FIMER



Solar inverter
UNO-DM-6.0-TL-PLUS-Q

The UNO-DM-6.0-PLUS-Q single-phase inverter is an upgrade of the proven UNO family and is an optimal solution for residential installations.

6 kW

High power density
The design wraps FIMER's quality and engineering into a lightweight and compact package thanks to technological choices optimized for installations with different orientation.

The inverter allows high performance in a minimum space and has a dual Maximum Power Point Tracker (2 MPPT).

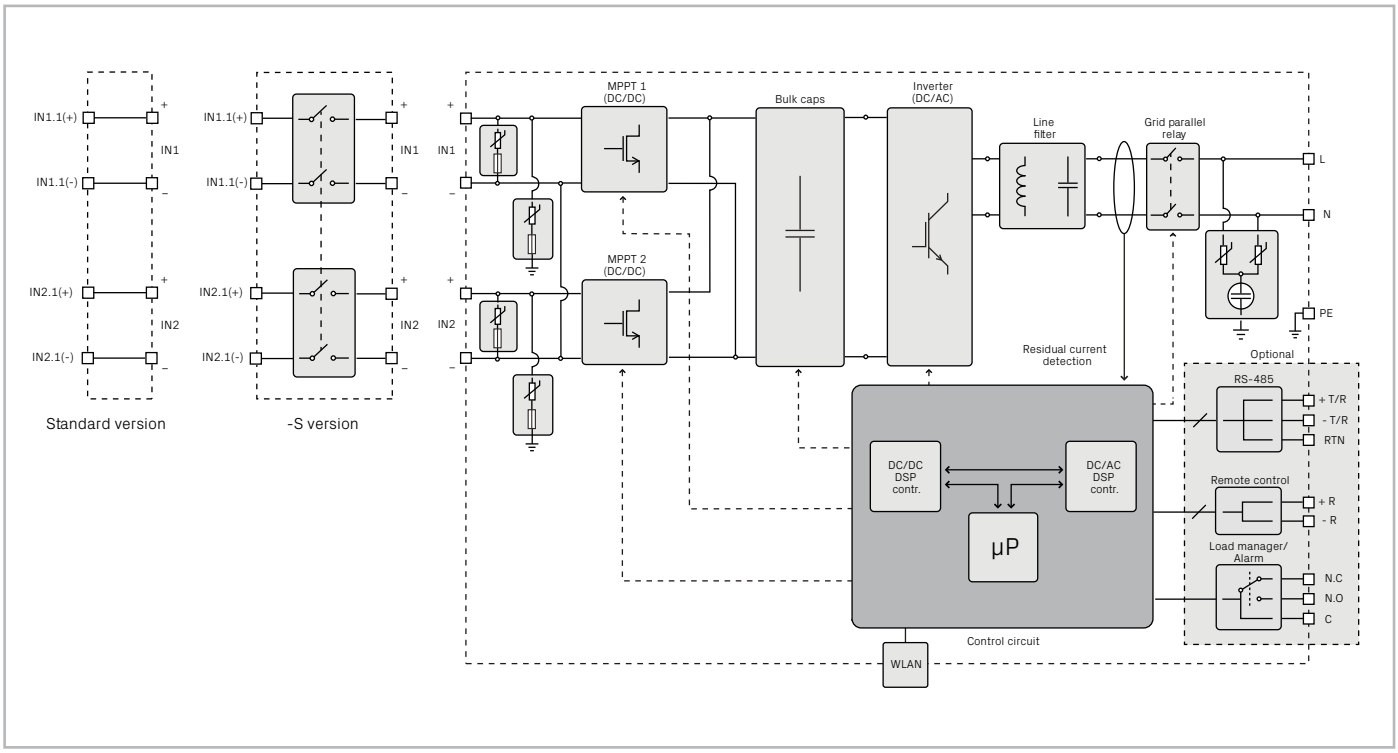
Easy to install, fast to commission
The featured easy commissioning routine removes the need for a long configuration process, resulting in lower installation time and costs.
Improved user experience thanks to a build in User Interface (UI), which enables access to features such as advanced inverter configuration settings, dynamic feed-in control and load manager, from any WLAN enabled devices (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
- Remote monitoring via Aurora Vision cloud
- Energy community ready

