



# The better 1phase PowerUNO

## The better flexibility

Battery ready inverter, DC or AC coupled  
Backup power up to 6 kW

## The better security

Patented AFCI  
Patented RCD (Residual Current Device)

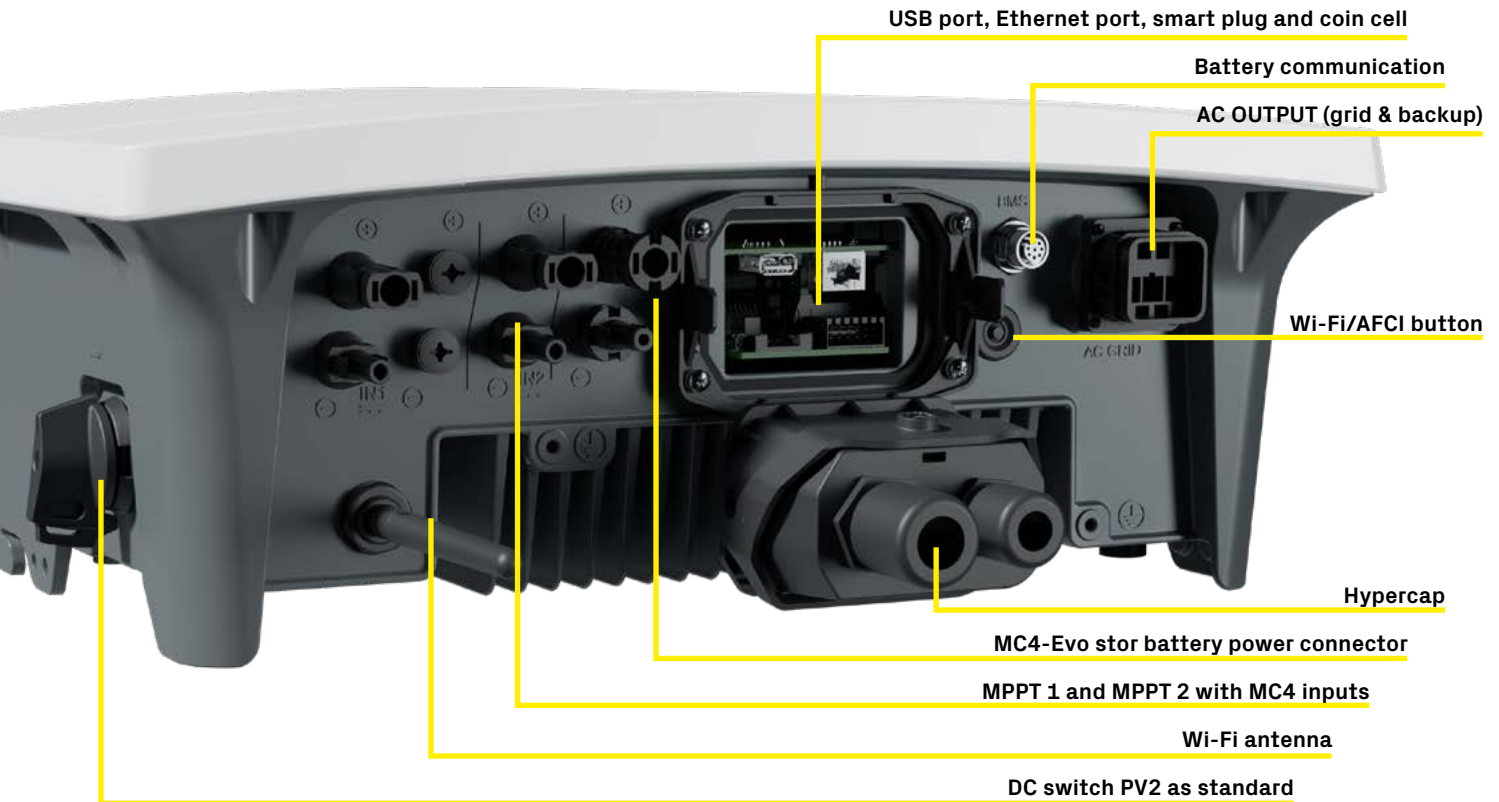
## The better installability

Plug & play connections  
Integrated spirit level

## The better connectivity

Embedded Wi-Fi, Ethernet and USB  
Modbus TCP (Sunspec)

