

ABB residential inverters UNO-2.0/3.0-TL-OUTD 2.0kVA to 3.0kVA



ABB broadens its family of industry leading string inverters with a line of affordable small residential inverters.

The new UNO- 2.0 and 3.0 inverters are single-phase, transformerless units engineered to be lighter in weight, quieter operations and smaller in size to fit smaller residential applications.

Grid management features

Equipped with sophisticated grid management features like dynamic reactive control (Volt/VAR control), fixed power factor and power curtailment; this inverter can better support the grid variability and instability. It also offers extended voltage and frequency ride-through to better manage faults because of voltage and frequency fluxuations.

Highlights

- Integrated DC disconnect and wiring box saves installation time and costs.
- Wide DC input voltage range of 180-500V.
- Accommodates up to two parallel PV strings.
- Type 4X enclosure rating accommodates the most extreme environmental conditions and increasing the flexibility of installation location.
- The high-speed MPPT algorithm enables real-time power tracking and then maximizes energy harvest.

Additional highlights

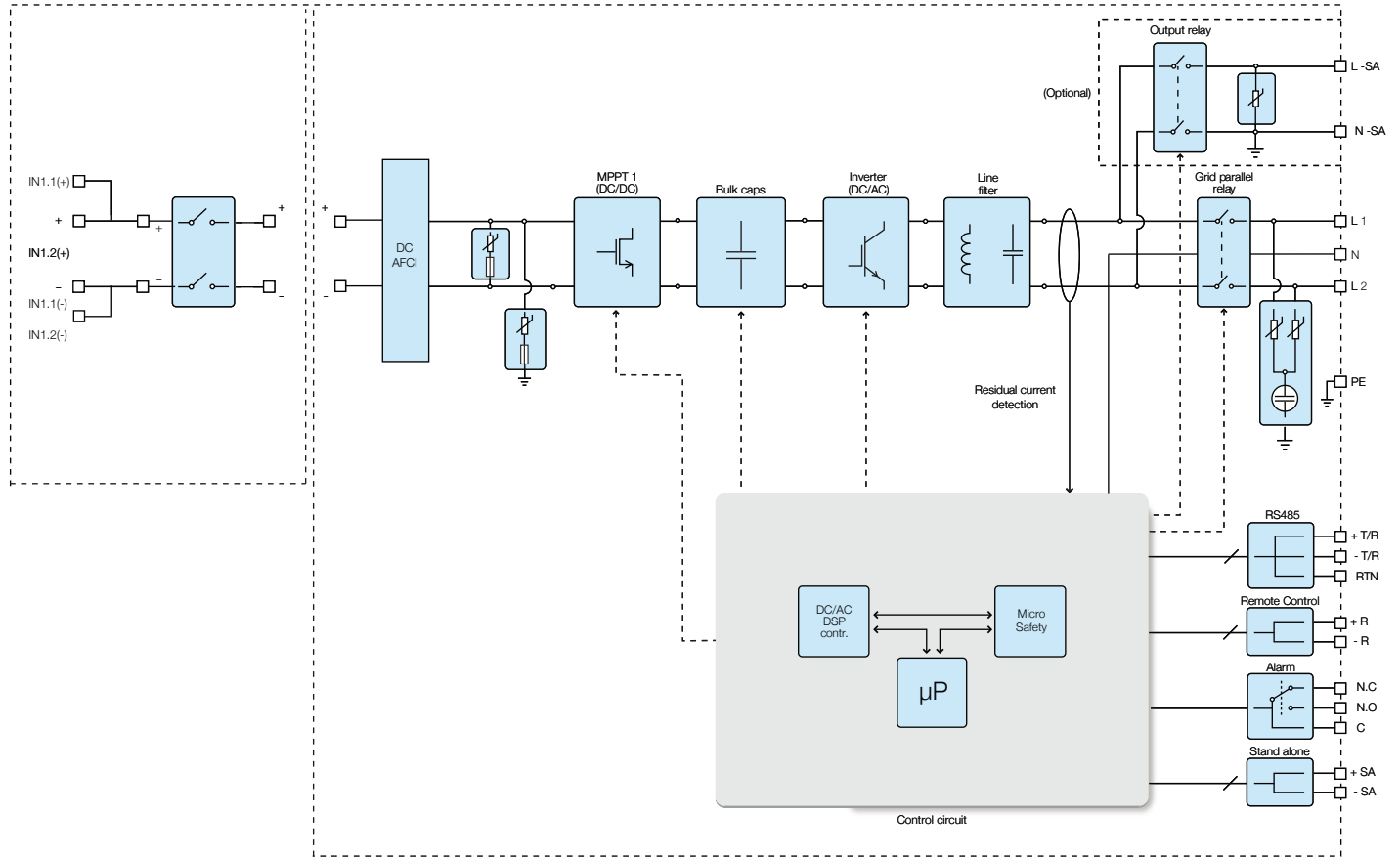
- RS-485 communication interface (for connection to laptop or data logger)
- Available with the optional VSN300 Wifi Logger Card for easy and affordable wireless monitoring
- Compliant with NEC 690.12 when used with ABB's Rapid Shutdown device