UNO-DM-6.0-TL-PLUS-Q string inverter block diagram



Technical data and types

Type code	UNO-DM-6.0-TL-PLUS-Q
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_{dcmin}...V_{dcmax})	0.7 x V_{start}...580 V (min 90 V)
Rated DC input voltage	360 V
Rated DC input power (P_{dcr})	6200 W
Number of independent MPPT	2
Maximum DC input power for each MPPT ($P_{MPPTmax}$)	4000W (MPPT1), 3500W (MPPT2)
DC input voltage range with parallel configuration of MPPT at P_{acr}	200...480V
DC power limitation with parallel configuration of MPPT at P_{acr}	Linear derating from Max to 500W [480V≤V_{MPPT}≤580V]
DC power limitation for each MPPT with independent configuration of MPPT at P_{acr} , max unbalance example	On MPPT1: 4000W (200V≤V_{MPPT}≤480) On MPPT2: Pdcr-4000W(195V≤V_{MPPT}≤480) or 3500W (305V≤V_{MPPT}≤480) with no power on MPPT1
Maximum DC input current (I_{dcmax}) / for each MPPT	31,5 A /20-11,5 A, (MPPT1-MPPT2)
Maximum input short circuit current for each MPPT	25 A
Number of DC inputs pairs for each MPPT	2 on channel 1: 1 on channel 2
DC connection type	Quick Fit PV Connector [1]
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)	32A / 600 V
Output side	
AC Grid connection type	Single phase
Rated AC power (P_{acr} @cosφ=1)	6000 W
Maximum AC output power (P_{acmax} @cosφ=1)	6000 W
Maximum apparent power (S_{max})	6650 VA
Rated AC grid voltage ($V_{ac,r}$)	230 V
AC voltage range	180...264 V [2]
Maximum AC output current ($I_{ac,max}$)	30.0 A
Contributory fault current	40.0 A
Rated output frequency (f_r)	50 Hz / 60 Hz
Output frequency range (f_{min}...f_{max})	47...53 Hz / 57...63 Hz[3]
Nominal power factor and adjustable range	> 0.995, adj. ± 0.8
Total current harmonic distortion	< 3%
AC connection type	Terminal Block
Output protection	
Anti-islanding protection	According to local standard
Maximum external AC overcurrent protection	40.0 A
Output overvoltage protection - varistor	2 (L - N / L - PE)
Operating performance	
Maximum efficiency (η_{max})	97,40%
Weighted efficiency (EURO/CEC)	97.0% / -
Feed in power threshold	8 W
Night consumption	<0.4 W
Embedded Communication	
Embedded Communication Interface	Wireless[4]
Embedded Communication Protocol	ModBus TCP (SunSpec)
Commissioning Tool	Web User Interface, Aurora Manger Lite
Monitoring	Plant Portfolio Manager, Plant Viewer, Plant Viewer for Mobile, Energy Viewer

Technical data and types

Type code	UNO-DM-6.0-TL-PLUS-Q
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 45°C/113°F
Relative humidity	0...100% condensing
Maximum operating altitude without derating	2000 m / 6560 ft
Physical	
Environmental protection rating	IP 65
Cooling	Natural
Dimension (H x W x D)	418 mm x 553 mm x 180 mm
Weight	20,5 kg
Mounting system	Wall bracket
Safety	
Isolation level	Transformerless
Marking	CE (50 Hz only), RCM
Safety and EMC standard	EN 50178, IEC/EN 62109-1, IEC/EN 62109-2, AS/NZS 3100, EN 61000-6-1, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12
Grid standard (check your sales channel for availability)	CEI 0-21, DIN V VDE V 0126-1-1, ITC-BT-40, AS 4777, INMETRO Ordinances 357-2014
Available products variants	
Standard	UNO-DM-6.0-TL-PLUS-B-G-QU
With DC switch	UNO-DM-6.0-TL-PLUS-SB-G-QU

[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
[4] As per IEEE 802.11 b/g/n standard

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 FIMER representative or visit:

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