# Go for the better



**One size for all**

from 2 kW to 6 kW

**x2 faster**

switching frequency

**<20 dB (A)**

noise reduction

**+40%**

time saving  
for commissioning



**24 / 7**

real time monitoring

**Battery**

ready

**100%**



**No tools**

for commissioning

**<2 s**

backup transition

**Patented**

ARC fault detection

**Small**

High power density

**+55%**

CPU performance

**Integrated**

SG ready

**Built-in**

Ethernet and Wi-Fi

**Setup**

anytime

## Technical data and types

Inverter	FIM-HY-2.0-SE-A	FIM-HY-3.0-SE-A	FIM-HY-3.3-SE-A	FIM-HY-3.6-SE-A	FIM-HY-4.0-SE-A	FIM-HY-4.6-SE-A	FIM-HY-5.0-SE-A	FIM-HY-6.0-SE-A
<b>Input side</b>								
Absolute maximum DC voltage ( $V_{max,abs}$ )	600 V							
Start-up DC voltage ( $V_{start}$ )	150 V adj. 120...350 V	150 V adj. 120...350 V	150 V adj. 120...350 V	150 V adj. 120...350 V	200 V adj. 150...350 V	200 V adj. 180...350 V	200 V adj. 180...350 V	200 V adj. 200...350 V
Operating DC voltage range ( $V_{dmin}...V_{dmax}$ )	0.7 x $V_{start}...570$ V (min 95 V)	0.7 x $V_{start}...570$ V (min 95 V)	0.7 x $V_{start}...570$ V (min 95 V)	0.7 x $V_{start}...570$ V (min 95 V)	0.7 x $V_{start}...570$ V (min 115 V)	0.7 x $V_{start}...570$ V (min 136 V)	0.7 x $V_{start}...570$ V (min 136 V)	0.7 x $V_{start}...570$ V (min 150 V)
Rated DC voltage ( $V_{der}$ )	390 V							
Rated DC power ( $P_{dc}$ )	2051 W	3077 W	3385 W	3692 W	4103 W	4718 W	5128 W	6154 W
Suggested maximum DC power	3000 W	4500 W	4950 W	5400 W	6000 W	7040 W	7500 W	9000 W
DC/AC ratio	Up to 150%, according to location							
Number of independent MPPT	1	2	2	2	2	2	2	2
Maximum DC power for each MPPT ( $P_{MPPTmax}$ )	3060 W <sup>1)</sup> Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	2300 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	2520 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	2755 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	3060 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	3520 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	3820 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V	4592 W Linear derating 500 ≤ $V_{MPPT}$ ≤ 570 V
DC voltage range of MPPT ( $V_{MPPTmin}...V_{MPPTmax}$ ) at $P_{acr}$	135...500 V	135...500 V	135...500 V	145...500 V	165...500 V	170...500 V	180...500 V	200...500 V
Maximum DC current ( $I_{dc,max}$ ) / for each MPPT ( $I_{MPPT,max}$ )	16 A (MPPT1)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)	32 A / 16 A - 16 A (MPPT1 - MPPT2)
Maximum short circuit current per MPPT	20 A							
Number of DC inputs pairs for each MPPT	1 (MPPT1)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)	1 - 1 (MPPT1 - MPPT2)
DC connection type	Quick fit PV connector <sup>2)</sup>							
<b>Input protection</b>								
Reverse polarity protection	Yes, from limited current source							
