

## UNO-2.0-I UNO-2.5-I

### GENERAL SPECIFICATIONS OUTDOOR MODELS

The UNO-2.0-I and UNO-2.5-I are the latest single phase string inverters in the Aurora range. A new-look inverter but packed with Power-One's proven high performing technology. The new look inverter has new features including a special built-in heat sink compartment and front panel display system.

The smallest of Power-One's outdoor range, these new products are the right size for the average rooftop installation. This rugged outdoor inverter has been designed as a completely sealed unit to withstand the harshest environmental conditions.

The high speed MPPT offers real-time power tracking and improved energy harvesting.

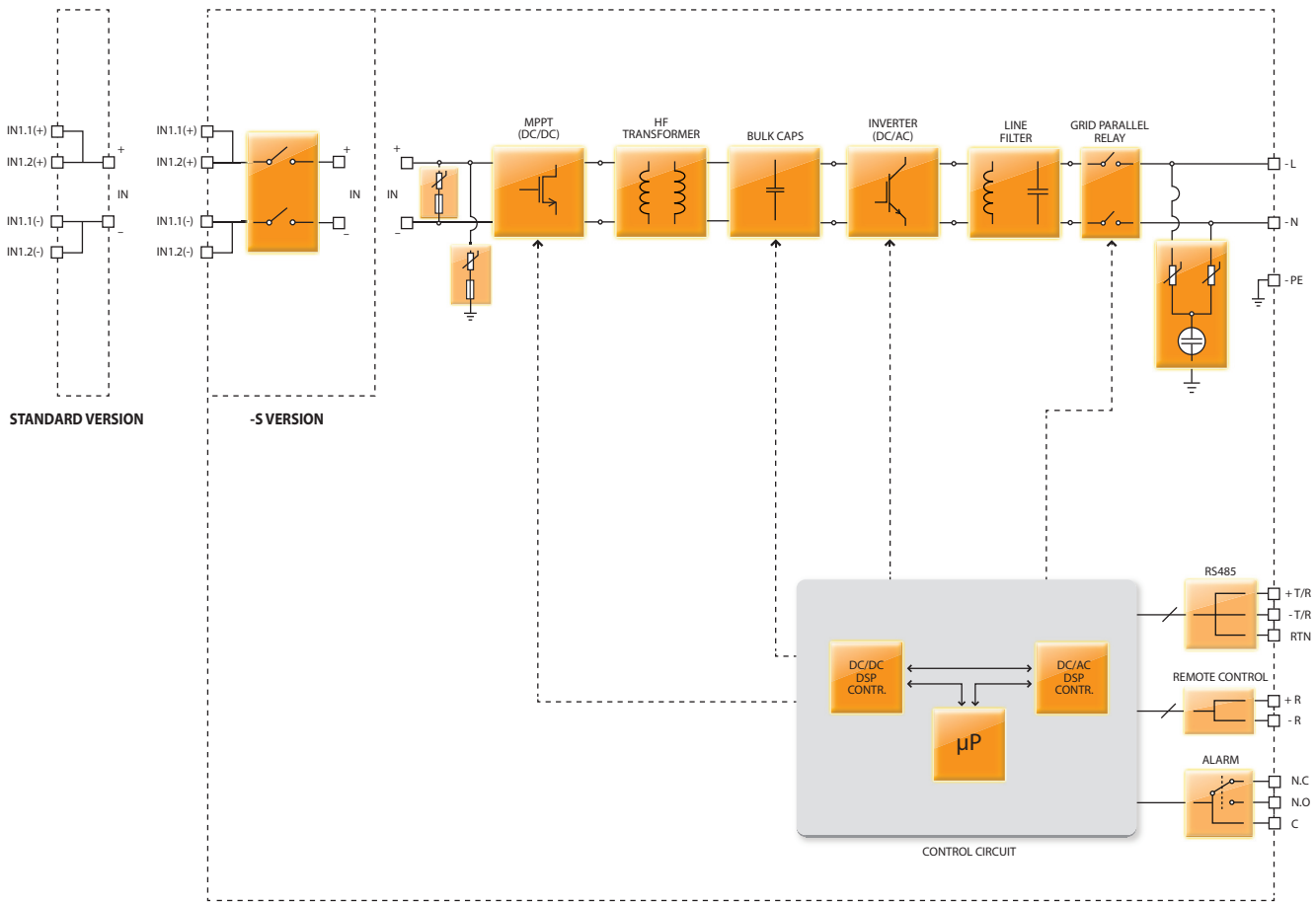
Despite the isolated operation, the UNO-2.0-I and UNO-2.5-I feature an efficiency of 96.3%. The wide input voltage range makes the inverter suitable to low power installations with reduced string size.



