



## SOLAR SOLUTIONS FOR THE FUTURE THE FRONIUS SOLAR PORTFOLIO



# 2018 PRODUCT CATALOG

## FRONIUS USA SOLAR ENERGY BUSINESS UNIT

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GET DETAILED INFORMATION ANYTIME AT  
OUR WEBSITE: [WWW.FRONIUS.US/PV](http://WWW.FRONIUS.US/PV)

# 3 BUSINESS UNITS, ONE GOAL:

## SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT

### PERFECT CHARGING

The first division of Fronius was founded in 1945 by Gunter Fronius after WWII. Still in business today, the Perfect Charging division is one of Europe's leading suppliers in battery charging technology specializing in intralogistics operations and the vehicle workshop sector.



### PERFECT WELDING

The second founded business unit of Fronius, Perfect Welding, was established in 1950. The major innovation from this division is the thermal joining of steel and aluminium. Our range of products includes manual and automatic power sources and complete systems as well as the related services.



### SOLAR ENERGY

Klaus Fronius was inspired by a Fronius welder to offset the energy it consumed with renewable energy; thus the Solar Energy Business Unit was born in 1992. Since then we have been dedicated to developing systems and solutions for the solar industry. Everything we do is governed by the motto "24 hours of sun", our vision for the future of energy revolution. It is our goal to harness the power of renewables to make energy independence a reality – and all while delivering maximum return on investment.





# WHO WE ARE

The Solar Energy business unit has been in the photovoltaics industry 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. Everything we do is guided by our vision of 24 hours of sun: a future where 100% of our energy needs are covered by renewables.



# SUSTAINABLE

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Fronius is not a company that lives only in the present - we have a past and we are conscious of the future. Sustainability for us doesn't only mean utilizing value today, but rather preserving value for tomorrow. It is our responsibility to make economically, socially, and environmentally balanced decisions. We have an obligation to consider the interests of everyone impacted by our actions.

Our products are always designed with sustainability in mind. The SnapINverters can be serviced at the board level directly in the field. Installers shouldn't have to take the time to replace entire units from site because a replacement truck roll costs everyone time and money. After all, what use is your PV equipment if it is less sustainable than the energy it produces?

EVERYTHING WE DO RELATES TO OUR GOAL OF: **24 HOURS OF SUN**. WE WANT TO SEE A WORLD THAT COVERS 100% OF ITS ENERGY NEEDS WITH RENEWABLES.



# RELIABLE

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Three business units strong, Fronius is not a company that will fall victim to the "solar coaster". We believe solar will prevail despite government or national trends. We are fully committed to the USA market.

One key component to our bankability is our reliable industry partners and relationships. We align with like-minded partners that share our long term goals of a renewable future.



# WHAT WE OFFER

Fronius is much more than an inverter manufacturer. We have expanded our portfolio to offer solutions to the industry. Our newest training platforms strive to educate the market not only on our product, but also industry codes and standards. Our Service teams are technical experts helping preform comissioning in the field or directly to you in order to offer the greatest support possible. By offering high quality products and support we are able to strengthen your relationship with Fronius and your relationship with customers.

## ON SITE-SERVICE & EDUCATION

/ The Fronius On-Site Services allow peace of mind for you and success for your project. You can ensure the highest possible quality and satisfactory completion of your project with Fronius technicians. Our educational trainings are available to provide knowledge to the industry. We focus on industry issues and show how our product offers solutions.

*See page 28.*

## THE FRONIUS SMART SOLUTION

/ The Fronius Smart Solution is designed to adapt to your specific needs. You have the ability to choose the components you need and optimize your entire system design while maintaining a minimal number of components. This next generation of PV installation offers a smarter solution to installation.

*See page 12.*

## 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](http://www.24hoursofsun.com). Share the vision. #24hoursofsun.



## FRONIUS CUSTOMER RELATIONSHIP

/ Fronius is your infinite partner for all your solar ventures - we are here for you, and we are here to stay! We have dedicated a commitment to the market basing our teams in the US including repair, service, support, marketing, and more. We at Fronius think it's the people that make a difference, therefore we value our highly qualified teams.

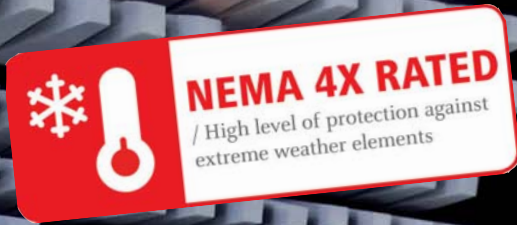
/ With direct links to all Fronius teams we aim to develop a strong working relationship with our customers and we believe this bond will help strengthen your client trust as a result. Fronius values community, sustainability and long-lasting relationships.

## FRONIUS 24/7 SERVICE SOLUTIONS

/ The full O&M portfolio offered by Fronius USA: We offer the tools and information, so installers can support their customers within 24 hours. Utilizing Fronius Solar, web, SOS and Fronius Solutions Provider as a final precaution, support is offered to all customers around the clock; 24 hours 7 days a week.

*See page 24.*





# OUR QUALITY

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

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Fronius product tests include weathering, freezing, infrared testing, vibration, shipping and much more. Our products are also tested to ensure compatibility with other power electronics, such as media and internet devices.

## SAFETY

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Safety is our top priority - with extensive in-house testing, we make sure to deliver not only code compliant products but safety that goes beyond. Be it electromagnetic compatibility (EMC), arc fault detection or rapid shutdown, the safety of solar installers and system owners is always on top of our thinking.



# THE HIDDEN POWER OF INVERTERS

While inverter oversizing is not new to the solar industry, there are still inverter manufacturers that do not offer an attractive DC:AC ratio for their inverters. This highly impacts cost and profitability of a solar system. Therefore, it's important for system designers and solar installers to have a closer look on the oversizing capabilities of inverters, and to tap into their hidden power.



## COST SAVINGS

In commercial, rooftop or ground mount systems, oversizing reduces the number of inverters needed to support the available array size and its kWp on a given roof. This not only reduces the initial cost, but also the O&M expenses - both resulting in a better ROI.

# HOW TO INCREASE YOUR COMPETITIVENESS WITH ADAPTIVE SYSTEM DESIGN



As solar markets are getting more established, the competition between installation companies increases. More players, both regional and national, are entering the market. While this is good for solar shoppers and the overall growth of the solar industry, installers might face tougher competition. As a result, differentiation becomes more important. This article shows how installers can stand out from their competition.



