

/ Perfect Welding / Solar Energy / Perfect Charging



SOLAR SOLUTIONS FOR THE FUTURE. THE FRONIUS SOLAR PORTFOLIO.



24hoursofsun.com

/ The Fronius USA 2017 Product Portfolio

A FAMILY TRADITION OF QUALITY AND INNOVATION ACROSS THE GLOBE

/ The Solar Energy division has been working in the field of photovoltaics since 1992. We're a family-owned company with a longstanding tradition in power electronics. From the very first battery charger in 1945, we've been setting global standards in innovation, quality and power conversion. Our innovation is guided by our vision of 24 hours of sun, a future we envision powered and supported exclusively by renewable energy.

DEPENDABLE POWER

/ As with any power electronics, service and maintenance is required particularly over a 20 year period. By choosing Fronius, customers experience dependable yields with a promise that a certified Fronius Service provider or installer can easily repair the system in the field for maximum uptime. Fronius has personally certified over 100 installers in 2016 alone within our FSP program; creating quality Fronius technicians nationwide.

GLOBAL LEADERSHIP

/ Of the 24 subsidiaries worldwide, Fronius USA is the largest. We have a vision for the future and a commitment to the United States for better products and a better future. With over 150 dedicated employees nationwide and growing, Fronius is investing in the capabilities of the US subsidiary. Thanks to this investment, we've expanded our 400,000 square foot facility in the Midwest to support technical support, product testing development, marketing and sales teams in Indiana, South San Francisco and nation wide.

LOCAL SUSTAINABILITY

/ Fronius is a company that values sustainability. We want our products and our resources and actions to reflect that. As we've grown in the US, so has our team and with that we have strived to create a work environment of like-minded individuals working towards the goal of a sustainable future. We started the Fronius Helping Others Providing Energy (HOPE) program to internally and externally contribute to the greater good. We support our staff with hosting paid-work volunteer days to help other organizations, donate inverters to charities and continue to offer opportunities to provide energy to America.



**24HRS
SUN**

BANKABLE

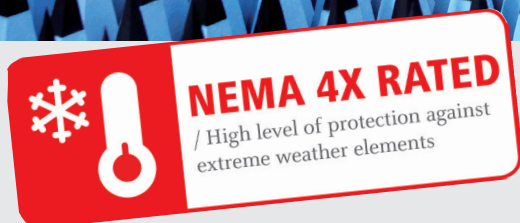
/ Privately owned, Fronius offers customers a security and confidence in their purchase. Financially stable, Fronius is committed to long term partnerships and success.

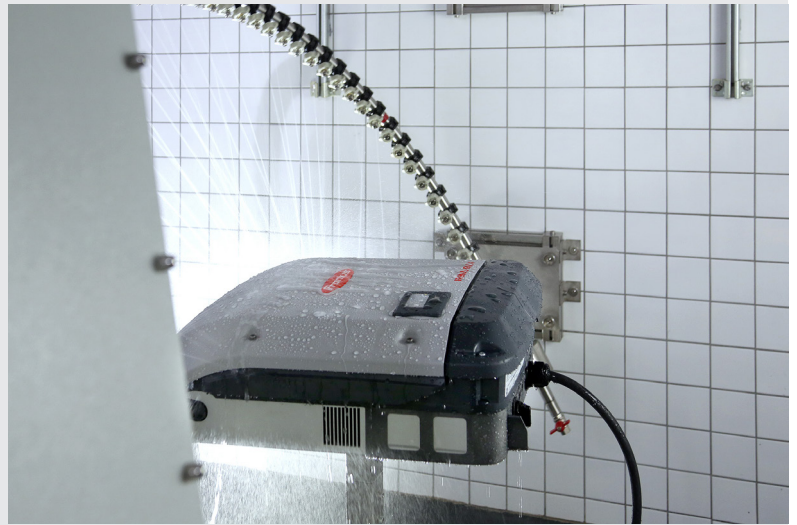
24 HOURS OF SUN

/ We believe in a future where we cover our energy needs with 100% renewable energy sources. It's all about how we distribute, generate, store and monitor, for a cleaner future for sustainable energy. **Keeping our goal in mind**, every component of our product is developed with the **Fronius 24 hours of sun philosophy**. Check out more information and our exclusive movie at www.24hoursofsun.com. **Share the vision. #24hoursofsun.**

QUALITY BUILT TO LAST

/ We are dedicated to building products that will last a lifetime in the harshest conditions. When dealing with power electronics, this is almost unheard of. We go above and beyond in the preplanning and development stages of our products to ensure a lifetime of quality and power generation. Tests are done extensively at our Research and Development facility in Austria and our US headquarters in Portage, Indiana. Our high quality commitment and standards have named us the quality leader in solar electronics since 2002.





TESTING FOR TOMORROW

/ Tests include weathering, freezing, infrared testing, vibration, shipping and many more. The product is also tested to ensure compatibility with other power electronics, such as media and internet devices.