## Features

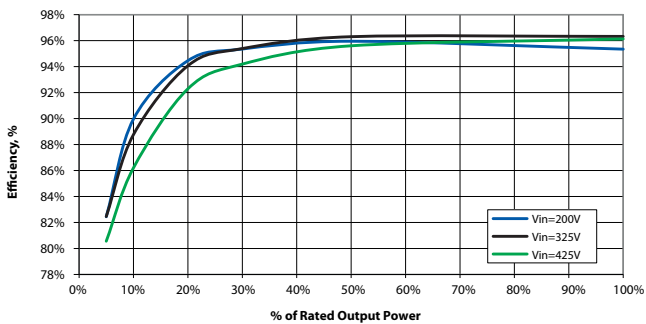
- Each inverter is set on specific grid codes which can be selected in the field
- Single phase output
- Wide input range
- High speed and precise MPPT algorithm for real time power tracking and improved energy harvesting
- Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable performance across the entire input voltage and output power range
- Outdoor enclosure for unrestricted use under any environmental conditions
- RS-485 communication interface (for connection to laptop or datalogger)
- Compatible with PVI-RADIOMODULE for wireless communication with Aurora PVI-DESKTOP

## BLOCK DIAGRAM OF UNO-2.0-I AND UNO-2.5-I

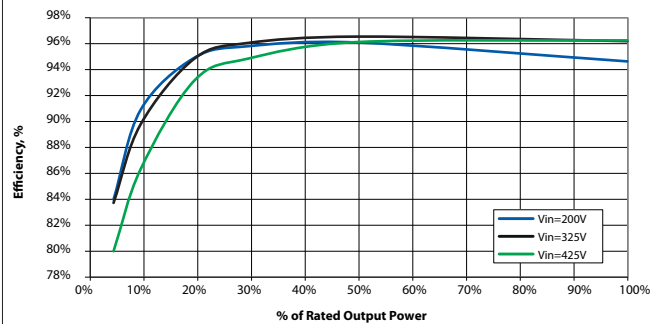


## Block Diagram and Efficiency Curves

UNO-2.0-I-OUTD



UNO-2.5-I-OUTD



| PARAMETER                                                                                                     | UNO-2.0-I-OUTD                                                                                                                                  | UNO-2.5-I-OUTD                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input Side</b>                                                                                             |                                                                                                                                                 |                                                                                                                                                 |
| Absolute Maximum DC Input Voltage ( $V_{max,abs}$ )                                                           | 520 V                                                                                                                                           | 520 V                                                                                                                                           |
| Start-up DC Input Voltage ( $V_{start}$ )                                                                     | 200 V (adj. 120...350 V)                                                                                                                        | 200 V (adj. 120...350 V)                                                                                                                        |
| Operating DC Input Voltage Range ( $V_{dcmin} \dots V_{dcmax}$ )                                              | $0.7 \times V_{start} \dots 520 V$                                                                                                              | $0.7 \times V_{start} \dots 520 V$                                                                                                              |
| Rated DC Input Power ( $P_{dcr}$ )                                                                            | 2100 W                                                                                                                                          | 2600 W                                                                                                                                          |
| Number of Independent MPPT                                                                                    | 1                                                                                                                                               | 1                                                                                                                                               |
| Maximum DC Input Power for each MPPT ( $P_{MPPTmax}$ )                                                        | 2300 W<br>Linear Derating From MAX to Null [ $470V \leq V_{MPPT} \leq 520V$ ]                                                                   | 2900 W<br>Linear Derating From MAX to Null [ $470V \leq V_{MPPT} \leq 520V$ ]                                                                   |
| MPPT Input DC Voltage Range ( $V_{MPPTmin} \dots V_{MPPTmax}$ ) at $P_{acr}$                                  | 170...470 V                                                                                                                                     | 205...470 V                                                                                                                                     |
| DC Power Limitation for each MPPT with Independent Configuration of MPPT at $P_{acr}$ , max unbalance example | not applicable                                                                                                                                  | not applicable                                                                                                                                  |
| Maximum DC Input Current ( $I_{dcm}$ ) / for each MPPT ( $I_{MPPTmax}$ )                                      | 12.5 A / 12.5 A                                                                                                                                 | 12.8 A / 12.8 A                                                                                                                                 |
| Maximum Input Short Circuit Current for each MPPT                                                             | 15.0 A                                                                                                                                          | 15.0 A                                                                                                                                          |
| Number of DC Inputs Pairs for each MPPT                                                                       | 2                                                                                                                                               | 2                                                                                                                                               |
| DC Connection Type                                                                                            | Tool Free PV Connector WM / MC4                                                                                                                 | Tool Free PV Connector WM / MC4                                                                                                                 |
| <b>Input Protection</b>                                                                                       |                                                                                                                                                 |                                                                                                                                                 |
| Reverse Polarity protection                                                                                   | Yes, from limited current source                                                                                                                | Yes, from limited current source                                                                                                                |
| Input Over Voltage Protection for each MPPT - Varistor                                                        | 2                                                                                                                                               | 2                                                                                                                                               |
| Photovoltaic Array Isolation Control                                                                          | According to local standard                                                                                                                     | According to local standard                                                                                                                     |
| DC Switch Rating for each MPPT (Version with DC switch)                                                       | 16 A / 600 V                                                                                                                                    | 16 A / 600 V                                                                                                                                    |
| <b>Output Side</b>                                                                                            |                                                                                                                                                 |                                                                                                                                                 |
| AC Grid Connection Type                                                                                       | Single phase                                                                                                                                    | Single phase                                                                                                                                    |