Inverter oversizing refers to adding more DC power to an inverter than it is rated for. For example, if you connect 6 kWp of DC power to a 5 kW inverter, you oversize the system by 20%. This makes total sense, because the peak power of 6 kWp will only come up in very few and short moments - so using a 6 kWp inverter (no oversizing) would be unnecessary and therefore a waste of money. In situations where the system actually generates more than 5 kW, the inverter would clip and so rare and so short, that it is negligible. The advantages you gain by oversizing clearly outweigh the effects of clipping.

**MORE DC POWER  
WITHOUT AC PANEL  
UPGRADE**

### HIGHER YIELDS

While the efficiency of high-quality inverters is quite stable over the whole power range, it's still getting higher the closer the inverter operates to its nominal power.

## READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/HIDDEN-POWER](http://WWW.FRONIUS.US/PV/HIDDEN-POWER)



## READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/ADAPTIVE-DESIGN](http://WWW.FRONIUS.US/PV/ADAPTIVE-DESIGN)

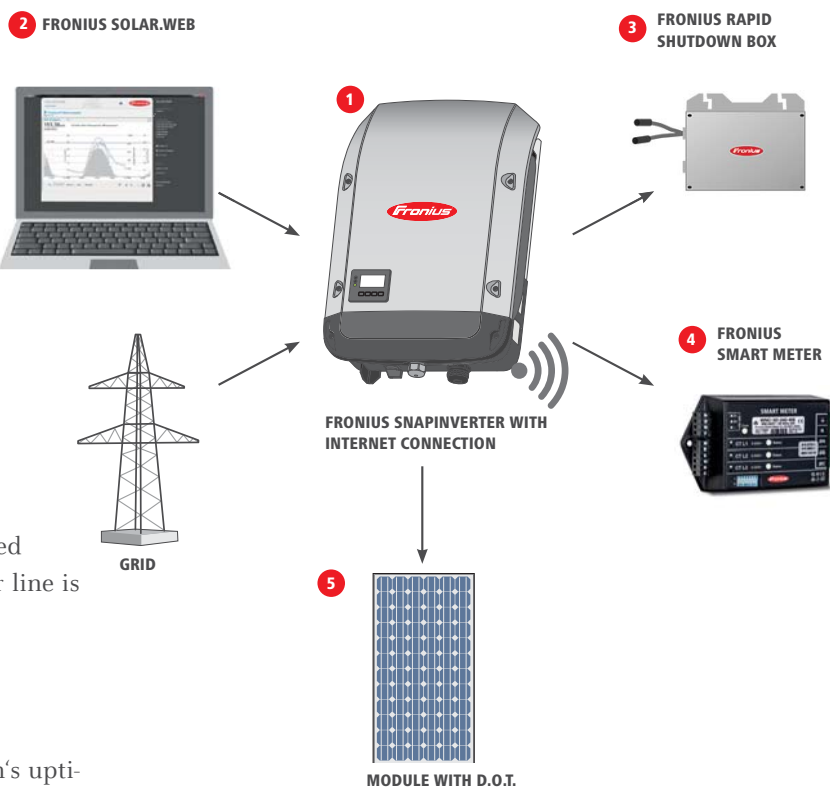


# FRONIUS SMART SOLUTION

## THE FIRST SOLAR ADAPTIVE SYSTEM DESIGN

Due to the modularity of the Fronius Smart Solution, it adapts to your specific needs. You have the ability to choose the components you need and optimize your entire system design while maintaining a minimal number of components. 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!





## FRONIUS SNAPINVERTER

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

## 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. Analyze energy consumption and compare it with the solar production to optimize overall energy usage.

## FRONIUS RAPID SHUTDOWN BOX

The Fronius Rapid Shutdown Box provides the ultimate NEC 2014 code (690.12) and NEC 2017 (Array Disconnect) compliant solution, while enhancing rooftop and firefighter safety.

## FRONIUS SMART METER

The bi-directional energy meter for feed-in management and energy consumption monitoring.

## MODULE WITH D.O.T.

### DEEP OPTIMIZATION TECHNOLOGY

Also referred to as solar cell-string optimization technology, when optimization is needed D.O.T. 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).

## WHAT IS AN ADAPTIVE SYSTEM DESIGN?

The Fronius Adaptive System Design is a new product category that is different from straight string systems and traditional MLPE systems. This category focuses on OPTIMIZING THE ENTIRE SYSTEM, not just the module. The Adaptive System design caters to specific needs in any particular system.

24  
HOURS OF SUN

# THE FRONIUS PRODUCT PORTFOLIO

/ Our innovative line of inverters for all residential and commercial systems.



## FRONIUS PRIMO

/ Single phase 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.

## WHAT'S NEW?

At Fronius we believe that every solar system should have monitoring enabled, so we just made it easier to connect systems to the internet. Whenever there is no Wi-Fi or Ethernet network available on site, financing requires a cellular connection, or when connecting to the owner's internet is not feasible, you now have the option to connect the system



## FRONIUS CELLULAR SOLUTION

- / Wireless internet connection with no Wi-Fi
- / Professional Monitoring from Solar.web
- / Simple installation and set up of devices
- / Cost-effective, pre-paid data plans
- / Optional higher-bandwidth premium packages



# SNAPINVERTER ACCESSORIES

/ Our accessory solutions offer flexibility for system design, state codes and standards compliance.



## FRONIUS RAPID SHUTDOWN BOX

- / MC Connectors, spring loaded terminals and generous wiring space for easy wiring.
- / Mounting bracket with multiple mounting options for maximum flexibility.



## 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 ROOFTOP SOLUTION

- / Fronius offers a light-weight and easy to install shade cover as part of the Fronius Rooftop Solution - keeping the inverter's temperature low and performance high.
- / Simplify the installation of your Fronius Symo 24.0 inverters and get the Fronius MC4 Connector option.



# COMMERCIAL SOLUTIONS

## THE FRONIUS SYMO

The Fronius Symo ranges from 10kW - 24kW. The three phase grid option guarantees simple O&M and easy system design.

[WWW.FRONIUS.US/PV/SYMOUSA](http://WWW.FRONIUS.US/PV/SYMOUSA)



## FRONIUS SYMO

AVAILABLE JANUARY 2019!



FRONIUS SYMO	FRONIUS SYMO ADVANCED
Three-phase	Three-phase
Transformerless	Transformerless
10 kW - 24 kW	10 kW - 24 kW
Dual MPPT	Dual MPPT
Integrated Wi-fi	Integrated Wi-fi
Sun Spec Modbus interface	Sun Spec Modbus interface
NEMA 4X protection class	NEMA 4X protection class
-	PLC Transmitter for SunSpec Rapid Shutdown

The Fronius Symo 10 power classes range from 10kW up to 24 kW. The compact size of the inverter allows for design flexibility, which is rare in a typical commercial system. The hinged mounting system allows for an easy and quick installation. Servicing O&M long-term is really where the return on investment becomes fully realized with the Symo. This inverter is designed for sustainability with its board level replacement capabilities. Cut the number of truck-rolls in half with a Fronius SnapInverter.