INTERESTED?

/ Scan here to see a video overview of all the quality testing our products endure!

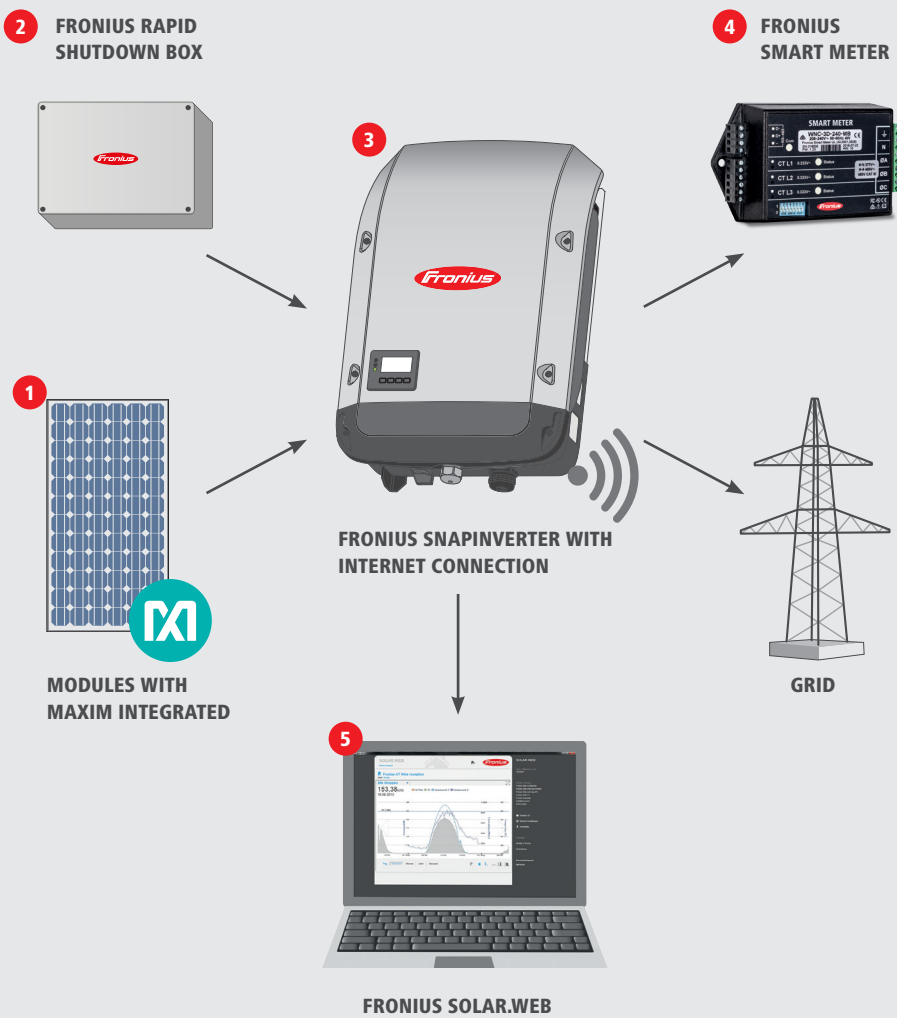
FRONIUS SMART SOLUTION

THE NEXT GENERATION OF SOLAR SYSTEMS

/ The Fronius Smart Solution satisfies all your needs for residential and commercial systems. Get flexible system design, shade mitigation, NEC compliance, best performance and state-of-the-art monitoring with the lowest number of components and the easiest installation on the market!



SYSTEM OVERVIEW





1 **MODULES WITH MAXIM INTEGRATED**

/ Solar cell-string optimization technology, which replaces the traditional bypass diode in a solar Module - resulting in 3 optimizers, and therefore 3 independent MPPTs, per module! Easily installed like any standard module, without the hassle of traditional Module Level Power Electronics (MLPE).

2 **FRONIUS RAPID SHUTDOWN BOX**

/ The Fronius Rapid Shutdown Box provides the ultimate NEC 2014 code (690.12) compliant solution while enhancing rooftop and firefighter safety.

3 **FRONIUS SNAPINVERTER**

/ Flexible system design, easy installation, integrated Wi-fi and much more - the Fronius SnapINverter line is the right choice for any system.

4 **FRONIUS SMART METER**

/ The bi-directional energy meter for feed-in management and energy consumption monitoring (optional).

5 **FRONIUS SOLAR.WEB**

/ Your online monitoring portal to ensure a system's uptime and performance. Save time and money by analyzing systems remotely and performing inverter software updates from anywhere. Analyse energy consumption and compare it with the solar production to optimize overall energy usage.

THE FRONIUS PRODUCT PORTFOLIO

/ Our full line of inverters and accessories for all types of residential and commercial systems.

FRONIUS GALVO



/ Ideal inverter for small residential systems, power classes ranging from 1.5 to 3.1 kW.

