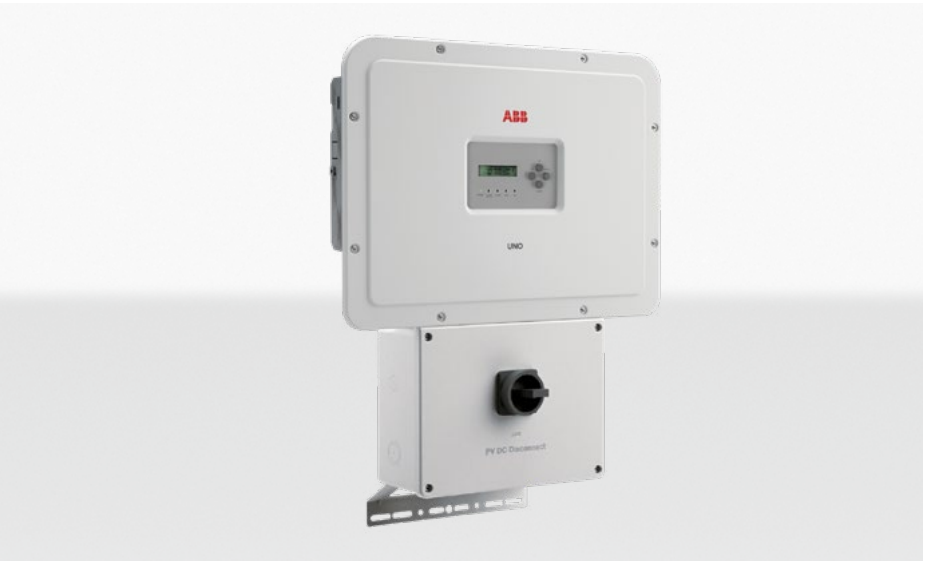
SOLAR INVERTERS

ABB string inverters

UNO-DM-6.0-TL-PLUS-US
6 kW



The new UNO-DM-PLUS single-phase inverter is an upgrade of the proven UNO family and is an optimal solution for residential installations.

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UNO-DM-6.0-TL-PLUS-US
outdoor string inverter

The new design wraps ABB's quality and engineering into a light weight and compact package thanks to technological choices optimized for installations with different orientation.

Easy and fast to install
The wireless communication, enables a simple, fast and safe installation without the need of opening the front cover of the inverter.

Connectivity and smart building integration
- Embedded WLAN communication assures an advanced and cost effective solution for the control and monitoring of the plant, without the need of further components
- Integrated load manager for control of energy consumption
- The integrated web server enables full access to all configuration and commissioning parameters from any electronic device (laptop, tablet and smartphone)
- Native Modbus Sunspec allows integration in smart environments with third party systems
- Self-commissioning routine removes need for manual configuration process, resulting in lower installation time and costs

Highlights
- WLAN communication with integrated web server
- Future proof with embedded connectivity and smart building integration
- New design based on decades of industry experience and proven technology
- Native Modbus SunSpec protocol
- Remote firmware upgrade for inverter and components
- Dual input section with independent MPPT, allows optimal energy harvesting from two sub-arrays oriented in different directions

ABB string inverters

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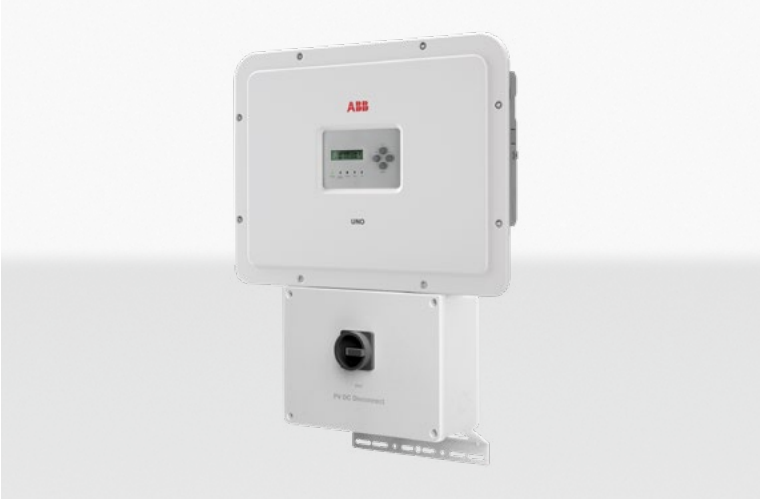