**THE SYMO'S EASY O&M CONCEPT MEANS  
HIGHER ENERGY SAVINGS LONG-TERM**

## FRONIUS SYMO ADVANCED



The Fronius Symo Advanced combines the benefits of the Fronius Symo with the convenience of an open industry standard. It is the first inverter with an integrated Power Line Communication (PLC) transmitter based on the recently published SunSpec Communication Signal for Rapid Shutdown. This industry standard is a multi-vendor and multi-device communication specification for inverters, modules, and string combiners to support NEC 2014, NEC 2017, and UL 1741 module-level rapid shutdown requirements.

# FRONIUS ROOFTOP SOLUTION

The Fronius Rooftop Solution consists of the Fronius Symo 24.0 inverter with MC4 Connector option and the Fronius shade Cover, providing the easiest and most cost-effective solution for NEC 2014 and 2017 requirements in commercial rooftop systems.



#### FRONIUS SHADE COVER

- / Lower operating temperature - higher conversion efficiencies
- / Weather protection for harsh conditions
- / Material savings - no special racking needed



#### FRONIUS MC4 CONNECTORS

- / Decreased installation time and improved technician safety
- / Significantly reduced trouble shooting time.
- / Simplified ongoing preventive maintenance

## 5 COMMERCIAL ROOFTOP CHALLENGES

The Commercial and Industrial (C&I) space are both complex and environmentally demanding for solar installations. High ambient temperatures, high irradiance, obstructions, setbacks or pathways are all challenges for design, installation and operation & maintenance (O&M). So what's the best way to overcome them? This article sheds light on these challenges and lays out solutions. Hint: the inverter plays a key role in this!







# BIRMINGHAM, ALABAMA

/ In collaboration with Vulcan Solar Power and Marx Brothers.

SYSTEM DATA	
System Size	132 kW
Purpose, system type	Commercial rooftop
Module type and area	240 Deta on building rooftop
Inverter	10 Symo 2018/240 SnapInverters
Commissioned	March 2018
Special features	Installed with 10 Fronius Shade covers allowing inverters to be mounted next to the array eliminating the need for a Rapid Shutdown box. This is also the largest commercial PV system in central and south Alabama.

## 1. HIGH TEMPERATURES

Rooftops are naturally environments with high heat and harsh weather environments. Keep PV production high on a cool inverter using the Fronius Symo Shade Cover.

## 2. RAPID SHUTDOWN

## 4. ACCESSIBILITY

## 3. OBSTRUCTIONS

In order to avoid HVAC units or chimneys, a small compact inverter creates PV design flexibility.

## 5. SERVICEABILITY

A high ROI is crucial for commercial PV. Easy to install MC4 connectors cut O&M costs dramatically with a short installation time and even shorter inspection process.



# READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/5-CHALLENGES](http://WWW.FRONIUS.US/PV/5-CHALLENGES)



# RESIDENTIAL SOLUTIONS

## THE FRONIUS PRIMO AND RAPID SHUTDOWN

Residential PV with design flexibility and without a high number of components. Never worry about installation time and O&M with the Fronius residential solutions.



# FRONIUS PRIMO



FRONIUS PRIMO 3.8 - 8.2 KW	FRONIUS PRIMO 10.0 - 15.0 KW
Single-phase	Single-phase
Transformerless	Transformerless
Dual MPPT	Dual MPPT
Integrated Wifi	Integrated Wifi
SunSpec Modbus interface	SunSpec Modbus interface
NEMA 4x Protection class	NEMA 4x Protection class

[WWW.FRONIUS.US/PV/PRIMOUSA](http://WWW.FRONIUS.US/PV/PRIMOUSA)

# FRONIUS RAPID SHUTDOWN BOX



FRONIUS RAPID SHUTDOWN BOX DUO	FRONIUS RAPID SHUTDOWN BOX QUATTRO
1 Input circuit (2 if used with MC-4 Y connector)	2 Input circuit (4 if used with MC-4 Y connector)
25A input terminal	25A input terminal
NEMA 4X	NEMA 4X
Easy wiring	Easy wiring
Mounting bracket comes with multiple mounting options	Mounting bracket comes with multiple mounting options
Sleek design	Sleek design

[WWW.FRONIUS.US/PV/RAPIDSHUTDOWNUSA](http://WWW.FRONIUS.US/PV/RAPIDSHUTDOWNUSA)

The new generation Fronius Rapid Shutdown Box provides a convenient solution for NEC 2014 (690.12) and NEC 2017 (Array Disconnect) compliance, while enhancing overall rooftop and firefighter safety. Low-profile design, installer-friendly mounting and wiring, and low number of components make the Fronius Rapid Shutdown Box the ultimate solution for all Fronius SnapINverters in systems up to 600 V.

# NON-RESIDENTIAL SINGLE PHASE APPLICATIONS - A SUCCESS STORY

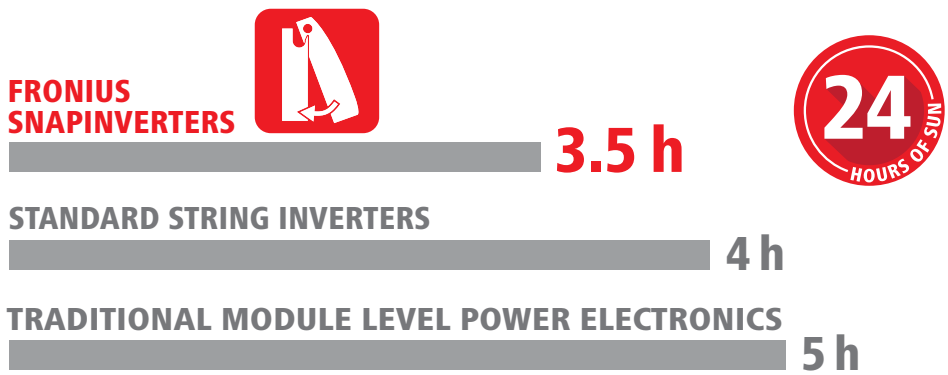
Agriculture, religious congregations and community centers have one thing in common: their untapped PV potential.



**THE RIGHT INVERTER MATTERS**  
The Fronius Primo 15 kW is the biggest single phase power class in the market and allows for 1,000V DC. Optimize the entire system design with lower cost and less labor.

A QUICK INSTALLATION = LOWER LABOR AND O&M COSTS!

## OVERALL SYSTEM INSTALLATION TIME WITH ...



\* Time estimates based on a 5.0 KW residential system.