FRONIUS PRIMO



/ Residential inverter with a diverse range of power from 3.8 - 15.0 kW.

FRONIUS SYMO



/ The three-phase commercial line with 208-240 and 480 VAC and a power range of 10.0 kW to 24.0 kW.

THE SNAPINVERTER DIFFERENCE

/ The Fronius SnapINverter line is different from your basic group of grid-tied solar inverters. The design and integrated features are unique, creating a new class of inverter. Power categories from 1.5 to 24.0 kW promise suitability for every system size and application. The Fronius SnapINverter Generation features free lifetime monitoring on-the-go, completely integrated Wi-Fi and SunSpec Modbus capability, NEMA 4X rating and the hinged mounting system for the most versatile, user-friendly, NEC 2014 compliant inverter on the market.

/ With the identical look & feel of all Fronius SnapINverters we help to reduce cost for trainings and eliminate potential error sources through an easy installation process.

A QUICK LOOK AT GENERAL DATA:

/ Find in-depth data for all products at www.fronius-usa.com.

GENERAL DATA	FRONIUS GALVO	FRONIUS PRIMO	FRONIUS SYMO
Output power (kW)	1.5 - 3.1	3.8 - 15.0	10.0 - 24.0
Phases	Single	Single	Three
AC output voltage (V)	208 - 240	208 - 240	480
DC startup voltage (V)	140 / 185	80	200
Max. efficiency	95.8 - 96.0 %	97.0 %	97.0 - 98.0 %
Weight (lbs.)	36.05 - 36.93	47.29 - 76.7	76.7 - 95.7
Dimensions (h x w x d in.)	24.7 x 16.9 x 8.1	24.7 x 16.9 x 8.1/ 28.5 x 20.1 x 8.9	28.5 x 20.1 x 8.9



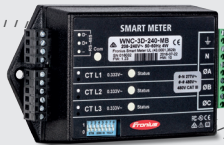
FRONIUS RAPID SHUTDOWN BOX

- / Single string version for 1 string
- / Multi-string version for up to 4 strings
- / Directly connected to the inverter through the same conduit as the DC homeruns
- / No additional power supply is needed



FRONIUS SOLAR.WEB

- / Desktop version and mobile apps
- / Free for a lifetime
- / Premium version offers additional features
- / Monitoring on MPP-tracker level



FRONIUS SMART METER

- / Versions for 240V and 480V
- / High accuracy and fast communication via Modbus RTU
- / Plug & play compatibility with Fronius SnapINverters



FRONIUS REVENUE GRADE METERING

- / The Fronius Primo with the Revenue Grade Meter option measures and exports production data that is compliant with ANSI C12.1
- / No need to install a meter, socket, conduit, power or communications

A DEEPER LOOK AT REVENUE GRADE METERING

Accuracy	2% according to ANSI C12.1
Interfaces - available	Fronius Solar.web; Fronius Solar. Net; Fronius Push Service; SunSpec Modbus TCP; Sunspec Modbus RTU
Inverter where option can be added	Fronius Primo 3.8 - 15.0



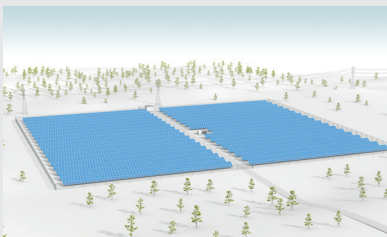
COMMERCIAL APPLICATIONS

SYSTEMS WITHOUT BOUNDARIES

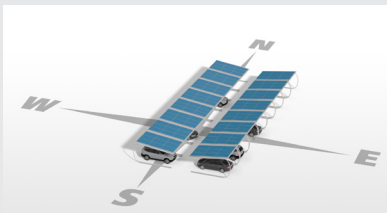
/ The Fronius Symo platform covers any three phase grid type - one platform covers any application making for a seamless commercial solution:



/ 208 V AC 3-phase inverters up to 15 kW for schools, municipalities and offices.



/ Power classes for ground mounted or industrial systems of up to multiple megawatts.



/ Easy design for carports systems. The size of 2 parking spaces equals 18 modules, which is the perfect string length on a Fronius Symo inverter.



FRONIUS SYMO
10.0 kW - 24.0 kW
three-phase



SUNSPEC
— ALLIANCE —

DESIGNING THE PERFECT SYSTEM

- / Dual MPP-tracker supports a variety of array sizes.
- / Wireless SunSpec Modbus communication compatibility directly from the inverter when integrated with Fronius Datamanager 2.0

COMMERCIAL INSTALLATION IN A SNAP

- / The only string inverter with capability to mount completely flat on a roof or on a pole.
- / The Fronius Symo inverters from 20.0 to 24.0 kW and the 15.0 kW (208 version) have integrated fuse holders (6+ and 6- fuses) for touch safe fuses.
- / Integrated DIN rail for overvoltage protection or DIN rail fuses.
- / No need to install DC combiners by connecting up to 6 strings directly to the inverter - saves time and money!

