FIMER



Solar inverter UNO-DM-1.2/2.0/3.0 TL-PLUS-Q

The UNO-DM-TL-PLUS-Q single-phase inverter family, with power ratings from 1.2 to 3.0 kW, is the optimal solution for residential installations.

From 1.2 to 3.0 kW

One size fits all
The design wraps FIMER's quality and engineering into a light-weight and compact package thanks to technological choices optimized for installations with a uniform orientation.

All power ratings share the same overall volume, allowing higher performance in a minimum space, and are available with single Maximum Power Point Trackers.

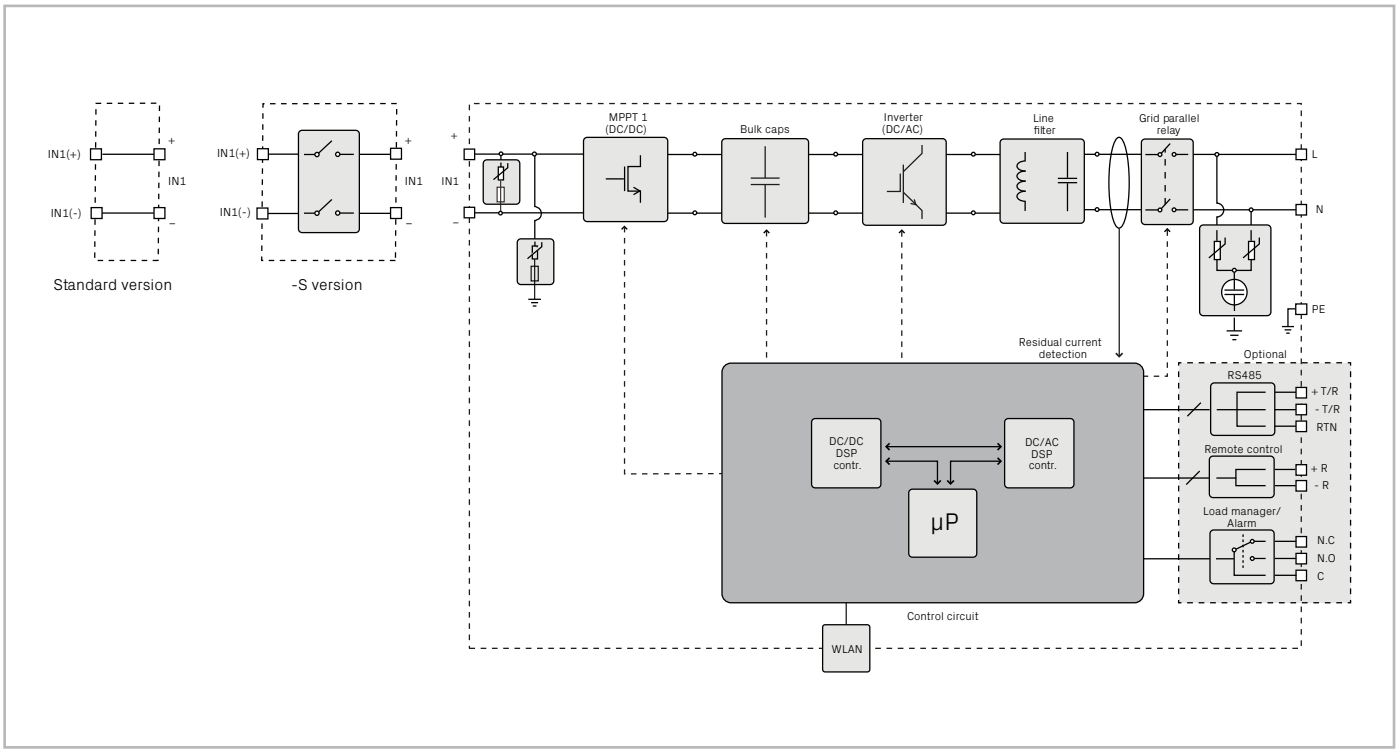
Easy to install, fast to commission
The presence of Plug and Play connectors, both on the DC and AC side, as well as the wireless communication, enable a simple, fast and safe installation without the need of opening the front cover of the inverter.
The featured easy commissioning routine removes the need for a long configuration process, resulting in lower installation time and costs.
Improved user experience thanks to the build in User Interface (UI) which enables access to features such as advanced inverter configuration settings, dynamic feed-in control and load manager, from any WLAN enabled device (smartphone, tablet or PC).

Smart capabilities
The embedded logging capabilities and direct transferring of the data to Internet (via Ethernet or WLAN) allow customers to enjoy the whole Aurora Vision remote monitoring experience.
The advanced communication interfaces (WLAN, Ethernet, RS485) combined with an efficient Modbus (RTU/TCP) communication protocol, Sunspec compliant, allow the inverter to be easily integrated within any smart environment and with third party monitoring and control systems.
A complete set of control functions with the embedded efficient algorithm, enabling dynamic control of the feed-in (i.e. zero injection), make the inverter suitable for worldwide applications in compliance with regulatory norms and needs of the utilities.