With 5.5% of the overall GDP of the United States, the agriculture industry has a significant share of the US economy. If we take a closer look, we are able to uncover that farms have plenty of untapped solar potential. With a lot of barns, silos, sheds and other buildings a lot of roof space could be put to better use by adding solar panels, thus aiding to agriculture energy bills. Since modern day farms require a lot of energy, e.g. for critical air conditioning for life stock, these roofs are a prime spot for solar.

AGRICULTURE, RELIGIOUS CONGREGATIONS, COMMUNITY CENTERS...IT ALL COMES BACK TO THE GRID.

# READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/SINGLE-PHASE](http://WWW.FRONIUS.US/PV/SINGLE-PHASE)

## MYRTLE BEACH, SOUTH CAROLINA, USA

/ The Fronius Smart Solution offers convenience and efficiency that benefit both the installer and the homeowner!



INSTALLATION DATA	
Size of installation	18.50 kW
Purpose, system type	Residential home
Module type and area	Jinko MX optimized modules installed on the roof
Inverter	2 Fronius Primo SnapINverters 8.2-1 kW & Rapid Shutdown Boxes
Commissioned	Installed January 1, 2017 by Carolina Energy Conservation
Production	17.60 kWh
Smart Solution	DC optimization, Rapid Shutdown and String inverters offer benefits to both installer and homeowner for convenience and efficiency
Partners	Civic Solar is a distribution partner for Fronius USA







# 24/7 SERVICE SOLUTIONS

## THE COMPLETE FRONIUS O&M PORTFOLIO

Solar is an investment for the future. System owners have the reassurance that a qualified installer will lead the way in their journey to solar. But who is supporting you? Introducing the Fronius 24/7 Service Solutions, the full O&M portfolio. We now not only offer you the bankable Fronius name and product, we also support along the way.



## FRONIUS SOLAR.WEB WE INFORM YOU!

Remote diagnostics, alerts and proactive email notifications when an inverter is underperforming and state code overviews keep you informed about the status of every system – no matter if you are in the office or on the go.



## FRONIUS SOS WE SUPPORT YOU!

- / Get 24/7 support with the online support tool Fronius SOS.
- / Initiate the exchange or repair of an inverter or components online.
- / Troubleshoot by simply entering a state code and following the instructions



## FRONIUS FSP WE EMPOWER YOU!

- / Fronius offers the only truly field-serviceable inverters
- / Our FSP certification empowers you to stock spare parts and do repairs directly in the field, cutting the number of truck rolls in half – and enabling repairs within a day or less.



# THE FRONIUS UPTIME SOLUTION

We always seek to maximize a systems uptime and eliminate all downtime. Therefore, we want to give you the tools, workflows and information to solve every service case within one truck roll.

1



SEE SYSTEM STATUS ON SOLAR.WEB

2



TROUBLESHOOT 24/7 WITH FRONIUS SOS

3



EXCHANGE SPARE PART DIRECTLY ON SITE

## TIME IS MONEY - ESPECIALLY WHEN IT COMES TO SERVICE



A solar system is installed within a day, but the Operations & Maintenance (O&M) phase lasts 20 years and more. As an industry we need to pay attention to this timespan in order to build a sustainable future for solar. When customers invest in a PV system, they expect 20 plus years of energy production with a minimum of service and maintenance requirements - while generating a solid return on investment. One big impact on that is the selected inverter.

## READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/TIME-IS-MONEY](http://WWW.FRONIUS.US/PV/TIME-IS-MONEY)

## FRONIUS SOLAR.WEB FREE SYSTEM MONITORING

Do you want full overview of your PV system and the ability to remote diagnostics your PV system -at home and on the go? With Fronius Solar.web it's now easier than ever! Our easy-to-use online portal allows users the ability to run remote diagnostics remotely. Solar.web has the ability to display important system information such as output, yield and consumption. Solar.web helps keep you informed about all aspects of your solar system(s).

## FRONIUS S.O.S. SOLAR ONLINE SUPPORT

Fronius Solar Online Support (SOS) is an online tool for installers that allows them to initiate a repair process directly on-site, without having to call our technical support. Fronius SOS can provide product information, track cases, troubleshoot state codes, process warranty repair and request an exchange with just a few clicks.

VIEW A LIVE DEMO AT [WWW.SOLAR.WEB.COM](http://WWW.SOLAR.WEB.COM)





FRONIUS PRIMO



# ON-SITE SERVICE SOLUTIONS

The Fronius On-Site Services allow peace of mind for you and success for your project. You can ensure the highest possible quality and satisfactory completion of your project with Fronius technicians.



## COMMISSIONING INSPECTION



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The Fronius Commissioning Inspection service includes a Fronius technician on site during the activation of the system and assists installers during the start-up process.

## ON-SITE SUPPORT



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The Fronius On-Site Support service is designed to offer manufacturer level support and general support to our customers in the field. This service includes a Fronius technician on site for your individual on-site support needs.

CONTACT US FOR MORE INFORMATION :  
[PV-TRAINING-USA@FRONIUS.COM](mailto:PV-TRAINING-USA@FRONIUS.COM)

ITEM DESCRIPTION	PART NUMBER
On-Site Support Service	42,100,010
Commissioning Inspection	42,005,027



# THE FRONIUS SOLUTIONS PROVIDER

BRINGING SOLUTIONS TO THE PV INDUSTRY



As a part of the Fronius Solutions Provider Program, you are a valued member of the Fronius team. Whether they need a new solar installation or service on an existing unit, customers know that they can count on you to provide unrivaled solutions. Fronius USA provides the tools you need to offer a higher caliber of service to your customers. From quality, hands on continuing education to the option to keep spare parts on hand, each of the benefits of the Fronius Solutions Provider Program is designed to support you and help you bring your business up to the next level.

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### MARK GERLIKOVSKI CERTIFIED FRONIUS SOLUTIONS PROVIDER

*"Knowing how to rebuild an inverter from the chassis on up is invaluable. The ability to replace a part that no other manufacturer is going to instruct you to replace is invaluable. The time and money saved to both the manufacturer and my company because I can do these things is invaluable. The cost to ship an inverter versus the cost to ship me a main board is [significant]. This is a "no brainer". The time and attention to these details is what makes Fronius stand out. This is why the FSP program is a great thing."*





# INSTALLING AS AN FSP GET THE SUPPORT YOU NEED ON YOUR PV JOURNEY



## VISITS FROM YOUR TECHNICAL SALES ADVISOR

/ Regular visits from your Fronius Technical Sales Advisor keep you ahead of the curve with new product information, continuous training, and a go to for all your system design needs.



SYSTEM DESIGN



PRODUCT PURCHASE & INSTALLATION



## FSP TRAINING

/ Receive hands on, in depth training from Fronius over system design, installation, board level replacement and more. Gain knowledge and skills that set your company apart.