NORTH PUTNAM COMMUNITY SCHOOLS, INDIANA

/ In collaboration with Johnson-Melloh Solutions and JLM Energy Storage.



INTERESTED?

/ Check out this and other projects showcased!

SYSTEM DATA	
System size	1.6 MWp
Purpose, system type	PV solar farm
Module type and area	4,200 ground mount modules
Inverter	42 Symo SnapInverters
Commissioned	August 2015
Annual yield	Approx 1.6 GWh
Special features	First building in the state of Indiana to run completely off "net-zero" energy.



RESIDENTIAL APPLICATIONS

RESIDENTIAL SYSTEMS FOR FUTURE GENERATIONS

/ Residential systems require high flexibility from string inverters. Rooftops come in all shapes and sizes in the US and need inverters that can stand up to the challenge. Fronius inverters bring you that flexibility:

- / 80 to 600 V DC for wide choice of string length - in some cases with as few as 3 modules.
- / Higher yield: the low start up voltage means earlier start up in the morning and later shutoff at night.
- / Dual MPP-tracker supports both symmetric (same power on each tracker) and asymmetric array sizes (e.g. for shaded modules or a smaller, secondary array).
- / PV array oversizing of up to 150% allowed within warranty.

OVERALL SYSTEM INSTALLATION TIME WITH ...

**FRONIUS
SNAPINVERTERS**



3.5 h

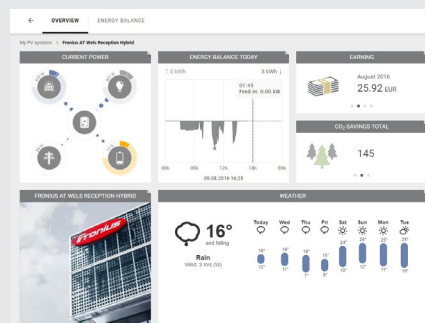
STANDARD STRING INVERTERS

4 h

TRADITIONAL MODULE LEVEL POWER ELECTRONICS

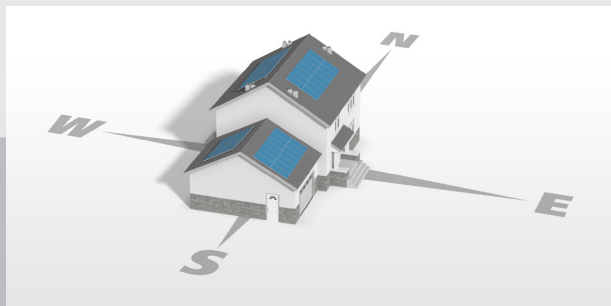
5 h

* Time estimates based on a 5.0 KW residential system.



/ SOLAR.WEB

Monitor solar production and electricity consumption incl. daily load curves for optimized energy usage and tailor fit solutions.

RESIDENTIAL SCENARIO ONE

Module: Jinko MX module

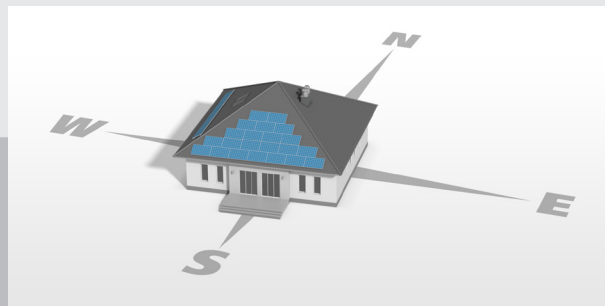
Inverter: Fronius Primo 6.0-1 208-240

MPPT 1: string of 4 + string of 6

MPPT 2: string of 9 + string of 11

total number of modules: 30

DC / AC Ratio: 140 %

RESIDENTIAL SCENARIO TWO

Module: SolarWorld SW 305 Mono

Inverter: Fronius Primo 7.6-1 208 - 240

MPPT 1: 2 strings of 11 modules

MPPT 2: 2 strings of 3 modules

Total number of modules: 28

DC / AC Ratio: 114 %

WE'VE GOT YOU COVERED

/ The examples show, no matter what roof design you have on your home, Fronius is the right choice. Get the design flexibility to you need with the least amount of components possible and the easiest installation process - without power electronics on the roof.

SINGLE-FAMILY HOME IN HONOLULU, HAWAII

/ Created by SunKing, Inc.