Over voltage protection for each MPPT - varistor	Yes							
Photovoltaic array isolation control	According to local standard							
DC switch rating for each MPPT	25 A / 600 V							
<b>Battery input/output</b>								
Operating DC voltage range ( $U_{dmin}...U_{dM}$ )	350...560 V							
Nominal operating DC voltage range ( $U_{dNmin}...U_{dNM}$ )	430...460 V							
Nominal operating DC voltage ( $U_N$ )	445 V							
Withstand voltage ( $U_W$ )	600 V							
PowerX Max. units	2							
Max operating current <sup>3)</sup>	17 A							
Maximum charge power from DC side <sup>4)</sup>	3060 W	4600 W	5040 W	5510 W	6120 W	7040 W	7040 W	7040 W
Maximum discharge power	2000 W	3000 W	3300 W	3600 W	4000 W	4600 W	5000 W	6000 W
<b>AC Output</b>								
AC Grid connection type	Single-phase							
Rated AC power ( $P_{acr}@cos\phi=1$ )	2000 W	3000 W	3300 W	3600 W	4000 W	4600 W	5000 W	6000 W
Maximum AC output power ( $P_{ac,max}@cos\phi=1$ )	2000 W	3000 W	3300 W	3600 W	4000 W	4600 W	5000 W	6000 W
Maximum apparent power ( $S_{max}$ )	2000 VA	3000 VA	3300 VA	3600 VA	4000 VA	4600 VA	5000 VA	6000 VA
Rated AC grid voltage ( $V_{ac,r}$ )	220 / 230 / 240 V							
AC voltage range <sup>5)</sup>	180...264 V							
Rated Output Current at $V_{ac}$ 230 V ( $I_{ac,r}$ )	8.7 A	13.0 A	14.4 A	15.7 A	17.4 A	20.0 A	21.7 A	26.1 A
Maximum AC current ( $I_{ac,max}$ )	10.0 A	14.5 A	16.0 A	16.0 A	19.5 A	22.3 A	22.8 A	27.3 A
Contributory fault current	10.0 A	14.5 A	16.0 A	16.0 A	19.5 A	22.3 A	22.8 A	27.3 A
Rated frequency ( $f_r$ )	50 Hz / 60 Hz							
Frequency range ( $f_{min}...f_{max}$ ) <sup>6)</sup>	45...55 Hz / 55...65 Hz							
Nominal power factor and adj. range	> 0.995, adj. ± 0.8 - 1 (over/under exited)							
Total current harmonic distortion	< 3 % of $I_{ac,max}$							
AC connection type	Female panel connector							
<b>Grid connected output protection</b>								
Anti-islanding protection	According to local standard							
Maximum external AC overcurrent protection	16.0 A	16.0 A	20.0 A	20.0 A	25.0 A	25.0 A	25.0 A	32.0 A
Output overvoltage protection - varistor	2 (L - N / L - PE), TYPE II protection class <sup>7)</sup>							
<b>Efficiency</b>								
Maximum	97.8%	97.9%	97.9%	97.9%	97.9%	98.0%	98.0%	98.0%
Euro efficiency	96.5%	97.4%	97.4%	97.5%	97.5%	97.6%	97.6%	97.6%
MPPT efficiency	99.90 %							
<b>Backup mode <sup>8)</sup></b>								
Voltage waveform	S (sine)							
Dynamic output performance	1 (linear load), 2 (non-linear load)							
Maximum apparent power ( $S_{max}$ )	2000 VA	3000 VA	3300 VA	3600 VA	4000 VA	4600 VA	5000 VA	6000 VA
Rated AC grid Voltage ( $V_{acr}$ )	220 / 230 / 240 V							
AC Voltage range	180...264 V							
Maximum AC current ( $I_{ac,max}$ )	10.0 A	14.5 A	16.0 A	16.0 A	19.5 A	22.3 A	22.8 A	27.3 A
Rated output frequency ( $f_r$ )	50 Hz / 60 Hz							
Frequency range ( $f_{min}...f_{max}$ )	45...55 Hz / 55...65 Hz							

