Options

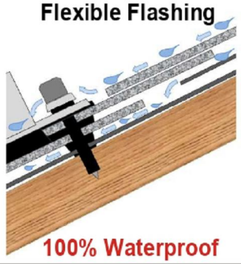


Metal Flashing Retrofit



Shedding Water?

Flexible Flashing



100% Waterproof

Roof Tech
The Standard for Waterproof Flexible Flashing Since 1994
www.roof-tech.us info@roof-tech.us

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May 2023

FIREFLY SOLAR	FIREFLY SOLAR +1-888-912-9462 FIREFLYSOLAR.CA	PROJECT: 10106 102 ST MUNICIPALITY: HIGH LEVEL, AB ZIP CODE: T0H 1Z0 CLIENT: DESMOND (DES) SMITH (MAUREEN) 14.500 KW DC-STC / 10.440 KW AC	AUTHOR: ---- DATE: 27/SEP/25 REV: -	MOUNTING SPECIFICATIONS	A3

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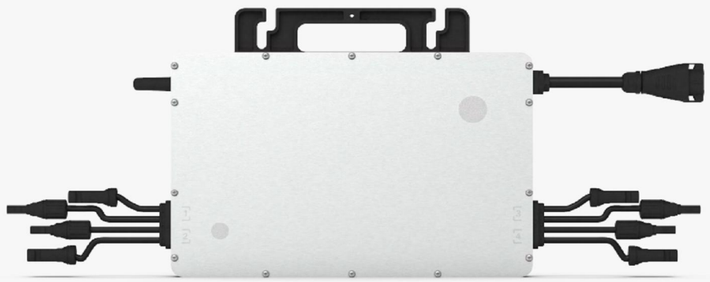

Microinverter Datasheet

HMS-1600-4T-NA
HMS-1800-4T-NA
HMS-2000-4T-NA

Description

Hoymiles new microinverter HMS-2000 series are suitable for high-powered solar panels, which rank among the highest for 4-in-1 microinverters.
Each microinverter can connect up to 4 panels, with independent MPPT and module-level monitoring maximizing the power production of your installation. With a maximum DC voltage of 65 volts, Hoymiles microinverter is a PV Rapid Shutdown Equipment and conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218.
The new Sub-1G wireless solution enables more stable communication with Hoymiles gateway DTU.

Features

01	High-powered microinverter for 4-in-1 series with superior performance
02	Safer for rooftop solar stations with PV rapid shutdown compliance
03	With Reactive Power Control, compliant with UL 1741, IEEE 1547, UL 1741 SB, etc.
04	Independent MPPT and monitoring ensure greater energy harvest and easier maintenance
05	4-in-1 design enables most cost-effective solar solution
06	Sub-1G wireless solution allows stable communication in commercial and industrial settings

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Technical Specifications

Model	HMS-1600-4T-NA		HMS-1800-4T-NA		HMS-2000-4T-NA	
Input Data(DC)						
Commonly used module power (W)	320 to 540+		360 to 600+		400 to 670+	
Maximum input voltage (V)			65			
MPPT voltage range (V)			16–60			
Start-up voltage (V)			22			
Maximum input current (A)	4 × 12.5		4 × 13.3		4 × 14	
Maximum input short circuit current (A)			4 × 20			
Number of MPPTs			4			
Number of inputs per MPPT			1			
Output Data(AC)						
Peak output power (VA)	1600		1800		2000	
Maximum continuous output power (VA)	1440		1660		1918	
Maximum continuous output current (A)	6.00	6.92	6.92	7.98	7.99	9.22
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			
Adjustable power factor (@nominal power)			> 0.99 default 0.8 leading ... 0.8 lagging			
Total harmonic distortion (@nominal power)			< 3%			
Maximum units per 10 AWG branch**	4	3	3	3	3	2
Efficiency						
CEC peak efficiency	96.70%		96.50%		96.50%	
Nominal MPPT efficiency			99.8%			
Night power consumption (mW)			< 50			
Mechanical Data						
Ambient temperature range (°F)			-40 to +149 (-40 to +65°C)			
Dimensions (W × H × D [inch])			13.03 × 8.58 × 1.44 (331 × 218 × 36.6 mm)			
Weight (lbs)			10.36 (4.7 kg)			
Enclosure rating			Outdoor-NEMA 6 (IP67)			
Cooling			Natural convection-No fans			
Features						
Communication	Sub-1G					
Type of isolation	Galvanically Isolated HF Transformer					
Monitoring	S-Miles Cloud (Hoymiles Monitoring Platform)					
Compliance	UL 1741, IEEE 1547, UL 1741 SB, CA Rule 21***, CSA C22.2 No. 107.1-16, FCC 15B, FCC 15C					
PV Rapid Shutdown	Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems.					