SYSTEM DATA	
System size	10.04 kW
Purpose, system type	Residence
Module type and area	Left Fronius Primo 3.8 has 14 modules, 1 String of 4 SolarWorld 280 Mono facing East on MPPT 1, and 1 String of 10 SolarWorld 280 Mono facing West on MPPT 2 Right Fronius Primo 6.0 has 24 modules, 1 String of 12 SolarWorld 255 Mono facing South on MPPT 1 and 1 String of 12 SolarWorld 255 Mono facing South on MPPT 2
Inverter	Fronius Primo
Commissioned	August 2015
Annual yield	Approx. \$1927.32 USD
CO ₂ saved / year	Approx. 2792.25 kg CO ₂ Savings
CO ₂ saved/ year	Approx. 4 tonnes
Special feature	Energy independence thanks to decentralised power generation coupled with a local storage facility

**INTERESTED?**

/ Further reference projects
can be found by scanning the code!

OPERATIONS & MAINTENANCE

FRONIUS SOS

/ Fronius Solar Online Support (SOS) online portal allows installers to initiate a repair process directly on-site, without ever having to call Fronius Technical Support - saving installers significant time in the field!

/ Quickly access product information, track cases, troubleshoot state codes, process warranty repair and request an exchange.

/ Powered by Fronius Technical Support, get the same quality service at the convenience of your mobile device!



ONLY TRULY FIELD-SERVICABLE INVERTER ON THE MARKET

LOWEST COST OF OWNERSHIP

UNIQUE FRONIUS SERVICE PROVIDER NETWORK NATION-WIDE

FRONIUS SOLAR.WEB

/ The all-in-one internet portal for your solar system. Configuring, monitoring, analyzing and complete visualizing of PV systems

/ Register your system in Solar.Web to remotely access the system productivity and information

/ Remote update capabilities for the PV system available for the installer-less time in the field!





SUSTAINABILITY THAT SETS THE STANDARD

FRONIUS TECHNICAL SUPPORT

/ Our National Technical Support team, based in our Portage, Indiana headquarters, is dedicated to the overarching goal of sustainability. We strive to provide customer services and trouble shooting, assist in warranty issues, and provide training services in the field through our Fronius Service Provider program.

FRONIUS SERVICE PROVIDER

/ Fronius SnapINverters are the only field serviceable inverters on the market, showcasing the lowest total cost of ownership in the industry. A Fronius Service Provider (FSP) is an installer who has been trained in our products to offer that quality service we expect in the field, order parts directly from us, and receive a service reimbursement for in-warranty service. Not only are FSPs located nationwide, but as a Fronius dealer your technicians have the opportunity to be personally trained by our Fronius technical experts.



HOW CAN I GET FSP CERTIFIED?

/ Fronius holds quarterly service provider trainings at our Portage, Indiana facility, our new South San Francisco office and across the nation. We have a department completely devoted to providing high quality and current industry NABCEP certified trainings. Register today for a Fronius Service Provider training conveniently on our website.



INTERESTED?

/ Scan here to see a schedule of our Fronius Service Provider trainings!

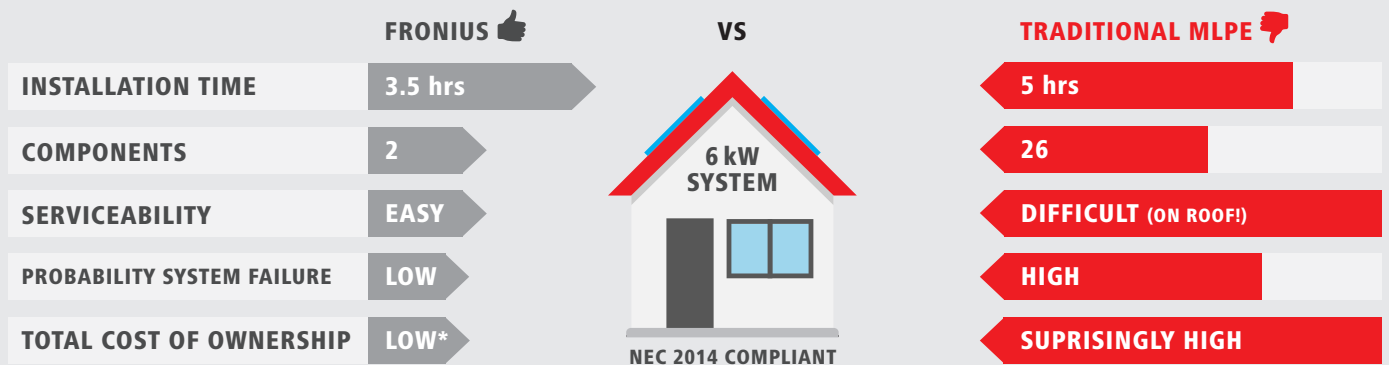
THINKING BEYOND

FRONIUS IS DRIVING INDUSTRY STANDARDS FOR THE FREEDOM OF CHOICE

/ Ever-changing code requirements call for new solutions to ensure both highest safety and affordable systems. Since 1992 Fronius has not only been adapting to codes and requirements but has been driving solar industry standards and will continue to do so. Today, many installers choose traditional Module Level Power Electronics (MLPE) such as power optimizers or micro-inverters. MLPE fulfill current code requirements, due to their nature. However, they have significant downsides.