## Technical data and types

Inverter	FIM-HY-2.0-SE-A	FIM-HY-3.0-SE-A	FIM-HY-3.3-SE-A	FIM-HY-3.6-SE-A	FIM-HY-4.0-SE-A	FIM-HY-4.6-SE-A	FIM-HY-5.0-SE-A	FIM-HY-6.0-SE-A
<b>Embedded communication</b>								
Embedded physical interface	Wi-Fi <sup>9)</sup> , Ethernet, RS-485							
Embedded communication protocols	Modbus TCP (SunSpec)							
Datalogger data retention	30 days							
Remote monitoring	Energy Viewer (mobile APP), Energy Viewer Web, Plant Portfolio Manager							
Local monitoring	Energy Viewer (mobile APP) / Internal web server (Web UI)							
Commissioning (Energy policy included)	Internal web server (Web UI)							
<b>Environmental</b>								
Ambient temperature range	-25...+60°C with derating above 50°C	-25...+60°C with derating above 50°C	-25...+60°C with derating above 50°C	-25...+60°C with derating above 45°C	-25...+60°C with derating above 50°C	-25...+60°C with derating above 50°C	-25...+60°C with derating above 45°C	-25...+60°C with derating above 40°C
Wet locations	Yes							
Relative humidity	4...100 % condensing							
Acoustic noise emission level (at rated DC voltage $V_{DC}$ )	< 40 dBA @ 1 m							
Acoustic noise emission level (worst case)	< 50 dbA @ 1 m							
Maximum operating altitude	3000 m (9842 ft) with derating above 2000 m (6561 ft)							
Ambient storage/transport temperature	-40 °C...+85 °C							
Humidity storage/transport	4 % = 100 %							
Environmental classification	4K6 (IEC 62477-1:2022) /4K26 (IEC 60721-3-4:2019)							
<b>Physical</b>								
Environmental protection rating	IP65							
Cooling	Natural							
Dimension (H x W x D)	330 mm x 460 mm x 160 mm							
Weight	14.5 kg							
Mounting system	Wall bracket							
<b>Safety</b>								
Isolation level	Transformerless							
Overvoltage category according to IEC 62109-1	OVC III (AC port), OVCII (PV port and Battery port)							
Marking	CE, RCM							
Safety and EMC standards	IEC/EN 62109-1, IEC/EN 62109-2, IEC 62477-1, EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12							
Grid standards (check your sales channel for availability) <sup>10)</sup>	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, C10/11, IEC 61727, IEC 62116							
<b>Other features</b>								
Load manager	Yes, with integrated relay							
AC backup, off grid	Yes							
Battery charge from AC	Yes, it can be enabled							
AC-coupled mode	Yes, settable during commissioning							

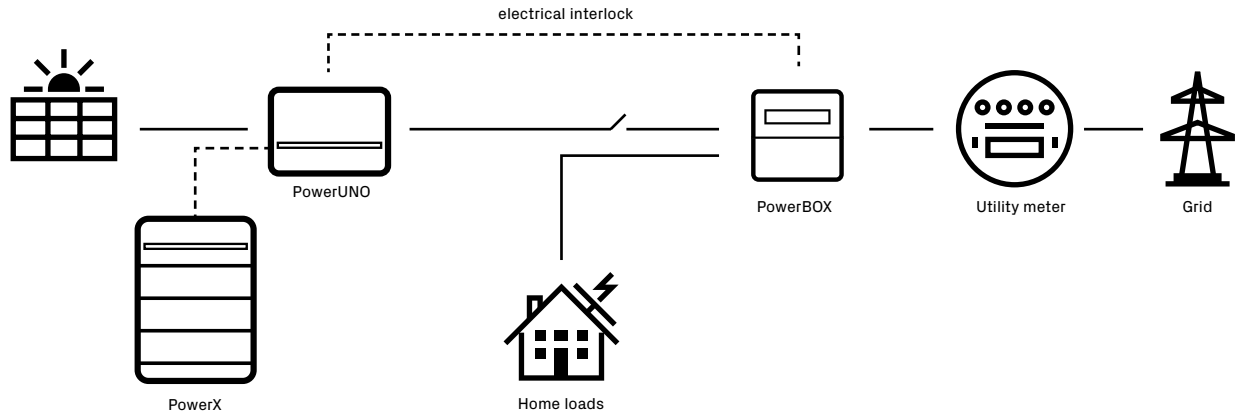
- 1) Extra power available in conjunction with Battery ESS
- 2) Refer to the document "String inverter – Product Manual appendix" available at [www.fimer.com/solarinverters](http://www.fimer.com/solarinverters) to know the brand and the model of the quick fit connector
- 3) The maximum operating current applies to both the charging and discharging cases
- 4) Also limited by the capability of the installed Battery ESS
- 5) The AC voltage range may vary depending on specific country grid standards
- 6) The Frequency range may vary depending on specific country grid standards
- 7) As per test defined in EN/IEC 61643-11