**MARKETING SUPPORT**  
/ Get support from your Fronius marketing team with giveaways, tradeshows, graphics and more!

### VISITS FROM YOUR REGIONAL SALES MANAGER

/ A relationship with your Fronius Regional Sales Manager means you are engaged with Fronius directly and will get quality support, sales training and more.

### SPARE PARTS

/ Spare parts on hand means less truck rolls and more savings for you, as well as higher customer satisfaction.



WARRANTY SERVICE



### DIRECT LINE TO TECHNICAL SUPPORT

/ Be the first in line, every time when you need assistance from Fronius Technical Support!



## Take NABCEP courses with our technicians and earn the elite FSP certification

1. Register at [www.fronius.com](http://www.fronius.com)
2. Coordinate your schedule with our training team, sign up for as many or as few courses as you like!
3. Take courses, sign your agreement and become FSP! Now you can order spare parts and begin commissioning services for your business.

/ For further information about the Fronius Solutions Provider Program contact Fronius USA at (219) 734 5500 or [pv-training-usa@fronius.com](mailto:pv-training-usa@fronius.com)



# TECHNICAL TRAINING

COURSES AVAILABLE IN THE FRONIUS  
SOLUTION PROVIDER PROGRAM



## LEGACY PRODUCT



Fronius values all solar installations; past and present. We still train on our IG and IG Plus series because our installers still encounter them in the field. In this course we cover service solutions, board level replacements, and best practice installation on older generation products.

Each course is led by a certified trainer at Fronius USA headquarters. NABCEP credits, meals and training materials are all included.

### NABCEP CREDITS

8 hours

## FRONIUS INSTALLATION BEST PRACTICES

This training covers best installation practices recommended for the Fronius SnapINverter line that an installer may encounter in the field. This includes inverter orientation, mounting, conduit installation, torque specifications, and operating parameters.

Each course is led by a certified trainer at Fronius USA headquarters. NABCEP credits, meals and training materials are all included.

### DURATION OF TRAINING

8 hours

## SNAPINVERTER SERVICE SOLUTIONS



The SnapINverter Service training covers the service and O&M processes of the Galvo, Primo and Symo SnapINverter. This overview includes design tips, best practices, installation setup, communications, in-depth troubleshooting, and most notably, board level servicing. The training also covers accessories, such as the Rapid Shutdown Boxes and Fronius Smart Meter applications.

Each course is led by a certified trainer at Fronius USA headquarters. NABCEP credits, meals and training materials are all included.

### NABCEP CREDITS

8 hours

## FRONIUS WEBINARS



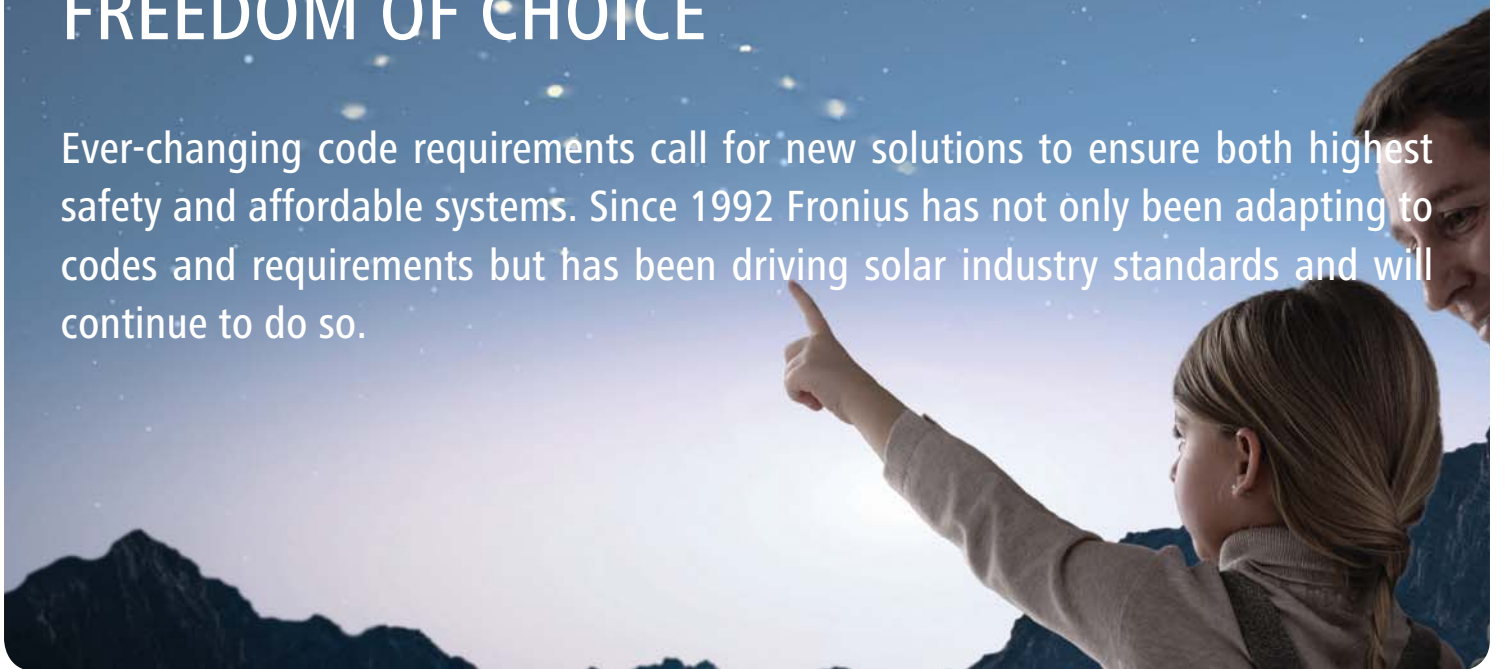
Looking for more technical trainings? Check out the Fronius USA webinar series on our website. Every other Thursday our technical advisors present topical industry news and product demonstrations. Q&A takes place after each session; no inquiry goes unanswered! Did we mention webinars are always FREE?