MAKE THE BEST CHOICE FOR YOU AND YOUR CUSTOMER

/ 90% of systems simply do not require module level optimization, so there is no reason to add the complexity, cost and labor of traditional MLPE to these systems. In these cases traditional MLPE even cause energy loss due to their high number of components. When optimization is needed, we believe in cost-effective cell-string optimization.



* For more information check out our online PV System Lifecycle Cost Calculator: www.fronius.com/PVSLCC

NEC 2014 AND BEYOND

/ We offer the easiest to install, safest and most affordable NEC 2014 compliant rapid shutdown solution:

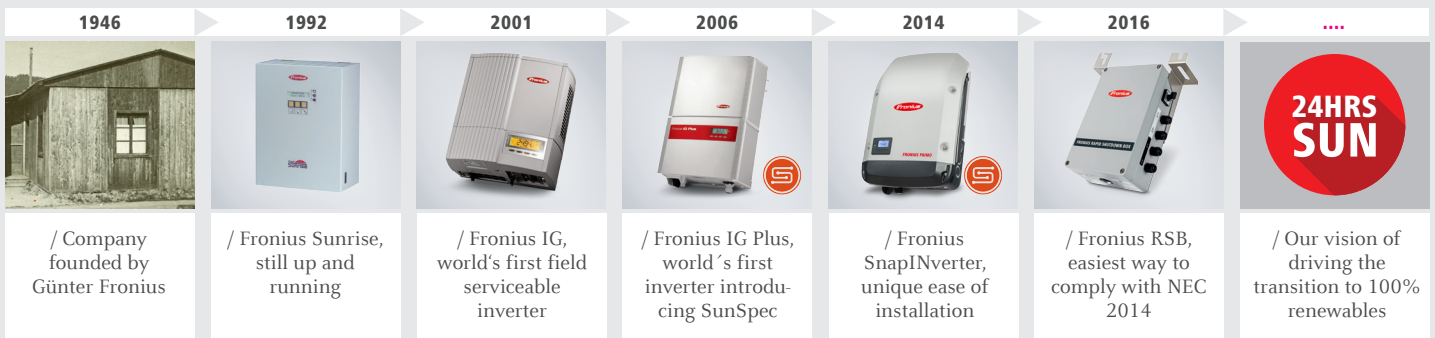
/ Easiest to install: the Fronius Rapid Shutdown Box is directly connected to the inverter through the same conduit as the DC home runs.

/ Safest: enhancing rooftop and firefighter safety.

/ Most affordable: minimizes the number of components and requires no additional power supply.

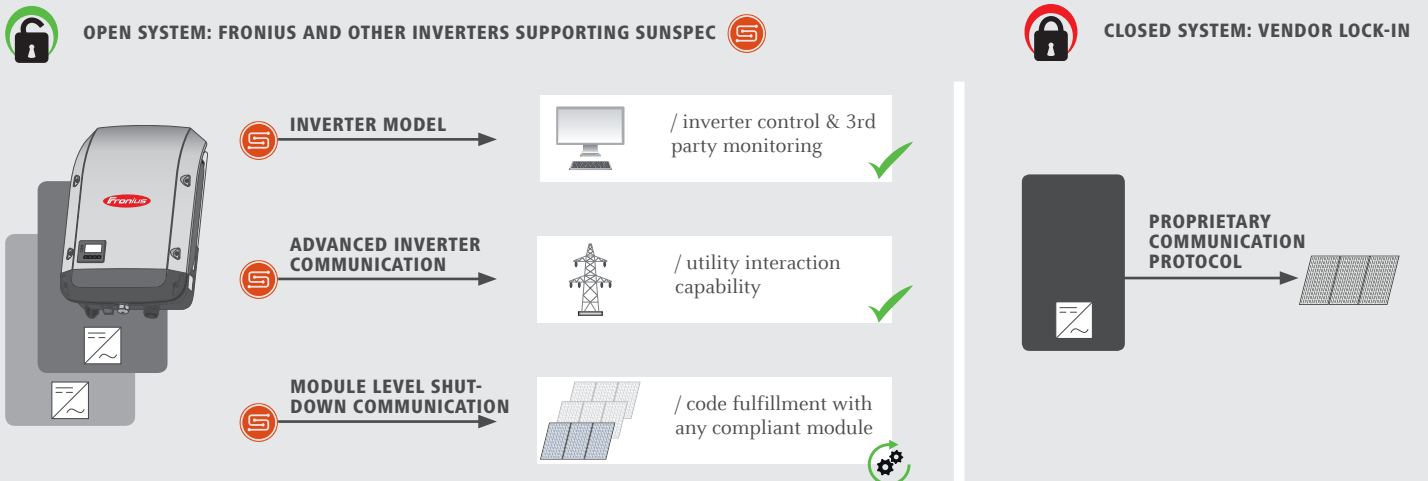
THE FRONIUS ROADMAP FOR NEC 2017 AND BEYOND

/ We at Fronius are driven by finding energy solutions to technical challenges and have been doing so for more than 70 years. Our track record proves that our products have been best in class at their time. As a solar pioneer, we have been driving the evolution of sustainable solar solutions for the past 25 years. Only sustainable, truly future-proof solar solutions will lead us to our vision of an energy future powered 100% with renewables - a world of 24 hours of sun.