| Rated AC Power ( $P_{acr}$ )                                                                                  | 2000 W                                                                                                                                          | 2500 W                                                                                                                                          |
| Maximum AC Output Power ( $P_{acmax}$ )                                                                       | 2200 W <sup>(4)</sup>                                                                                                                           | 2750 W <sup>(5)</sup>                                                                                                                           |
| Rated AC Grid Voltage ( $V_{acr}$ )                                                                           | 230 V                                                                                                                                           | 230 V                                                                                                                                           |
| AC Voltage Range                                                                                              | 180...264 V <sup>(1)</sup>                                                                                                                      | 180...264 V <sup>(1)</sup>                                                                                                                      |
| Maximum AC Output Current ( $I_{ac,max}$ )                                                                    | 10.0 A                                                                                                                                          | 12.0 A                                                                                                                                          |
| Rated Output Frequency ( $f_r$ )                                                                              | 50 Hz                                                                                                                                           | 50 Hz                                                                                                                                           |
| Output Frequency Range ( $f_{min} \dots f_{max}$ )                                                            | 47...53 Hz <sup>(2)</sup>                                                                                                                       | 47...53 Hz <sup>(2)</sup>                                                                                                                       |
| Nominal Power Factor ( $\cos\phi_{i,acr}$ )                                                                   | > 0.990                                                                                                                                         | > 0.990                                                                                                                                         |
| Total Current Harmonic Distortion                                                                             | < 2%                                                                                                                                            | < 2%                                                                                                                                            |
| AC Connection Type                                                                                            | Screw terminal block                                                                                                                            | Screw terminal block                                                                                                                            |
| <b>Output Protection</b>                                                                                      |                                                                                                                                                 |                                                                                                                                                 |
| Anti-Islanding Protection                                                                                     | According to local standard                                                                                                                     | According to local standard                                                                                                                     |
| Maximum AC Overcurrent Protection                                                                             | 15.0 A                                                                                                                                          | 15.0 A                                                                                                                                          |
| Output Overvoltage Protection - Varistor                                                                      | 2 (L - N / L - PE)                                                                                                                              | 2 (L - N / L - PE)                                                                                                                              |
| <b>Operating Performance</b>                                                                                  |                                                                                                                                                 |                                                                                                                                                 |
| Maximum Efficiency ( $\eta_{max}$ )                                                                           | 96.3%                                                                                                                                           | 96.3%                                                                                                                                           |
| Weighted Efficiency (EURO/CEC)                                                                                | 95.1% / -                                                                                                                                       | 95.4% / -                                                                                                                                       |
| Feed In Power Threshold                                                                                       | 24.0 W                                                                                                                                          | 24.0 W                                                                                                                                          |
| Stand-by Consumption                                                                                          | < 8.0 W <sup>(3)</sup>                                                                                                                          | < 8.0 W <sup>(3)</sup>                                                                                                                          |
| <b>Communication</b>                                                                                          |                                                                                                                                                 |                                                                                                                                                 |
| Wired Local Monitoring                                                                                        | PVI-USB-RS232_485 (opt.), PVI-DESKTOP (opt.)                                                                                                    | PVI-USB-RS232_485 (opt.), PVI-DESKTOP (opt.)                                                                                                    |
| Remote Monitoring                                                                                             | PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)                                                                                                     | PVI-AEC-EVO (opt.), AURORA-UNIVERSAL (opt.)                                                                                                     |