- 8) PowerBOX required
- 9) As per IEEE 802.11 b/g/n standard
- 10) Further grid standards will be added, please refer to FIMER's Solar page for further details

#### Remarks:

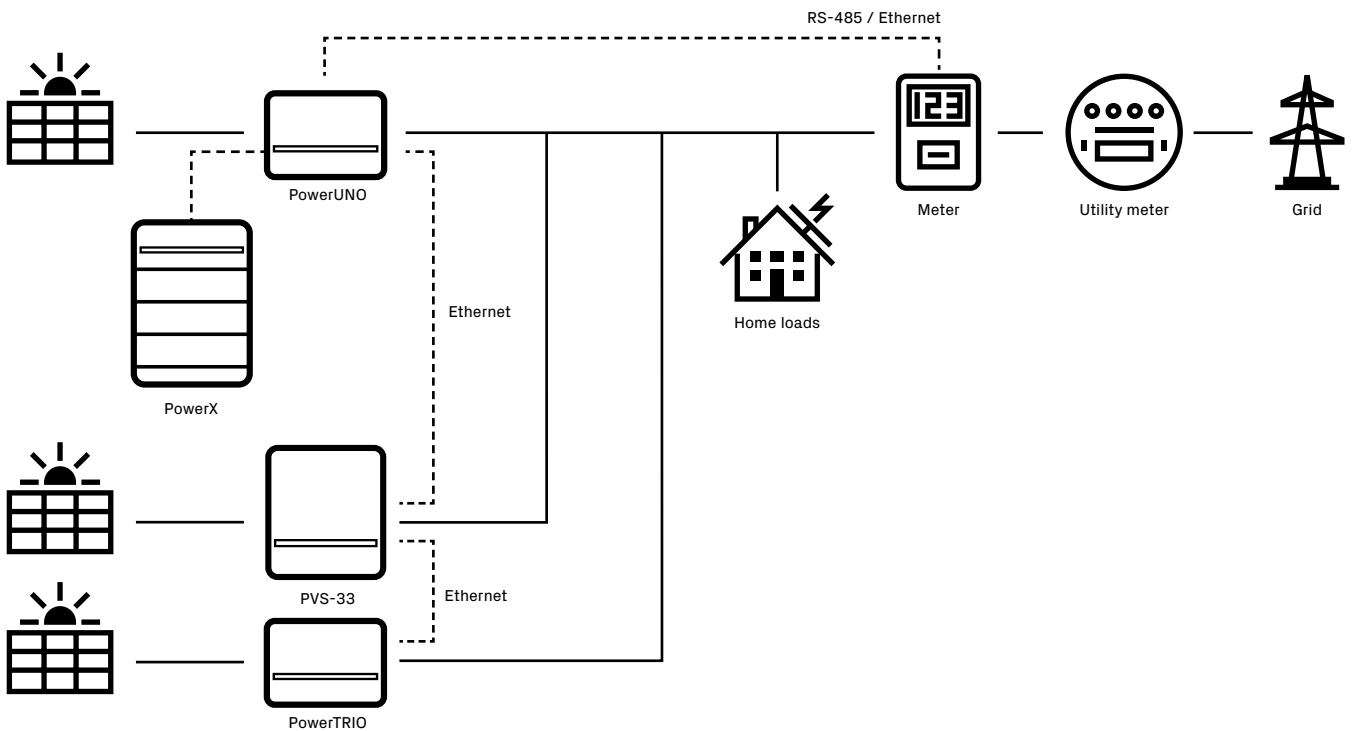
- Designed and manufactured in Italy
- Features not specifically listed in the present data sheet are not included in the product

## PowerUNO: provides protection against blackouts



## PowerUNO: multi-inverter energy management

(coming soon)





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