Energy Viewer
This new tool allows residential customers to remotely monitor the performance of their own solar plant and provides all information necessary to increase energy self-reliance and self-sufficiency.

Highlights
- Wireless access to the embedded Web User Interface
- Easy commissioning capability
- Future-proof with embedded connectivity for smart building and smart grid integration
- Dynamic feed-in control (for instance "zero injection")
- Remote firmware upgrade for inverter and components
- Modbus TCP/RTU Sunspec compliant
- Lifetime free of charge access to Aurora Vision
- Energy community ready

UNO-DM-1.2/2.0/3.0-TL-PLUS-Q string inverter block diagram



Technical data and types

Type code	UNO-DM-1.2-TL-PLUS-Q	UNO-DM-2.0-TL-PLUS-Q	UNO-DM-3.0-TL-PLUS-Q
Input side			
Absolute maximum DC input voltage ($V_{max,abs}$)		600 V	
Start-up DC input voltage (V_{start})	100 V (adj. 100...120 V)	150 V (adj. 100...300 V)	150 V (adj. 100...300 V)
Operating DC input voltage range (V_{dcmin}...V_{dcmax})		0.7 x V_{start}...580 V (min 90 V)	
Rated DC input voltage (V_{dcr})	185 V	300 V	300 V
Rated DC input power (P_{dcr})	1500 W	2500 W	3300 W
Number of independent MPPT	1	1	1
Maximum DC input power for each MPPT ($P_{MPPTmax}$)	1500 W	2500 W	3300 W
DC input voltage range with parallel configuration of MPPT at P_{acr}	100...530 V	210...530 V	320...530 V
DC power limitation with parallel configuration of MPPT	N/A	N/A	N/A
DC power limitation for each MPPT with independent configuration of MPPT at P_{acr}, max unbalance example	N/A	N/A	N/A
Maximum DC input current (I_{dcmax}) / for each MPPT ($I_{MPPTmax}$)	10.0 A	10.0 A	10.0 A
Maximum input short circuit current for each MPPT	12.5 A	12.5 A	12.5 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)	1200 W	2000 W	3000 W
Maximum AC output power (P_{acmax} @cosφ=1)	1200 W	2000 W	3000 W
Maximum apparent power (S_{max})	1200 VA	2000 VA	3000 VA
Rated AC grid voltage ($V_{ac,r}$)		230 V	
AC voltage range [2]		180...264 V	
Maximum AC output current ($I_{ac,max}$)	5.5 A	10.0 A	14.5 A
Contributory fault current	10.0 A	12.0 A	16.0 A
Rated output frequency (f_r) [3]		50/60 Hz	
Output frequency range (f_{min}...f_{max}) [3]		47...53/57...63 Hz	
Nominal power factor and adjustable range		> 0.995, adj. ± 0.1 - 1 (over/under excited)	
Total current harmonic distortion		< 3%	
AC connection type		Female connector from panel	
Output protection			
Anti-islanding protection [4]		According to local standard	
Maximum external AC overcurrent protection	10.0 A	16.0 A	16.0 A
Output overvoltage protection - varistor		2 (L - N / L - PE)	

Technical data and types

Type code	UNO-DM-1.2-TL-PLUS-Q	UNO-DM-2.0-TL-PLUS-Q	UNO-DM-3.0-TL-PLUS-Q
Operating performance			
Maximum efficiency (η_{max})	94.8%	96.7%	96.7%
Weighted efficiency (EURO/CEC)	92.0%/-	95.0%/-	95.0%/-
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, Aurora Manager Lite	
Monitoring		Plant Portfolio Manager, Plant Viewer, Plant Viewer for Mobile, Energy Viewer	
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 50°C/122°F	-25...+60°C /-13...140°F with derating above 50°C/122°F
Relative humidity		0...100 % condensing	
Acoustic noise emission level		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)		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 61000-3-2, EN 61000-3-3	
Grid standard (check your sales channel for availability) [6]		CEI 0-21, DIN V VDE V 0126-1-1, VDE-AR-N 4105, G83/2, G59/3, G98-1, G99-1, RD 413, ITC-BT-40, AS/NZS 4777.2, IEC 61727, IEC 62116	
Available products variants			
Standard	UNO-DM-1.2-TL-PLUS-B-Q	UNO-DM-2.0-TL-PLUS-B-Q	UNO-DM-3.0-TL-PLUS-B-Q
With DC switch	UNO-DM-1.2-TL-PLUS-SB-Q	UNO-DM-2.0-TL-PLUS-SB-Q	UNO-DM-3.0-TL-PLUS-SB-Q

1) "Refer to the document "String inverter – Product Manual appendix" available at www.fimer.com to know the brand and the model of the quick fit connector"
2) The AC voltage range may vary depending on specific country grid standard
3) The Frequency range may vary depending on specific country grid standard; CE is valid for 50Hz only
4) For Australian market the anti-islanding method is frequency shift
5) As per IEEE 802.11 b/g/n standard
6) Further grid standard will be added, please refer to FIMER's Solar page for further details

Remarks:
- **Designed and manufactured in Italy**
- **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 MA Solar Italy representative or visit:

fimer.com

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