NEC 2017 AND BEYOND

/ Fronius is a founding member of the SunSpec Communication Signal for Rapid Shutdown Workgroup. We strongly believe in industry standards and innovation to drive down cost and allow customer choice. We do not support proprietary, closed systems. We strive to provide our customers state-of-the-art open systems that offer freedom of choice in components.



FRONIUS PART NUMBERS FOR THE 2017 LINE UP AND ACCESSORIES

/ Please note that distributors may use their own part numbers or categorization system, so please verify part numbers when ordering through your distributor.

PRODUCTS

PART NUMBER	PRODUCT	SECTOR
4,200,011,800	Fronius Galvo 1.5-1 208-240	Residential
4,200,012,800	Fronius Galvo 2.0-1 208-240	Residential
4,200,013,800	Fronius Galvo 2.5-1 208-240	Residential
4,200,015,800	Fronius Galvo 3.1-1 208-240	Residential
4,210,064,800	Fronius Primo 3.8-1 208-240	Residential
4,210,063,800	Fronius Primo 5.0-1 208-240	Residential
4,210,062,800	Fronius Primo 6.0-1 208-240	Residential
4,210,061,800	Fronius Primo 7.6-1 208-240	Residential
4,210,060,800	Fronius Primo 8.2-1 208-240	Residential
4,210,075,800	Fronius Primo 10.0-1 208-240	Residential
4,210,076,800	Fronius Primo 11.4-1 208-240	Residential
4,210,077,800	Fronius Primo 12.5-1 208-240	Residential
4,210,078,800	Fronius Primo 15.0-1 208-240	Residential
4,210,050,801	Fronius Symo 10.0-3 480	Commercial
4,210,050,851	Fronius Symo 10.0-3 208-240	Commercial
4,210,051,801	Fronius Symo 12.5-3 480	Commercial
4,210,051,851	Fronius Symo 12.0-3 208-240	Commercial
4,210,052,801	Fronius Symo 15.0-3 480	Commercial
4,210,052,841	Fronius Symo 15.0-3 208	Municipal
4,210,053,801	Fronius Symo 17.5-3 480	Commercial
4,210,054,801	Fronius Symo 20.0-3 480	Commercial
4,210,055,801	Fronius Symo 22.7-3 480	Commercial
4,210,056,801	Fronius Symo 24.0-3 480	Commercial



