

UNO-DM-PLUS:

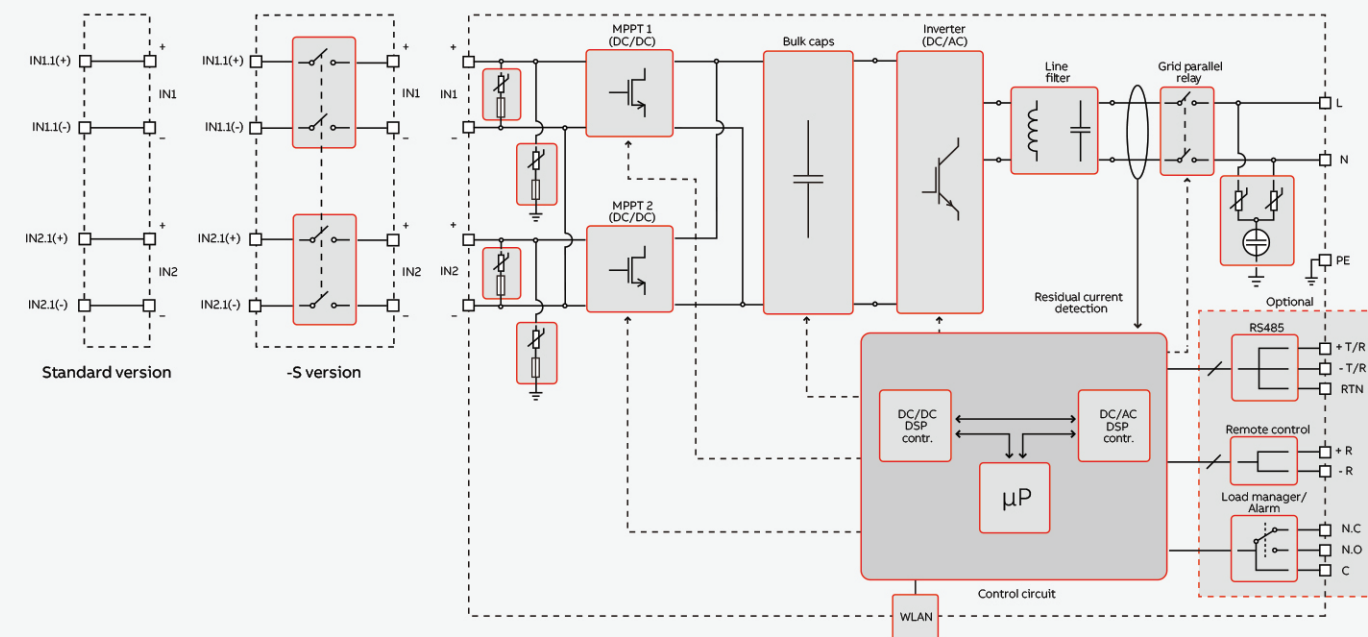
Efficient, connected, smart.