Technical data and types

Type code		UNO-DM-6.0-TL-PLUS-US
General specifications		
Rated grid AC voltage (V_{ACr})	208 V	240 V
Nameplate Apparent Power (S_{max})	6650 VA	6650 VA
Nameplate Output Active Power (P_{max} @ cosϕ=1)	6000 W	6000 W
P_{RATED}: Output Active Power @V_{ACr} and cosϕ=±0,9	6000 W	6000 W
Input side (DC)		
Number of independent MPPT channels	2	2
Maximum usable power for each channel	4000 W	4000 W
Absolute maximum voltage (V_{max})	600 V	600 V
Start-up voltage (V_{start})	200 V (Adj. 120-350 V)	200 V (Adj. 120-350 V)
Full power MPPT voltage range with parallel MPPT configuration at P_{acr}	160-480 V	160-480 V
Operating MPPT voltage range	0.7*Vstart - 580 V (≥ 90)	0.7*Vstart - 580 V (≥ 90)
Maximum usable current per channel	20 A	20 A
Maximum current (I_{dcmax})	40 A	40 A
Maximum short circuit current per channel	24 A	24 A
Output side (AC)		
Grid connection type	1Φ/2W	Split-Φ/3W
Adjustable voltage range (V_{min}-V_{max})	183-228 V	211-264 V
Grid frequency	60 Hz	60 Hz
Adjustable grid frequency range	50-64 Hz	50-64 Hz
Maximum current ($I_{ac,max}$)	30 A	30 A
Power factor	>0.995, adj. +/-0.8	>0.995, adj. +/-0.8
Total harmonic distortion at rated power	<2 %	<2 %
Contributory fault current	40 Arms; 100 ms	40 Arms; 100 ms
Grid wiring termination type	Terminal block, pressure clamp, AWG20-6	Terminal block, pressure clamp, AWG20-6
Input protections		
Reverse polarity protection	Yes, from limited current source	Yes, from limited current source
Over-voltage protection type	Varistor	Varistor
PV array ground fault detection	Pre start-up RISO and dynamic GFDI	Pre start-up RISO and dynamic GFDI
Output protections		
Anti-islanding protection	Meets UL1741 / IEEE1547 requirements	Meets UL1741 / IEEE1547 requirements
Over-voltage protection type	Varistor, 2 (L1 - L2 / L1 - G)	Varistor, 2 (L1 - L2 / L1 - G)
Maximum AC OCPD rating	40 A	40 A
Efficiency		
Maximum efficiency	97.4 %	97.4 %
CEC efficiency	96.5 %	97 %
Operating performance		
Stand-by consumption	<8 W_{RMS}	<8 W_{RMS}
Nighttime consumption	<0.6 W_{RMS}	<0.6 W_{RMS}

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Technical data and types

Type code	**UNO-DM-6.0-TL-PLUS-US**
Auxiliary Output	
Isolated Auxiliary Power Supply [1]	24 V, 0.4 A max
Embedded Communication	
Embedded Communication Interface	Wireless [2]
Embedded Communication Protocol	ModBus TCP (SunSpec)
Commissioning Tool	Web User Interface, Display, Aurora Manger Lite
Monitoring	Plant Portfolio Manager, Plant Viewer, Plant Viewer for Mobile
Optional board UNO-DM-COM kit	
Optional Communication Interface	RS485 (use with meter for dynamic feed-in control), Alarm/Load manager relay, Remote ON/OFF
Optional Communication Protocol	ModBus RTU (SunSpec), Aurora Protocol
Optional board UNO-DM-PLUS Ethernet COM kit	
Optional Communication Interface	Ethernet, RS485 (use with meter for dynamic feed-in control), Alarm/Load manager relay, Remote ON/OFF
Optional Communication Protocol	ModBus TCP (SunSpec), ModBus RTU (SunSpec), Aurora Protocol
Environmental	
Ambient air operating temperature range	-25...+60°C /-13...140°F (derating above 45°C/113°F)
Relative humidity	5-100% RH condensing
Maximum operating altitude without derating	6560 ft (2000 m)
Mechanical specifications	
Enclosure rating	Type 4X
Cooling	Natural convection
Dimensions H x W x D	28.6 x 21.7 x 7in [3]
Weight	47lb [3]
Mounting system	Wall bracket
Conduit connections	Bottom: Markings for (2) Concentric KOs 1”, 3/4” and (2) KOs 1/2” Sides: Markings for Concentric KOs 1”, 3/4”
DC switch rating	32A - 600 V
Safety	
Isolation level	Transformerless (floating array)
Safety and EMC standard	UL1741, IEEE1547.1, CSA-C22.2 N. 107.1-01, UL1998, UL 1699B, FCC Part 15 Class B
Grid standard	UL 1741 SA, IEEE 1547, Rule 21, Rule 14 (HI)
Safety approval	CTUVUS
Available models	
Model with DC switch, wiring box, AFD, RSD supply output	UNO-DM-6.0-TL-PLUS-US-SB-RA
Model with DC switch, wiring box, AFD, RSD supply output	UNO-DM-6.0-TL-PLUS-US-SZ-RA

[1] The auxiliary output is used to supply the RSD contactors when required.
Each inverter can power up to 6 single channel RSDs or up to 3 dual channel RSDs

[2] WLAN IEEE 802.11 b/g/n @2,4GHz

[3] When equipped with DC switch and wiring box.

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

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

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

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