WARRANTIES

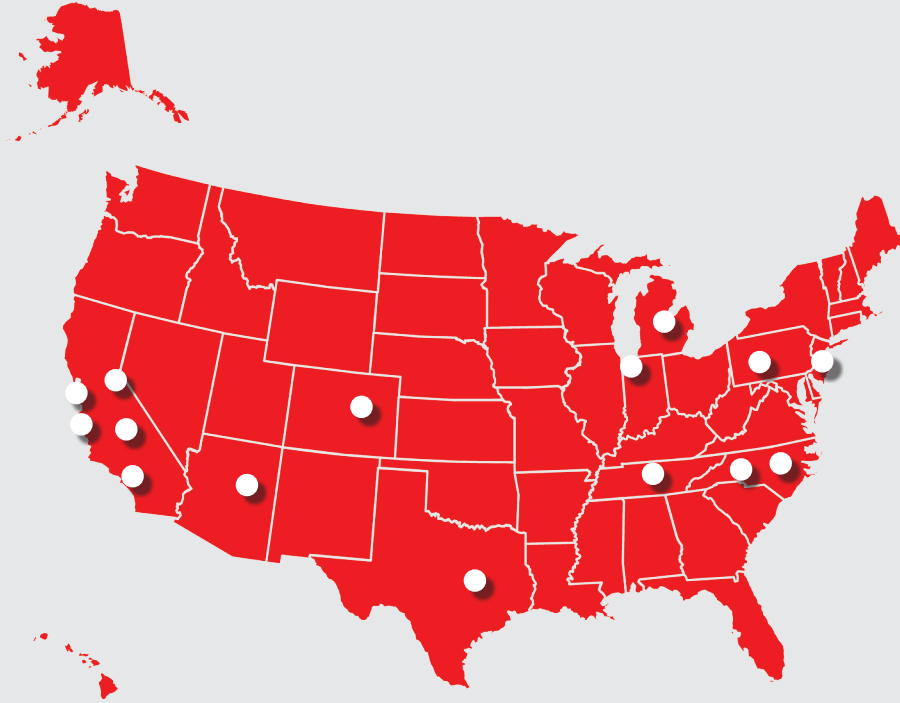
PART NUMBER	PRODUCT	PART NUMBER	PRODUCT
41,200,171	Fronius 5 Year Warranty Extension, Galvo 1.5 - 2.0	41,200,189	Fronius 5 Year Warranty Extension, Primo 10.0, 11.4, 12.5; IG Plus Advanced 10.0, 11.4; Symo 10.0-3, 12.0-3, 12.5-3
41,200,172	Fronius 10 Year Warranty Extension, Galvo 1.5 - 2.0	41,200,190	Fronius 10 Year Warranty Extension, Primo 10.0, 11.4, 12.5; IG Plus Advanced 10.0, 11.4; Symo 10.0-3, 12.0-3, 12.5-3
41,200,174	Fronius 5 Year Warranty Extension Plus, Galvo 1.5 - 2.0	41,200,192	Fronius 5 Year Warranty Extension Plus, Primo 10.0, 11.4, 12.5; IG Plus Advanced 10.0, 11.4; Symo 10.0-3, 12.0-3, 12.5-3
41,200,175	Fronius 10 Year Warranty Extension Plus, Galvo 1.5 - 2.0	41,200,193	Fronius 10 Year Warranty Extension Plus, Primo 10.0, 11.4, 12.5; IG Plus Advanced 10.0, 11.4; Symo 10.0-3, 12.0-3, 12.5-3
41,200,177	Fronius 5 Year Warranty Extension, Galvo 2.5, 3.0, 3.1; Primo 3.8, 5.0	41,200,195	Fronius 5 Year Warranty Extension, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,178	Fronius 10 Year Warranty Extension, Galvo 2.5, 3.0, 3.1; Primo 3.8, 5.0	41,200,196	Fronius 10 Year Warranty Extension, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,180	Fronius 5 Year Warranty Extension Plus, Galvo 2.5, 3.0, 3.1; Primo 3.8, 5.0	41,200,198	Fronius 5 Year Warranty Extension Plus, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,181	Fronius 10 Year Warranty Extension Plus, Galvo 2.5, 3.0, 3.1; Primo 3.8, 5.0	41,200,199	Fronius 10 Year Warranty Extension Plus, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,183	Fronius 5 Year Warranty Extension, Primo 6.0, 7.6, 8.2	41,200,201	Fronius 5 Year Warranty Extension, Symo 20.0-3, 22.7-3, 24.0-3
41,200,184	Fronius 10 Year Warranty Extension, Primo 6.0, 7.6, 8.2	41,200,202	Fronius 10 Year Warranty Extension, Symo 20.0-3, 22.7-3, 24.0-3
41,200,186	Fronius 5 Year Warranty Extension Plus, Primo 6.0, 7.6, 8.2	41,200,204	Fronius 5 Year Warranty Extension Plus, Symo 20.0-3, 22.7-3, 24.0-3
41,200,187	Fronius 10 Year Warranty Extension Plus, Primo 6.0, 7.6, 8.2	41,200,205	Fronius 10 Year Warranty Extension Plus, Symo 20.0-3, 22.7-3, 24.0-3

ACCESSORIES

PART NUMBER	PRODUCT	SECTOR
43,0001,3529	Fronius Smart Meter 240V	Smart Meter
43,0001,3530	Fronius Smart Meter 480V	Smart Meter
4,240,034,Z	Datamanager 2.0 WLAN IG(PI) US	Datcom
4,240,038,Z	Datamanager 2.0 WLAN GalSymPrim	Datcom
4,240,151	Fronius Rapid Shutdown Box-Single	Code Compliance
4,240,152	Fronius Rapid Shutdown Box Multi	Code Compliance
4,062,022	Fronius Primo RGM Option	Revenue Grade Meter

WE'RE POWERING AMERICA

/ You can find Fronius USA located in multiple states, nationwide: Tennessee, Michigan, North Carolina, Pennsylvania, Arizona, California, Texas and Colorado .



FRONIUS USA HEADQUARTERS

/ For technical support, please call toll free at 1-877-FRONIUS or (219) 734-5500.

/ For general sales inquiries or how to become a distributor, call (219) 734-5500.

/ Perfect Welding / Solar Energy / Perfect Charging

WE HAVE THREE DIVISIONS AND ONE PASSION: SHIFTING THE LIMITS OF POSSIBILITY.

/ Whether welding technology, photovoltaics or battery charging technology – our goal is clearly defined: to be the innovation leader. With around 3,700 employees worldwide, we shift the limits of what's possible - our record of over 800 granted patents is testimony to this. While others progress step by step, we innovate in leaps and bounds. Just as we've always done. The responsible use of our resources forms the basis of our corporate policy.

Further information about all Fronius products and our global sales partners and representatives can be found at www.fronius.com

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