

SOLAR INVERTERS

ABB string inverters

UNO-2.0/2.5-I-OUTD

2 to 2.5 kW



The UNO-2.0/2.5-I is packed with ABB's proven high performing technology.

This product is the right size for the average rooftop installation.

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UNO-2.0/2.5-I-OUTD
outdoor string inverter

The high speed and precise Maximum Power Point Tracking (MPPT) algorithm enables more real-time power tracking and improved energy harvesting.

Efficiency of up to 96.3%

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.

In addition to its look, this inverter has features including a special built-in heat sink compartment and front panel display system.

This rugged outdoor inverter has been designed as a completely sealed unit to withstand the harshest environmental conditions.

Highlights

- Single-phase output
- High frequency isolated topology
- Each inverter is set on specific grid codes which can be selected in the field
- Wide input voltage range
- Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable performance across the entire input voltage and output power range
- Natural convection cooling for maximum reliability
- Outdoor enclosure for unrestricted use under any environmental conditions
- RS-485 communication interface (for connection to laptop or datalogger)

ABB string inverters

UNO-2.0/2.5-I-OUTD

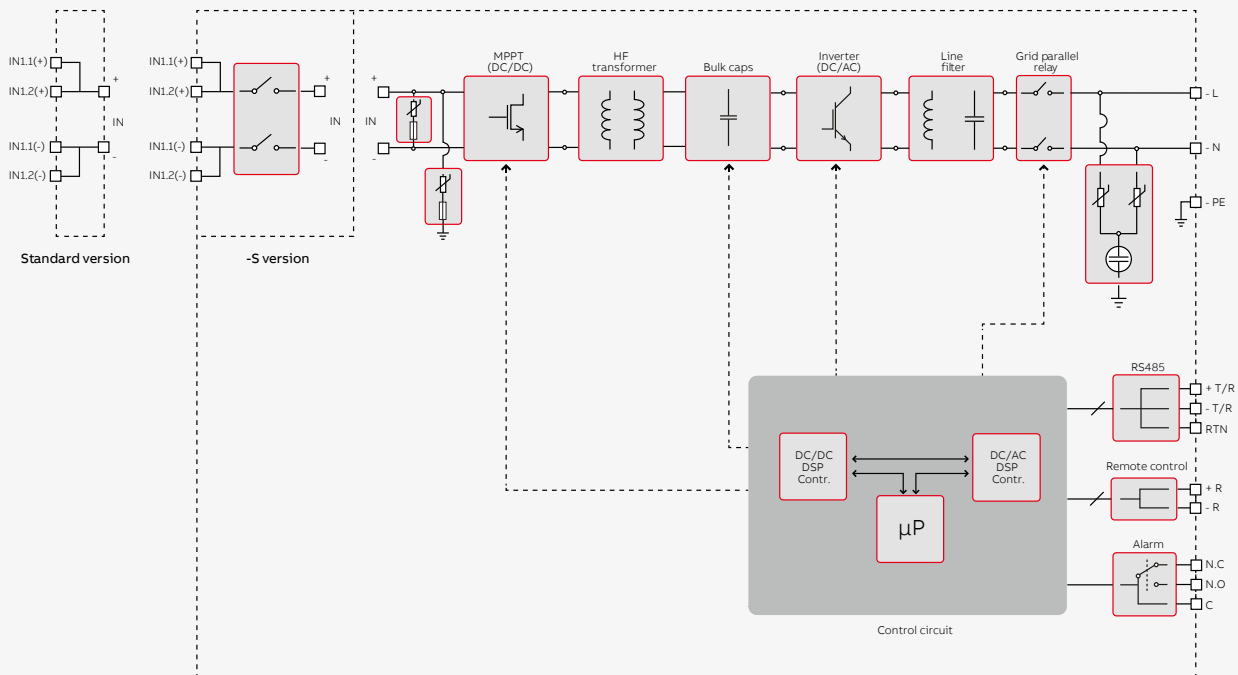
2 to 2.5 kW



Technical data and types

Type code	UNO-2.0-I-OUTD	UNO-2.5-I-OUTD
Input side		
Absolute maximum DC input voltage ($V_{max,abs}$)	520 V	
Start-up DC input voltage (V_{start})	200 V (adj. 120...350 V)	
Operating DC input voltage range ($V_{dcmin}...V_{dcmax}$)	0.7 x $V_{start}...520$ V (min 90 V)	
Rated DC input voltage (V_{dcr})	360 V	
Rated DC input power (P_{dcr})	2100 W	2600 W
Number of independent MPPT	1	
Maximum DC input power for each MPPT ($P_{MPPTmax}$)	2300 W Linear derating from max to null [470 V ≤ V_{MPPT} ≤ 520 V]	2900 W Linear derating from max to null [470 V ≤ V_{MPPT} ≤ 520 V]
MPPT input DC voltage range ($V_{MPPTmin} ... V_{MPPTmax}$) at P_{acr}	200...470 V	
Maximum DC input current (I_{dcmax}) / 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	
Number of DC input pairs for each MPPT	2	
DC connection type	PV quick fit connector ³⁾	
Input protection		
Reverse polarity protection	Yes, from limited current source	
Input over voltage protection for each MPPT - varistor	Yes	
Photovoltaic array isolation control	According to local standard	
DC switch rating for each MPPT (version with DC switch)	16 A / 600 V	
Output side		
AC grid connection type	Single-phase	
Rated AC power ($P_{acr}@cos\phi=1$)	2000 W	2500 W
Maximum AC output power ($P_{acmax}@cos\phi=1$)	2200 W ⁵⁾	2750 W ⁶⁾
Rated AC grid voltage ($V_{ac,r}$)	230 V	
AC voltage range	180...264 V ¹⁾	
Maximum AC output current ($I_{ac,max}$)	10.5 A	12.5 A
Contributory fault current	16.0 A	
Rated output frequency (f_r)	50 Hz / 60 Hz	
Output frequency range ($f_{min}...f_{max}$)	47...53 Hz / 57...63 Hz ²⁾	
Nominal power factor and adjustable range	> 0.990 ⁸⁾	
Total current harmonic distortion	< 2%	
AC connection type	Screw terminal block, cable gland M25	
Output protection		
Anti-islanding protection	According to local standard	
Maximum external AC overcurrent protection	16.0 A	
Output overvoltage protection - varistor	2 (L - N / L - PE)	