Technical data and types

Type code	UNO-DM-4.0-TL-PLUS	UNO-DM-4.6-TL-PLUS	UNO-DM-5.0-TL-PLUS
Input side			
Absolute maximum DC input voltage ($V_{max,abs}$)	600 V		
Start-up DC input voltage (V_{start})	200 V (adj. 120...350 V)		
Operating DC input voltage range ($V_{dcrmin}...V_{dcrmax}$)	0.7 x $V_{start}...580$ V (min 90 V)		
Rated DC input voltage (V_{dcr})	360 V		
Rated DC input power (P_{dcr})	4250 W	4750 W	5150 W
Number of independent MPPT	2		
Maximum DC input power for each MPPT ($P_{MPPTmax}$)	3000 W	3000 W	3500 W
DC input voltage range with parallel configuration of MPPT at P_{acr}	130...530 V	150...530 V	145...530 V
DC power limitation with parallel configuration of MPPT	Linear derating from Max to Null [530V≤ V_{MPPT} ≤580V]		
DC power limitation for each MPPT with independent configuration of MPPT at P_{acr} , max unbalance example	3000 W [190 V≤ V_{MPPT} ≤530 V] the other channel: P_{dcr} -3000 W [90 V≤ V_{MPPT} ≤530 V]	3000 W [190 V≤ V_{MPPT} ≤530 V] the other channel: P_{dcr} -3000 W [90 V≤ V_{MPPT} ≤530 V]	3500 W [200 V≤ V_{MPPT} ≤530 V] the other channel: P_{dcr} -3500 W [90 V≤ V_{MPPT} ≤530 V]
Maximum DC input current (I_{dcrmax}) / for each MPPT ($I_{MPPTmax}$)	32.0 / 16.0 A	32.0 / 16.0 A	38.0 / 19.0 A
Maximum input short circuit current for each MPPT	20.0 / 40.0 A	20.0 / 40.0 A	22.0 / 44.0 A
Number of DC input pairs for each MPPT	1		
DC connection type ¹⁾	Quick Fit PV Connector		
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)	25 A / 600 V		
Output side			
AC grid connection type	Single-phase		
Rated AC power (P_{acr} @cosφ=1)	4000 W	4600 W	5000 W
Maximum AC output power (P_{acmax} @cosφ=1)	4000 W ²⁾	4600 W	5000 W
Maximum apparent power (S_{max})	4000 VA ²⁾	4600 VA	5000 VA
Rated AC grid voltage ($V_{ac,r}$)	230 V		
AC voltage range ³⁾	180...264 V		
Maximum AC output current ($I_{ac,max}$)	17.2 A	20.0 A	22.0 A
Contributory fault current	19.0 A	22.0 A	24.0 A
Rated output frequency (f_r) ⁴⁾	50 Hz		
Output frequency range ($f_{min}...f_{max}$) ⁴⁾	47...53 Hz		
Nominal power factor and adjustable range	> 0.995, adj. ± 0.1 - 1 (over/under excited)		
Total current harmonic distortion	< 3.5		
AC connection type	Female connector from panel		
Output protection			
Anti-islanding protection	According to local standard		
Maximum external AC overcurrent protection	25.0 A	25.0 A	32.0 A
Output overvoltage protection - varistor	2 (L - N / L - PE)		

ABB UNO-DM-3.3/4.0/4.6/5.0-TL-PLUS string inverter block diagram



Technical data and types

Type code	UNO-DM-4.0-TL-PLUS	UNO-DM-4.6-TL-PLUS	UNO-DM-5.0-TL-PLUS
Operating performance			
Maximum efficiency (η_{\max})	97.0%	97.0%	97.4%
Weighted efficiency (EURO/CEC)	96.5% / -	96.5% / -	97.0% / -
Feed in power threshold	8 W		
Night consumption	<0.4 W		
Embedded communication			
Embedded communication interface ⁵⁾	Wireless		
Embedded communication protocol	ModBus TCP (SunSpec)		
Commissioning tool	Web User Interface, Display, Aurora Manager 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 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 ⁶⁾	-25...+60°C /-13...140°F with derating above 45°C/113°F
Relative humidity	0...100 % condensing		
Acoustic noise emission level	< 50 dB (A) @ 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)	553 x 418 x 175 mm / 21.8" x 16.5" x 6.9"		
Weight	15 kg / 33 lbs		
Mounting system	Wall bracket		
Safety			
Isolation level	Transformerless		
Marking	CE , RCM		
Safety and EMC standard	IEC/EN 62109-1, IEC/EN 62109-2, AS/NZS 4777.2, EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12		
Grid standard (check your sales channel for availability) ⁷⁾	CEI 0-21, DIN V VDE V 0126-1-1, VDE-AR-N 4105, G83/2, G59/3, RD 413, ITC-BT-40, AS/NZS 4777.2, C10/11, IEC 61727, IEC 62116		
Available products variants			
Standard	UNO-DM-4.0-TL-PLUS-B	UNO-DM-4.6-TL-PLUS-B	UNO-DM-5.0-TL-PLUS-B
With DC switch	UNO-DM-4.0-TL-PLUS-SB	UNO-DM-4.6-TL-PLUS-SB	UNO-DM-5.0-TL-PLUS-SB

⁵⁾ Refer to the document "String inverter – Product Manual appendix" available at www.abb.com/solarinverters to know the brand and the model of the quick fit connector"

⁶⁾ For UK G83/2 setting, maximum output current limited to 16 A up to a maximum output Pacr of 3600 W and a maximum apparent power of 3600 VA

⁷⁾ The AC voltage range may vary depending on specific country grid standard

⁸⁾ The Frequency range may vary depending on specific country grid standard

⁵⁾ As per IEEE 802.11 b/g/n standard

⁶⁾ Pacr = 4200 W @ 45°C/113°F

⁷⁾ Further grid standard will be added, please refer to ABB Solar page for further details
Remark. Features not specifically listed in the present data sheet are not included in the product