*: Nominal voltage/frequency range can vary depending on local requirements.
**: Refer to local requirements for exact number of microinverters per branch.
***: The HMS-2000-4T-NA microinverter complies with both CA Rule 21 (240 Vac) and CA Rule 21 (208 Vac).

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haymiles

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Microinverter Datasheet

HMS-700-2T-NA
HMS-800-2T-NA
HMS-900-2T-NA
HMS-1000-2T-NA

Description

Hoymiles new microinverter HMS-1000 series are suitable for high-powered solar panels, which rank among the highest for 2-in-1 microinverters.
Each microinverter can connect up to 2 panels, with independent MPPT and monitoring maximizing the power production of your installation. With a maximum DC voltage of 65 volts, Hoymiles microinverter is a PV Rapid Shutdown Equipment and conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218.
The new Sub-1G wireless solution enables more stable communication with Hoymiles gateway DTU.

Features

01 High-powered microinverter for 2-in-1 series with superior performance

02 Safer for rooftop solar stations with PV rapid shutdown compliance

03 With Reactive Power Control, compliant with UL 1741, IEEE 1547, UL 1741 SB, etc.

04 Independent MPPT and monitoring ensure greater energy harvest and easier maintenance

05 2-in-1 design enables faster installation

06 Sub-1G wireless solution allows stable communication in commercial and industrial settings

Technical Specifications

Model	HMS-700-2T-NA		HMS-800-2T-NA		HMS-900-2T-NA		HMS-1000-2T-NA	
Input Data(DC)								
Commonly used module power (W)	280 to 470+		320 to 540+		360 to 600+		400 to 670+	
Maximum input voltage (V)	60		65		65		65	
MPPT voltage range (V)	16–60							
Start-up voltage (V)	22							
Maximum input current (A)	2 × 13		2 × 14		2 × 15		2 × 16	
Maximum input short circuit current (A)	2 × 20		2 × 25		2 × 25		2 × 25	
Number of MPPTs	2							
Number of Inputs per MPPT	1							
Output Data(AC)								
Peak output power (VA)	700		800		900		1000	
Maximum continuous output power (VA)	638		720		820		958	
Maximum continuous output current (A)	2.66	3.07	3	3.46	3.42	3.94	3.99	4.61
Nominal output voltage/range (V)[1]	240/211–264	208/183–228	240/211–264	208/183–228	240/211–264	208/183–228	240/211–264	208/183–228
Nominal frequency/range (Hz)[1]	60/55–65							
Power factor (adjustable)	> 0.99 default 0.8 leading ... 0.8 lagging							
Total harmonic distortion	< 3%							
Maximum units per 10 AWG branch[2]	9	7	8	6	7	6	6	5
Maximum units per 12 AWG branch[2]	6	5	5	4	4	4	4	3
Efficiency								
CEC peak efficiency	96.70%		96.70%		96.50%		96.50%	
Nominal MPPT efficiency	99.80%							
Night power consumption (mW)	< 50							
Mechanical Data								
Ambient temperature range (°C)	-40 to +65							
Dimensions (W × H × D [mm])	261 × 180 × 35.1							
Weight (kg)	3.2							
Enclosure rating	Outdoor-IP67 (NEMA6)							
Cooling	Natural convection-No fans							
Features								
Communication	Sub-1G							
Type of isolation	Galvanically Isolated HF Transformer							
Monitoring	Hoymiles S-Miles Cloud[3]							
Compliance	UL 1741, IEEE 1547, UL 1741 SB (Pending), CSA C22.2 No. 107.1-16 FCC 15B, FCC 15C							
PV Rapid Shutdown	Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems.							