| Wireless Local Monitoring                                                                                     | PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)                                                                                                  | PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)                                                                                                  |
| User Interface                                                                                                | Graphic display                                                                                                                                 | Graphic display                                                                                                                                 |
| <b>Environmental</b>                                                                                          |                                                                                                                                                 |                                                                                                                                                 |
| Ambient Temperature Range                                                                                     | -25...+60°C (-13...+ 140°F) with derating above 45°C (113°F)                                                                                    |                                                                                                                                                 |
| Relative Humidity                                                                                             | 0...100 % condensing                                                                                                                            | 0...100 % condensing                                                                                                                            |
| Noise Emission                                                                                                | < 50 dB(A) @ 1 m                                                                                                                                | < 50 dB(A) @ 1 m                                                                                                                                |
| Maximum Operating Altitude without Derating                                                                   | 2000 m / 6560 ft                                                                                                                                | 2000 m / 6560 ft                                                                                                                                |
| <b>Physical</b>                                                                                               |                                                                                                                                                 |                                                                                                                                                 |
| Environmental Protection Rating                                                                               | IP 65                                                                                                                                           | IP 65                                                                                                                                           |
| Cooling                                                                                                       | Natural                                                                                                                                         | Natural                                                                                                                                         |
| Dimension (H x W x D)                                                                                         | 518mm x 367mm x 161mm / 20.4" x 14.4" x 6.3"                                                                                                    | 518mm x 367mm x 161mm / 20.4" x 14.4" x 6.3"                                                                                                    |
| Weight                                                                                                        | < 17 kg / 37.4 lb                                                                                                                               | < 17 kg / 37.4 lb                                                                                                                               |
| Mounting System                                                                                               | Wall bracket                                                                                                                                    | Wall bracket                                                                                                                                    |
| <b>Safety</b>                                                                                                 |                                                                                                                                                 |                                                                                                                                                 |
| Isolation Level                                                                                               | HF transformer                                                                                                                                  | HF transformer                                                                                                                                  |
| Marking                                                                                                       | CE                                                                                                                                              | CE                                                                                                                                              |
| Safety and EMC Standard                                                                                       | EN 50178, AS/NZS3100, AS/NZS 60950, EN61000-6-1, EN61000-6-3, EN61000-3-11, EN61000-3-12                                                        | EN 50178, AS/NZS3100, AS/NZS 60950, EN61000-6-1, EN61000-6-3, EN61000-3-11, EN61000-3-12                                                        |
| Grid Standard                                                                                                 | Enel Guideline (CEI 0-21 + Attachment A70 Terna) <sup>(6)</sup> , VDE 0126-1-1, VDE-AR-N 4105 <sup>(7)</sup> , G83/1, EN 50438, RD1663, AS 4777 | Enel Guideline (CEI 0-21 + Attachment A70 Terna) <sup>(6)</sup> , VDE 0126-1-1, VDE-AR-N 4105 <sup>(7)</sup> , G83/1, EN 50438, RD1663, AS 4777 |
| <b>Available Products Variants</b>                                                                            |                                                                                                                                                 |                                                                                                                                                 |
| Standard                                                                                                      | UNO-2.0-I-OUTD                                                                                                                                  | UNO-2.5-I-OUTD                                                                                                                                  |
| With DC Switch                                                                                                | UNO-2.0-I-OUTD-S                                                                                                                                | UNO-2.5-I-OUTD-S                                                                                                                                |

- The AC voltage range may vary depending on specific country grid standard
- The Frequency range may vary depending on specific country grid standard
- Night time consumption < 0.6W
- Limited to 2000 W for Germany
- Limited to 2500 W for Germany
- Since their applicability dates, limited to plant power  $\leq 3kW$
- Limited to plant power  $\leq 3.68 kVA$

Remark. Features not specifically listed in the present data sheet are not included in the product