ABB UNO-2.0/2.5-I-OUTD string inverter block diagram



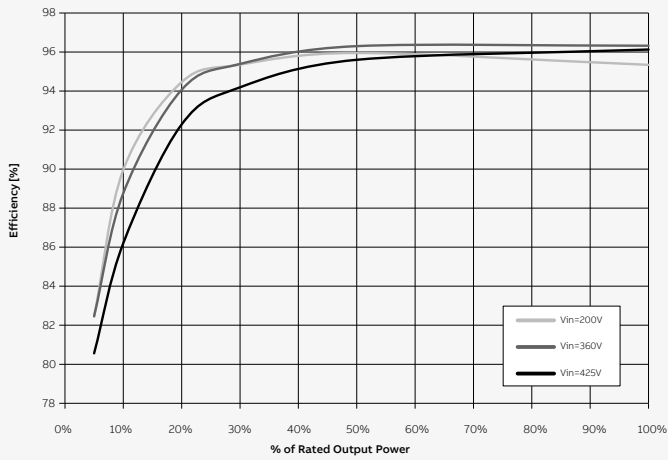
Technical data and types

Type code	UNO-2.0-I-OUTD	UNO-2.5-I-OUTD
Operating performance		
Maximum efficiency (η_{max})	96.3%	
Weighted efficiency (EURO/CEC)	95.1% / -	95.4% / -
Feed in power threshold	24.0 W	
Night consumption	< 0.6 W ⁴⁾	
Communication		
Wired local monitoring	PVI-USB-RS232_485 (opt.)	
Remote monitoring	VSN300 Wifi Logger Card (opt.), VSN700 Data Logger (opt.)	
Wireless local monitoring	VSN300 Wifi Logger Card (opt.)	
User interface	Graphic display	
Environmental		
Ambient temperature range	-25...+60°C (-13...+140°F) with derating above 50°C (122°F)	-25...+60°C (-13...+140°F) with derating above 45°C (113°F)
Relative humidity	0...100% condensing	
Sound pressure level, typical	50 dBA @ 1 m	
Maximum operating altitude without derating	2000 m / 6560 ft	
Physical		
Environmental protection rating	IP65	
Cooling	Natural	
Dimension (H x W x D)	518 mm x 367 mm x 161 mm / 20.4" x 14.4" x 6.3"	
Weight	< 17 kg / 37.4 lbs	
Mounting system	Wall bracket	
Safety		
Isolation level	HF transformer	
Marking	CE (50 Hz only), RCM	
Safety and EMC standard	EN 50178, IEC/EN 62109-1, IEC/EN 62109-2, AS/NZS 3100, AS/NZS 60950.1, EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3	
Grid standard (check your sales channel for availability)	DIN V VDE V 0126-1-1, VDE-AR-N 4105 ⁵⁾ , G83/2, EN 50438 (not for all national appendices), RD 1699, RD 413, AS 4777, C10/11, IEC 61727, IEC 62116	
Available products variants		
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

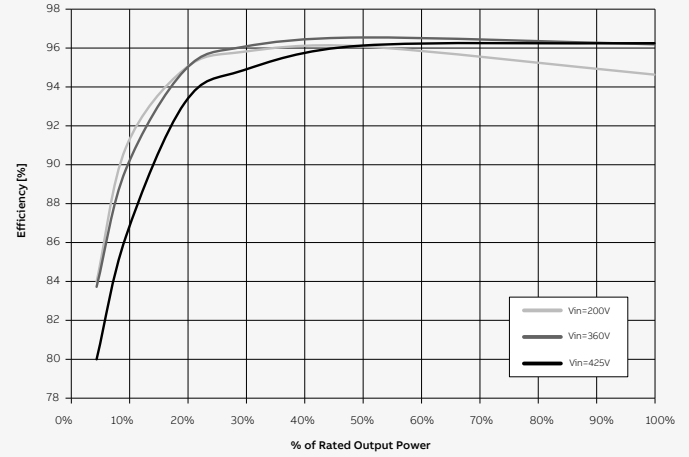
¹⁾ The AC voltage range may vary depending on specific country grid standard
²⁾ The Frequency range may vary depending on specific country grid standard
³⁾ Please refer to the document "String inverters – Product manual appendix" available at www.abb.com/solarinverters for information on the quick-fit connector brand and model used in the inverter
⁴⁾ Stand-by consumption < 8.0 W

⁵⁾ Limited to 2000 W for Germany
⁶⁾ Limited to 2500 W for Germany
⁷⁾ Limited to plant power ≤ 3.68 kVA
⁸⁾ The unit has not reactive power capability
Remark. Features not specifically listed in the present data sheet are not included in the product

Efficiency curves of UNO-2.0-I-OUTD



Efficiency curves of UNO-2.5-I-OUTD



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

www.abb.com/solarinverters
www.abb.com

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