*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

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INVERTER SPECIFICATIONS 2

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Microinverter Datasheet

HMS-350-1T-NA
HMS-400-1T-NA
HMS-450-1T-NA
HMS-500-1T-NA

Description

Hoymiles new microinverter HMS-500 series are suitable for high-powered solar panels, which rank among the highest for 1-in-1 microinverters.
Each microinverter can be connected to one panel and used in various applications, making it one of the most flexible solar solutions. With a maximum DC voltage of 65 volts, Hoymiles microinverter is a PV Rapid Shutdown Equipment and conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218.
The new Sub-1G wireless solution enables more stable communication with Hoymiles gateway DTU.

Features

01 High-powered microinverter for 1-in-1 series with superior performance

02 Safer for rooftop solar stations with PV rapid shutdown compliance

03 With Reactive Power Control, compliant with UL 1741, IEEE 1547, UL 1741 SB, etc.

04 1-in-1 design enables most flexible applications

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Technical Specifications

Model	HMS-350-1T-NA		HMS-400-1T-NA		HMS-450-1T-NA		HMS-500-1T-NA	
Input Data(DC)								
Commonly used module power (W)	280 to 470+		320 to 540+		360 to 600+		400 to 670+	
Maximum input voltage (V)	60		65		65		65	
MPPT voltage range (V)	16-60							
Start-up voltage (V)	22							
Maximum input current (A)	11.5		12.5		13.3		14	
Maximum input short circuit current (A)	16		20		20		20	
Number of MPPTs	1							
Number of inputs per MPPT	1							
Output Data(AC)								
Peak output power (VA)	350		400		450		500	
Maximum continuous output power (VA)	319		360		410		475	
Maximum continuous output current (A)	1.33	1.53	1.50	1.73	1.71	1.98	1.98	2.28
Nominal output voltage/range (V)*	240/211-264	208/183-228	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							
Adjustable power factor (@nominal power)	> 0.99 default 0.8 leading ... 0.8 lagging							
Total harmonic distortion (@nominal power)	< 3%							
Maximum units per 10 AWG branch**	18	15	16	13	14	12	12	10
Maximum units per 12 AWG branch**	12	10	10	9	9	8	8	7
Efficiency								
CEC peak efficiency	96.70%		96.70%		96.50%		96.50%	
Nominal MPPT efficiency	99.80%							
Night power consumption (mW)	< 50							
Mechanical Data								
Ambient temperature range (°F)	-40 to +149 (-40°C to +65°C)							
Dimensions (W × H × D [inches])	7.17 × 6.46 × 1.18 (182 × 164 × 30 mm)							
Weight (lbs)	3.86 (1.75 kg)							
Enclosure rating	Outdoor-IP67 (NEMA 6)							
Cooling	Natural convection (no fans)							
Features								
Communication	Sub-1G							
Type of isolation	Galvanically Isolated HF Transformer							
Monitoring	S-Miles Cloud (Hoymiles Monitoring Platform)							
Compliance	UL 1741, IEEE 1547, UL 1741 SB, CA Rule 21, CSA C22.2 No. 107.1-16, FCC 15B, FCC 15C							
PV Rapid Shutdown	Conforms with NEC-2017 and NEC-2020 Article 690.12 and CEC-2021 Sec 64-218 Rapid Shutdown of PV Systems.							

* : Nominal voltage/frequency range can vary depending on local requirements.
**: Refer to local requirements for exact number of microinverters per branch.

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INVERTER SPECIFICATIONS 3

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