Technical data and types (preliminary)

Type code	UNO-2.0-TL-OUTD-S-US-A				UNO-3.0-TL-OUTD-S-US-A			
General Specifications								
Nominal Output Power	2000W				3000W			
Maximum output power	2000W				3000W			
Rated grid AC voltage	208V		240V		208V		240V	
Input side (DC)								
Number of independent MPPT channels	1				1			
Maximum usable power for each channel	2200W				3200W			
Absolute maximum voltage (Vmax)	600V				600V			
Start-up voltage (Vstart)	150V (Adj. 100-300V)				150V (Adj. 100-300V)			
Full power MPPT voltage range	180-500V				180-500V			
Operating MPPT voltage range	0.7*Vstart - 580V (≥ 80V)				0.7*Vstart - 580V (≥ 80V)			
Maximum current (Idcmax)	12.5A				18A			
Maximum short circuit current per channel	15A				22A			
Number of wire landing terminals	2 pairs, capable of connecting two parallel strings.							
Array wiring termination	Terminal block, pressure clamp, AWG20-6							
Output side (AC)								
Grid connection type	1Ø/2W		Split-Ø/3W		1Ø/2W		Split-Ø/3W	
Adjustable voltage range (Vmin-Vmax)	183-228V		211-264V		183-228V		211-264V	
Grid frequency	60Hz	60Hz	60Hz	60Hz	60Hz	60Hz	60Hz	60Hz
Adjustable grid frequency range	53-65Hz		53-65Hz		53-65Hz		53-65Hz	
Maximum current (Iac,max)	10A		9A		15A		13A	
Power factor	>0.995, adj. ±0.8 at 2000VA				>0.995, adj. ±0.8 at 3000VA			
Total harmonic distortion at rated power	<3%				<3%			
Contributory fault current	17.4A				17.4A			
Grid wiring termination type	Terminal block, pressure clamp, AWG20-4							
Input protections								
Reverse polarity protection	Yes, from limited current source							
Over-voltage protection type	Varistor							
PV array ground fault detection	Pre start-up RISO and dynamic GFDI							
Output protections								
Anti-islanding protection	Meets UL1741 / IEEE1547 requirements							
Over-voltage protection type	Varistor, 2 (L1 - L2 / L1 - G)							
Maximum AC OCPD rating	15A				20A			
Efficiency								
Maximum efficiency	97.3%				97.3%			
CEC efficiency	96.5%				96.5%			
Operating performance								
Stand-by consumption	10W				10W			
Nighttime consumption	< 0.1W				< 0.1W			
Communication								
User-interface	16 characters x 2 lines LCD display							
Remote monitoring	(1xRS485 incl.) VSN700 Data Logger (opt.), VSN300 Wifi Logger Card (opt.)							

Block Diagram of UNO-2.0/3.0-TL



Technical data and types (preliminary)

Type code	UNO-2.0-TL-OUTD-S-US-A	UNO-3.0-TL-OUTD-S-US-A
Environmental		
Ambient air operating temperature range	-13°F to +140°F (-20°C to +60°C) with derating above 113°F (45°C)	
Relative humidity	0-100% RH condensing	
Acoustic noise emission level	< 50 db (A) @1m < 50 db (A) @1m (preliminary)	
Maximum operating altitude without derating	6560ft (2000m)	
Mechanical specifications		
Enclosure rating	Type 4X	
Cooling	Natural convection	
Dimensions H x W x D	34.0 x 16.4 x 8.6in (863 x 418 x 218mm) ²	
Weight	33lb (15kg) ²	
Shipping weight	TBD	
Mounting system	Wall bracket	
Conduit connections ²	Bottom: Markings for (2) Concentric KOs 1", 3/4" and (2) KOs 1/2" Sides: Markings for Concentric KOs 1", 3/4" Rear: Markings for (2) Concentric KOs 1", 3/4"	
DC switch rating (per contact)	25A/600V	
Safety and Compliance		
Isolation level	Transformerless (floating array)	
Safety and EMC standard	UL1741, UL1741SA (draft), IEEE1547, IEEE1547.1, CSA-C22.2 N. 107.1-01, UL1998 UL 1699B, FCC Part 15 Class B	
Safety approval	TUV _{US}	
Regional Compliance	Rule 21, HECO, NEC 2014 690.11, NEC 690.12 with ABB Rapid Shutdown device	
Available models		
Standard - with DC switch, wiring box and Arc fault circuit interruption	UNO-2.0-TL-OUTD-S-US-A	UNO-3.0-TL-OUTD-S-US-A

Support and service

ABB supports its customers with a dedicated, global service organization in more than 60 countries, with strong regional and national technical partner networks providing a complete range of life cycle services.

For more information please contact your local ABB representative or visit:

www.abb.com/solarinverters

www.abb.com

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This inverter is marked with the certification mark shown here (TuV).

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