

/ Perfect Welding / Solar Energy / Perfect Charging



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

Tony SAUCEDO – Regional Sales Manager –
Northeastern & Great Lakes States

Fronius USA, LLC
6797 Fronius Drive
Portage, IN 46368

**SOLAR SOLUTIONS
BUILT TO LAST**

FRONIUS – SHIFTING THE LIMITS

INNOVATIVE SPIRIT

We are driven by an innovative spirit to turn visions into reality and to shift the limits of what's possible.



EXPANSION

Just a few years later, his technology was utilized to change the welding industry.



ACHIEVEMENT

8 Gigawatts and over **1 million** inverters later, this vision has been greatly surpassed.



THE START

Founded in **1945** by Günter Fronius: his vision was to use car batteries more efficiently and more sustainably!



SOLAR ENERGY

In the **early 90s** Klaus Fronius had another vision:

“Let’s offset all energy needed for battery charging and welding with clean energy.”



OUR NEXT VISION

Now it is time to turn the next vision into a reality:
24 hours of sun.

**24HRS
SUN**

FRONIUS – SHIFTING THE LIMITS.

WHAT WE DO AS A COMPANY.

OUR THREE DIVISIONS

Perfect Charging



/ Battery charging systems for starter and traction batteries since 1946

/ One of the leading suppliers of the battery charging market in Europe

Perfect Welding



/ Since 1950, we have been developing innovative system solutions in Welding

/ Fronius is the world leader in welding technology and the market leader in Europe

Solar Energy



/ Innovations in solar electronics since 1992 and on the US market since 2002

/ One of the leading suppliers in solar electronics

WHAT DO THESE DIVISIONS HAVE IN COMMON?

- / All we do is about **power conversion** and **power electronics**
- / We are passionate about creating technologies that help to **power and empower people**
- / With our technologies **we turn our visions into reality**



THE FRONIUS PRODUCT LINE AT A GLANCE

Fronius Galvo



1.5 – 3.1 kW

Single Phase

Fronius Primo



3.8 – 15 kW

Single Phase

Fronius Symo



10 – 24 kW

Three Phase

Fronius DATCOM



FREE MONITORING

Online

/ Fronius Solar.web
/ App for Android & iOS, incl.
Apple Watch
/ Fronius Solar.TV
/ Free for a lifetime
/ Open interfaces

FRONIUS SNAPINVERTERS

OUR SNAPINVERTER FEATURE SET

AGF's



.....
We are shaping the grid of future:
Advanced Grid Features, easy
communication and remote control
options by utilities.

AFCI



.....
Most advanced DC AFCI
integrated as a standard,
completely developed in-house.

Mounting System



.....
Easy installation in 15 min or less and service
due to our innovative SnapInverter mount
system and light weight.

Open interfaces



.....
Standard interfaces & protocols enable
convenient connection options to Third
Party monitoring providers (Modbus
SunSpec, FTP Push Service).

Wi-Fi



.....
Free lifetime online monitoring
and apps via Wi-Fi.

Wide voltage range



.....
Design flexibility and easy string sizing due to wide
MPPT voltage range.

Plug in cards



.....
Plug-n-play slots and PC board
replacement for any future system
extensions or fixes.

COMMERCIAL PROJECTS THAT LAST THE FRONIUS SYMO



10 – 24 kW

- / 3-phase
- / Transformerless
- / Dual MPPT (except 15 kW / 208V version)
- / 1000 V

FLEXIBLE SYSTEM DESIGN – WHY STRING INVERTERS

EASE OF SERVICE

.....

Reduced downtime due to fast service option by replacing inverters. Installers can carry out service themselves.

TCO

.....

Very low service costs, no service and maintenance plans needed.

UPTIME

.....

Increased uptime due to simple system design. Only minor part of system effected. Faster reaction times in case of inverter failures.

NO STRING COMBINER BOXES

.....

PV strings are directly connected to the inverter. Built-in fused 6 string combiner within the inverter. No junction boxes or string level monitoring needed.

INCREASED AVAILABILITY

.....

Energy losses are mitigated due to modular design.

FSP

.....

Reduced downtimes due to fast service option by board replacement repair.

HIGHLIGHTED PROJECTS



- / North Putnam Community Schools, INDIANA
- / 1.6 MW Solar Power Plant combined with 300 kW/960kWh commercial storage system
- / JLM's Gridz system is used for storage
- / Duke Energy only accepts 500 kW of PV power to the grid while facility consumes 250 kW during peak hours
- / 4,200 modules; 42 SYMO string inverters; JLM Gridz system
- / No incentives involved except LED lighting rebate
- / Owned by school; financed with a Tax Exempt Least Purchase (TELP)
- / Anticipated payback: 11 years; cash flow positive year 1

HIGHLIGHTED PROJECTS



- / Geneva Solar Farm, Geneva, NY**
- / 1.5 MW Solar Power Plant comprised of 35 separate projects**
- / Utilized New York state's remote net metering law and NYSERDA NY-Sun Solar Electric Incentive Program**
- / 10 homeowners and 25 businesses benefit from this farm**
- / 25 PRIMO and 40 SYMO string inverters**
- / Locally owned with tax credit and savings staying in the state**

/ Perfect Welding / Solar Energy / Perfect Charging



SHIFTING THE LIMITS

All information is without guarantee in spite of careful editing - liability excluded.

Intellectual property and copyright: all rights reserved. Copyright law and other laws protecting intellectual property apply to the content of this presentation and the documentation enclosed (including texts, pictures, graphics, animations etc.) unless expressly indicated otherwise. It is not permitted to use, copy or alter the content of this presentation for private or commercial purposes without explicit consent of Fronius.

GENEVA, NEW YORK USA

/ Qwiksolar, Fronius and New York State Energy Research and Development Authority; A new model for solar farms



/ QwikSolar partnered with Fronius to bring this massive solar farm to life. This remote net metered project is actually 35 separate projects totaling 1.5 MW of power.

/ Using New York state's remote net metering law, and the NYSEDA NY-Sun Solar Electric Incentive Program, these projects credit energy directly to the accounts of 10 homeowners and 25 businesses. Currently one third complete, the project uses 25 Fronius Primo single-phase inverters and 40 Symo three-phase inverters.

All the systems are locally owned with the tax credits and savings staying in the local economy.

Organizations involved: NYSEDA, USDA, Qwiksolar LLC, Wallace Farms LLC



Stanley and Gale Mathews stand in front of their 11.7 kW array at the Geneva Solar Farm

INSTALLATION DATA	
Size of installation	1.5 MW
Purpose, system type	Solar Farm
Inverter	Fronius Primo, Fronius Symo

QwikSolar / (315) 571-0777 / www.qwiksolar.com

Fronius USA / 6797 Fronius Drive / Portage, IN 46368 / USA / pv-sales-usa@fronius.com / www.fronius.com