REGISTER FOR FSP TRAININGS AND WEBINARS  
ON OUR WEBSITE: [WWW.FRONIUS.US/PV/EVENTS](http://WWW.FRONIUS.US/PV/EVENTS)

# THINKING BEYOND

## DRIVING INDUSTRY STANDARDS FOR THE FREEDOM OF CHOICE

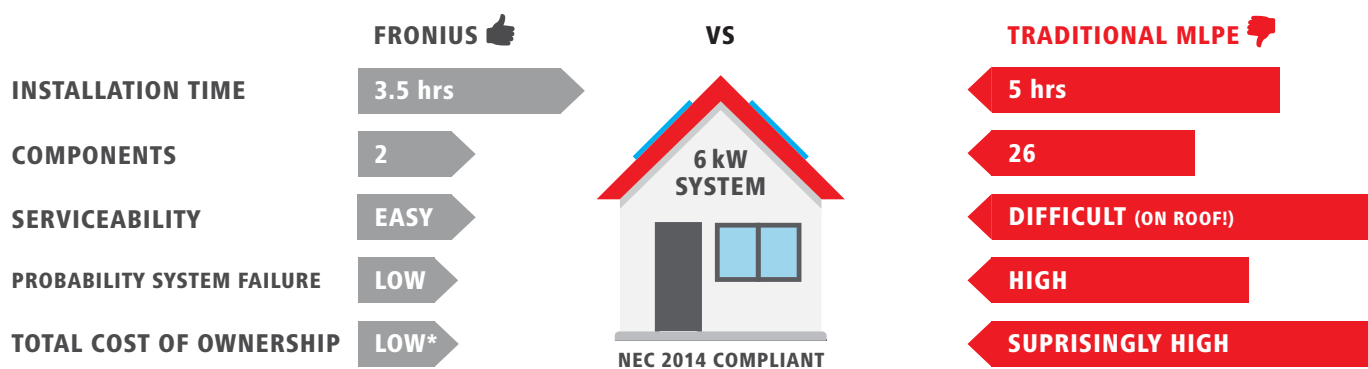
Ever-changing code requirements call for new solutions to ensure both highest safety and affordable systems. Since 1992 Fronius has not only been adapting to codes and requirements but has been driving solar industry standards and will continue to do so.



# MAKE THE BEST CHOICE FOR YOU AND YOUR CUSTOMER

80%- 85% 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. Customize your offering to what's actually needed, because there is no one-fits-all for solar.

## EXAMPLE: NEC 2014 COMPLIANT SYSTEM



## OUR SOLUTION: NEC 2014



THE FRONIUS RAPID SHUTDOWN BOX

The sleek and flexible design of the Fronius Rapid Shutdown Box Duo is modeled off direct feedback from installers in the market. They told us where we could make improvements and we listened!

## OUR SOLUTION: NEC 2017



/ To offer solar installers an easy plug-and-play solution for the NEC 2017 module level shutdown requirement, Fronius believes that the best solutions are based on an industry standard with Power Line Communication (PLC). The SunSpec Communication Signal for Rapid Shutdown provides this standard.

/ This industry standard is a multi-vendor and multi-device communication specification for inverters, modules, and string combiners to support NEC 2014, NEC 2017, and UL 1741 module-level rapid shutdown requirements.



# THE FRONIUS ROADMAP

We at Fronius are driven by finding energy solutions to technical challenges. 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.

<b>1946</b>	<b>1992</b>	<b>2001</b>	<b>2006</b>	<b>2014</b>	<b>2016</b>	<b>2019</b>
						
/ Company founded by Günter Fronius	/ Fronius Sunrise, still up and running	/ Fronius IG, world's first field serviceable inverter	/ Fronius IG Plus, world's first inverter introducing SunSpec	/ Fronius SnapINverter, unique ease of installation	/ Fronius RSB, easiest way to comply with NEC 2014	/ Our vision of driving the transition to 100% renewables with the Symo Advanced, the first inverter with SunSpec PLC

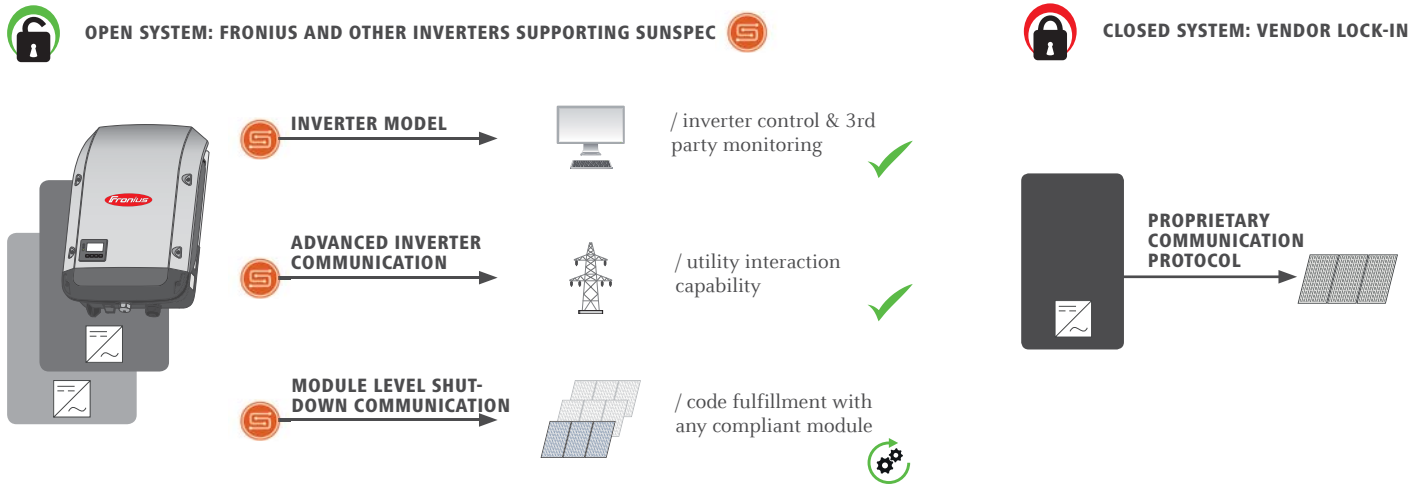
## SOLAR INVERTERS - IT'S MORE THAN WHAT'S IN THE BOX

When it comes to the buying decision for solar inverters, some buyers might be inclined to only look at pricing and spec sheets. While these are certainly buying criteria that should not be neglected, it is just a small portion of the bigger picture that needs to be considered when choosing an inverter brand - because an inverter is more than what's in the box.



## NEC 2017 AND BEYOND

Fronius is a founding member of the SunSpec Communication Signal for the Alliance. We strongly believe in industry standards and innovation to drive down cost and allow customer choice. We strive to provide our customers state-of-the-art open systems that offer freedom of choice in components.



As the solar inverter industry is becoming more commodified every year, inverter spec sheets are starting to look a lot more similar. Many inverter capabilities are driven by the same market requests and NEC code regulations, making features and pricing very similar across all inverter brands in the market. Therefore, a buyer could think that the only thing to look at is the price tag. However, it's crucial to actually look past the spec sheet and the initial purchase price. When picking an inverter, you not only chose a piece of equipment, you are choosing a partner to work with for the next 20+ years. Thus, you might want to look into more than just „the box“ and its price.

