

SOLAR INVERTERS

## ABB string inverters

UNO-DM-6.0-TL-PLUS-US

6 kW



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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

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

- 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

## UNO-DM-6.0-TL-PLUS-US

### 6 kW



#### Technical data and types

Type code	UNO-DM-6.0-TL-PLUS-US	
<b>General specifications</b>		
Rated grid AC voltage ( $V_{ACr}$ )	208 V	240 V
Nameplate Apparent Power ( $S_{max}$ )	6650 VA	6650 VA
Nameplate Output Active Power ( $P_{max}$ @ $\cos\phi=1$ )	6000 W	6000 W
$P_{RATED}$ : Output Active Power @ $V_{ACr}$ and $\cos\phi=\pm 0,9$	6000 W	6000 W
<b>Input side (DC)</b>		
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* $V_{start}$ - 580 V ( $\geq 90$ )	0.7* $V_{start}$ - 580 V ( $\geq 90$ )
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
<b>Output side (AC)</b>		
Grid connection type	1 $\Phi$ /2W	Split- $\Phi$ /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
<b>Input protections</b>		
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
<b>Output protections</b>		
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
<b>Efficiency</b>		
Maximum efficiency	97.4 %	97.4 %
CEC efficiency	96.5 %	97 %
<b>Operating performance</b>		
Stand-by consumption	<8 W <sub>RMS</sub>	<8 W <sub>RMS</sub>
Nighttime consumption	<0.6 W <sub>RMS</sub>	<0.6 W <sub>RMS</sub>

**Technical data and types**

<b>Type code</b>	<b>UNO-DM-6.0-TL-PLUS-US</b>
<b>Auxiliary Output</b>	
Isolated Auxiliary Power Supply <sup>1)</sup>	24 V, 0.4 A max
<b>Embedded Communication</b>	
Embedded Communication Interface	Wireless <sup>2)</sup>
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
<b>Optional board UNO-DM-COM kit</b>	
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
<b>Optional board UNO-DM-PLUS Ethernet COM kit</b>	
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
<b>Environmental</b>	
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)
<b>Mechanical specifications</b>	
Enclosure rating	Type 4X
Cooling	Natural convection
Dimensions H x W x D	28.6 x 21.7 x 7in <sup>3)</sup>
Weight	47lb <sup>3)</sup>
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
<b>Safety</b>	
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
<b>Available models</b>	
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

<sup>1)</sup> 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

<sup>2)</sup> WLAN IEEE 802.11 b/g/n @2,4GHz

<sup>3)</sup> When equipped with DC switch and wiring box.

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

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

**[www.abb.com/solarinverters](http://www.abb.com/solarinverters)**  
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