ABB string inverters
UNO-2.0/2.5-I-OUTD
2 to 2.5 kW

The UNO-2.0-I and UNO-2.5-I are packed with ABB's proven high performing technology. The smallest of ABB's outdoor range, these products are the right size for the average rooftop installation.

The high speed and precise 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 new look, this inverter has new 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

Power and productivity
for a better world™
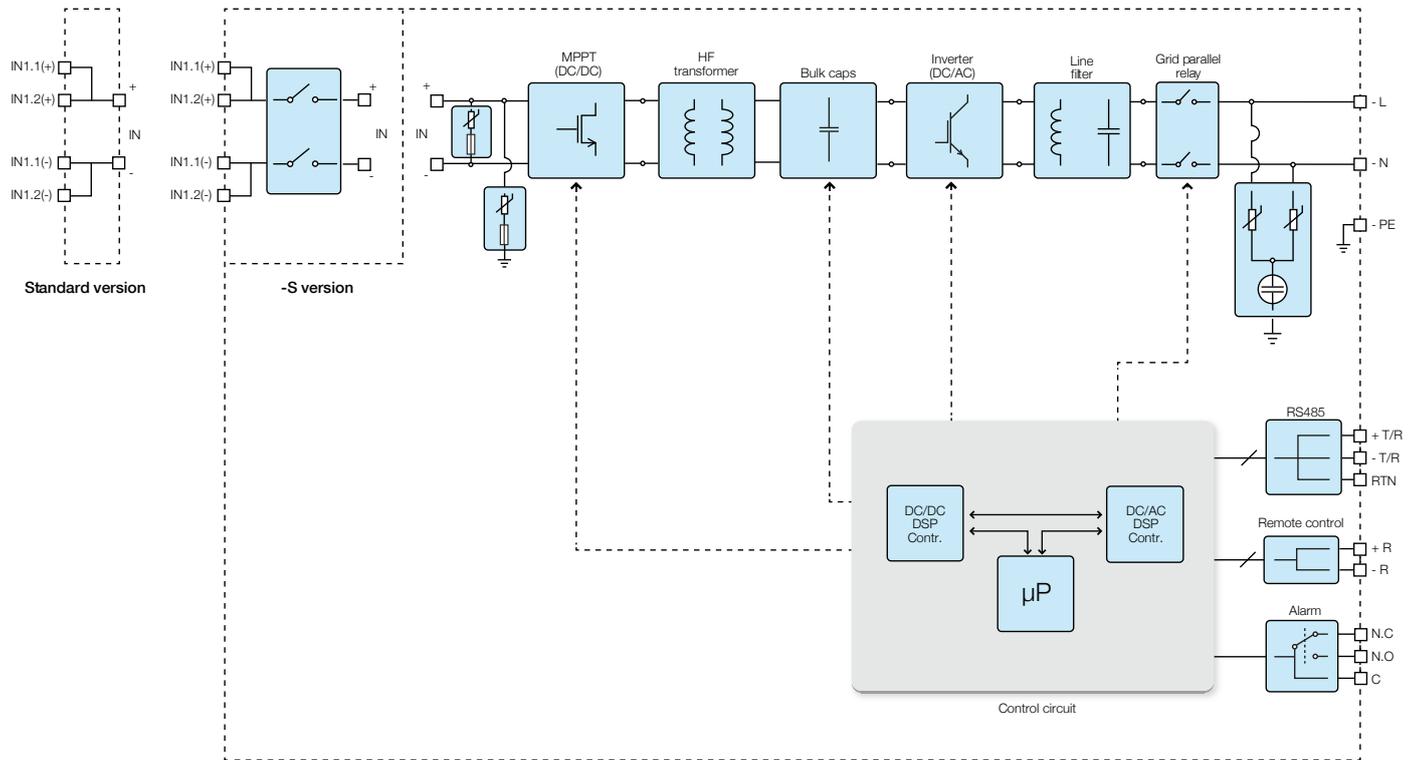
ABB

Additional highlights

- Natural convection cooling for maximum reliability
- Outdoor enclosure for unrestricted use under any environmental conditions
- RS-485 communication interface (for connection to laptop or data logger)

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	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 inputs pairs for each MPPT	2	
DC connection type	Tool Free PV connector WM / MC4	
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} @cosφ=1)	2000 W	2500 W
Maximum AC output power (P_{acmax} @cosφ=1)	2200 W [4]	2750 W [5]
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)	

Block diagram of UNO-2.0/2.5-I-OUTD

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 [3]	
Communication		
Wired local monitoring	PVI-USB-RS232_485 (opt.)	
Remote monitoring	VSN300 Wifi Logger Card (opt.), PVI-AEC-EVO (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	IP 65	
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)	CEI 0-21[6], DIN V VDE V 0126-1-1, VDE-AR-N 4105[7], G83/2, EN 50438 (not for all national appendices), RD 1699, RD 413, AS 4777.2, AS 4777.3, 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] Stand-by consumption < 8.0 W

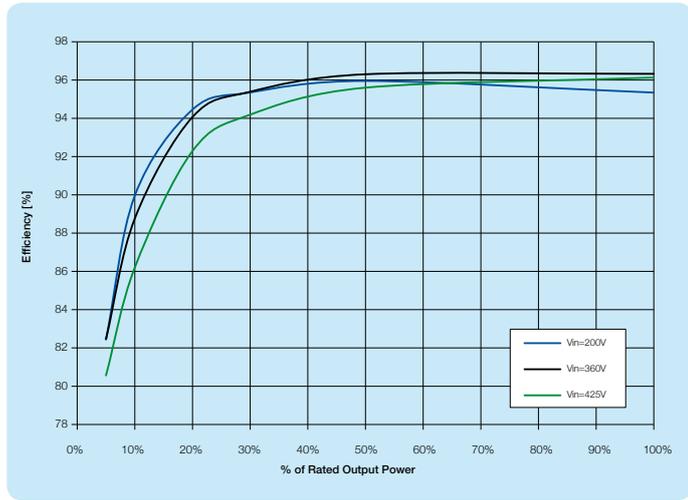[4] Limited to 2000 W for Germany

[5] Limited to 2500 W for Germany

[6] Limited to plant power ≤3 kW

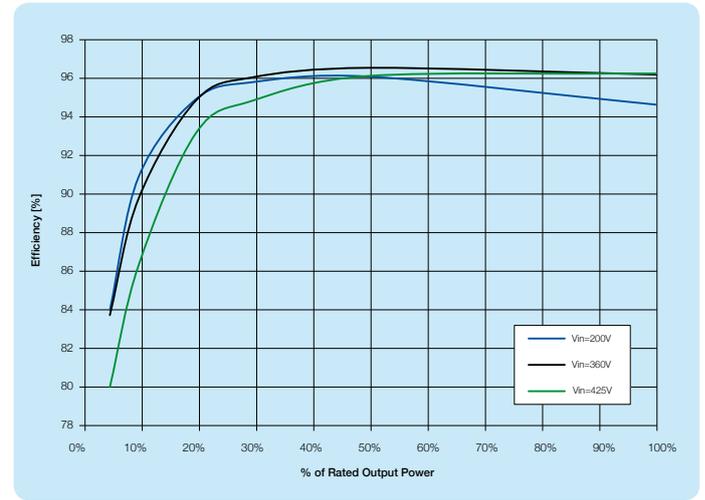[7] Limited to plant power ≤3.68 kVA

[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

Support and service

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

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

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