INVERTER UPTIME, O&M, AND LEVELIZED COST OF ENERGY ALL MAKE A BIG DIFFERENCE AND CANNOT BE FOUND ON A **SPEC SHEET OR ON THE PRICE TAG**

## READ THE FULL TECHNICAL ARTICLE ON OUR WEBSITE

[WWW.FRONIUS.US/PV/MORE-THAN-THE-BOX](http://WWW.FRONIUS.US/PV/MORE-THAN-THE-BOX)

# FRONIUS PART NUMBERS FOR THE 2018 CATALOG 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
4,210,064,800	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

## WHERE TO BUY

Fronius USA partners with distributors across the nation. Find both our Premier Partners and regional distributors on our website:

[WWW.FRONIUS.US/PV/WHERE-TO-BUY](http://WWW.FRONIUS.US/PV/WHERE-TO-BUY)



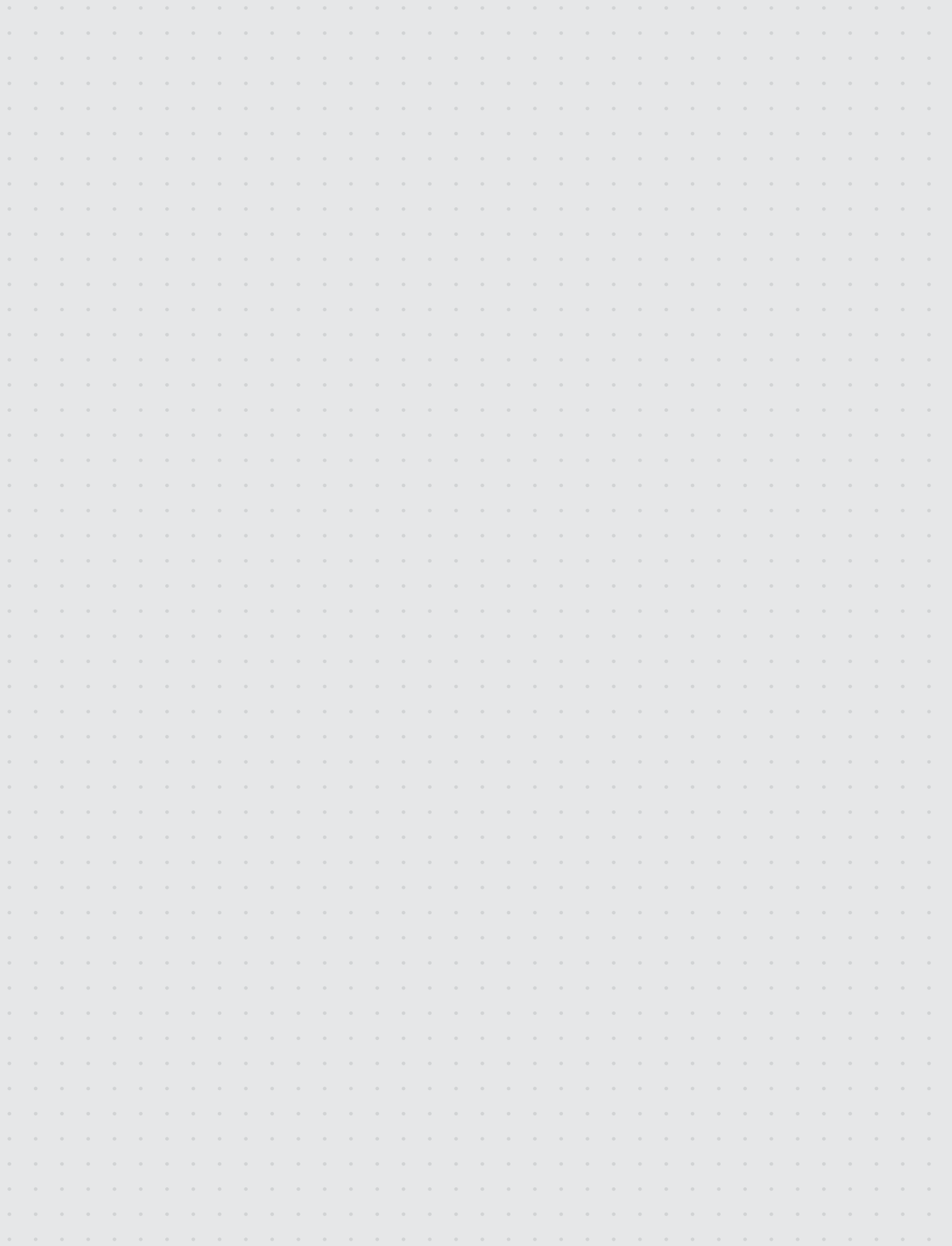


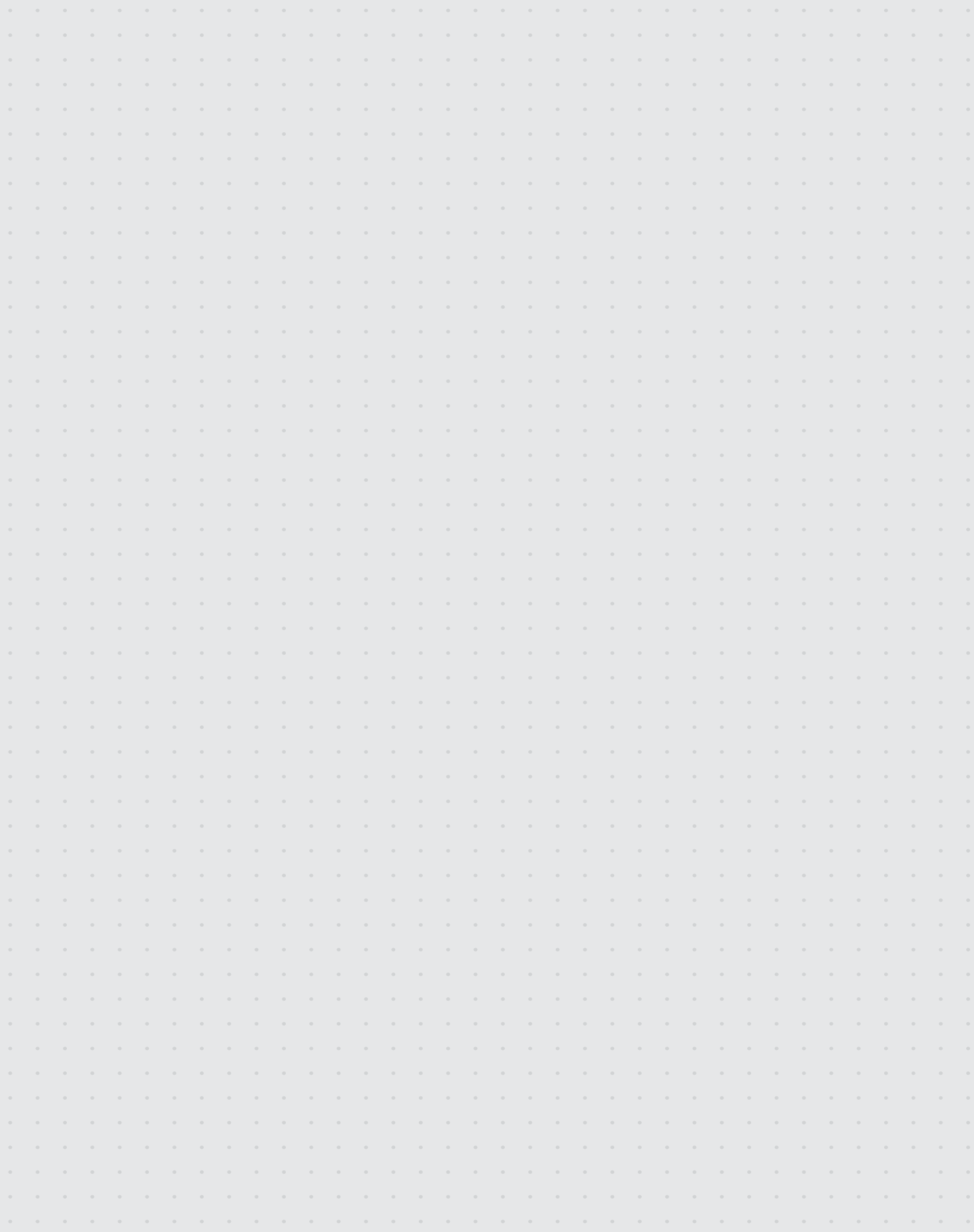
## WARRANTIES

PART NUMBER	PRODUCT	PART NUMBER	PRODUCT
41,200,177	Fronius 5 Year Warranty Extension, Primo 3.8, 5.0	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
41,200,178	Fronius 10 Year Warranty Extension, Primo 3.8, 5.0	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
41,200,180	Fronius 5 Year Warranty Extension Plus, Primo 3.8, 5.0	41,200,195	Fronius 5 Year Warranty Extension, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,181	Fronius 10 Year Warranty Extension Plus, Primo 3.8, 5.0	41,200,196	Fronius 10 Year Warranty Extension, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,183	Fronius 5 Year Warranty Extension, Primo 6.0, 7.6, 8.2	41,200,198	Fronius 5 Year Warranty Extension Plus, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,184	Fronius 10 Year Warranty Extension, Primo 6.0, 7.6, 8.2	41,200,199	Fronius 10 Year Warranty Extension Plus, Primo 15.0; Symo 15.0-3, 17.5-3
41,200,186	Fronius 5 Year Warranty Extension Plus, 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
41,200,187	Fronius 10 Year Warranty Extension Plus, 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
41,200,189	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	41,200,204	Fronius 5 Year Warranty Extension Plus, Symo 20.0-3, 22.7-3, 24.0-3
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	41,200,205	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
4,240,153	Fronius Rapid Shutdown Box-Duo	Code Compliance
4,240,154	Fronius Rapid Shutdown Box-Quattro	Code Compliance
43,0004,5998	Fronius MC4 Connectors	Commercial
CA2,0201,5443	Fronius Symo Shade Cover	Commercial
42,0440,0000	Fronius Cellular Solution	Commercial or Residential

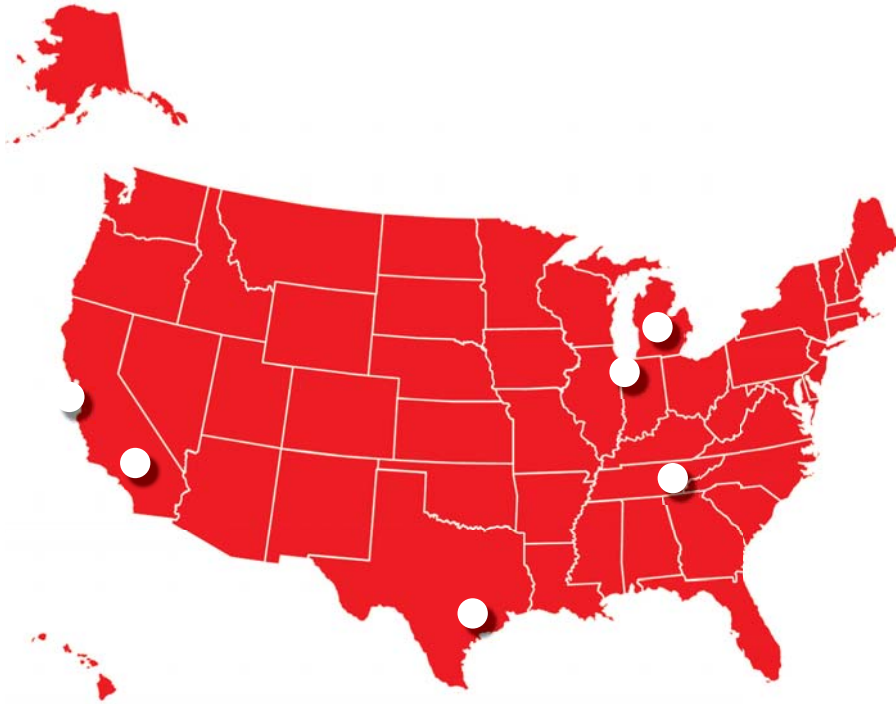






# WE'RE POWERING AMERICA

You can find Fronius USA located in multiple states, nationwide: Tennessee, Michigan, Indiana, Texas and California.



## FRONIUS USA HEADQUARTERS

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

/ For general sales inquiries call (219) 734-5500 or email [pv-sales-usa@fronius.com](mailto:pv-sales-usa@fronius.com)

/ Perfect Welding / Solar Energy / Perfect Charging

### THREE BUSINESS UNITS, ONE GOAL: TO SET THE STANDARD THROUGH TECHNOLOGICAL ADVANCEMENT.

What began in 1945 as a one-man operation now sets technological standards in the fields of welding technology, photovoltaics and battery charging. Today, the company has around 3,800 employees worldwide and 1,242 patents for product development show the innovative spirit within the company. Sustainable development means for us to implement environmentally relevant and social aspects equally with economic factors. Our goal has remained constant throughout: to be the innovation leader.

Further information about all Fronius products and our global sales partners and representatives can be found at [www.fronius.com](http://www.fronius.com)

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