

/ Perfect Welding / Solar Energy / Perfect Charging

FRONIUS SYMO

/ The future of commercial solar is here - Introducing the new Fronius Symo.



SHIFTING THE LIMITS



/ PC Board Replacement Process



/ SnapINverter Mounting System



/ Integrated Data Communication



/ SuperFlex Design



/ Smart Grid & NEC 2014 Compliant



/ Dynamic Peak Manager



/ AFCI Integrated

/ Featuring nine models ranging from 10 kW to 24 kW, the transformerless Fronius Symo is the ideal compact three-phase inverter for commercial applications. The high system voltage and wide input voltage range ensure maximum flexibility in system design. With its low roof loading, NEMA 4X, and 1000 volt DC rating, the Fronius Symo can be mounted in many different ways. The modern design is equipped with the SnapINverter mounting system, allowing for lightweight, secure and convenient installation and repair. Several industry-leading features come standard with the Fronius Symo including Wi-Fi®* and SunSpec Modbus interfaces for seamless monitoring and datalogging, field proven Arc Fault Circuit Interruption (AFCI), NEC 2014 compliant, and Fronius' superb online and mobile monitoring platform Fronius Solar.web. The Fronius Symo- the most communicative, efficient, and streamlined three phase string inverter on the market.

TECHNICAL DATA FRONIUS SYMO

GENERAL DATA	STANDARD WITH ALL SYMO MODELS
Dimensions (width x height x depth)	20.1 x 28.5 x 8.9 inches
Degree of protection	NEMA 4X
Night time consumption	< 1 W
Inverter topology	Transformerless
Cooling	Variable speed fan
Installation	Indoor and outdoor installation
Ambient operating temperature range	-40°F - + 140 °F (-40 - +60 °C)
Permitted humidity	0 - 100 % (non-condensing)
DC connection terminals	6x DC+ and 6x DC- screw terminals for copper (solid / stranded / fine stranded) or aluminum (solid / stranded)
AC connection terminals	Screw terminals 14-6 AWG
Certificates and compliance with standards	UL 1741-2010, UL1998 (for functions: AFCI and isolation monitoring), IEEE 1547-2003, IEEE 1547.1-2008, ANSI/IEEE C62.41, FCC Part 15 A & B, NEC Article 690, C22. 2 No. 107.1-01 (September 2001), UL1699B Issue 2 -2013, CSA TIL M-07 Issue 1 -2013

GENERAL DATA	10.0-3 208/240	12.0-3 208/240	10.0-3 480	12.5-3 480	15.0-3 480	17.5-3 480	20.0-3 480	22.7-3 480	24.0-3 480
Weight	91.9 lbs.	91.9 lbs.	76.7 lbs.	76.7 lbs.	95.7 lbs.	95.7 lbs.	95.7 lbs.	95.7 lbs.	95.7 lbs.

PROTECTIVE DEVICES	STANDARD WITH ALL FRONIUS SYMO MODELS
AFCI & 2014 NEC Ready	Yes
DC disconnect	Yes
DC reverse polarity protection	Yes
Ground Fault Protection with Isolation Monitor Interrupter	Yes

TECHNICAL DATA FRONIUS SYMO

INPUT DATA	10.0-3 208/240	12.0-3 208/240	10.0-3 480	12.5-3 480	15.0-3 480	17.5-3 480	20.0-3 480	22.7-3 480	24.0-3 480
Recommended PV power (kWp)	8.0 - 13.0	9.5 - 15.5	8.0 - 13.0	10.0 - 16.0	12.0 - 19.5	14.0 - 23.0	16.0 - 26.0	18.0 - 29.5	19.0 - 31.0
Max. usable input current (MPPT1/MPPT 2)	25.0 A / 16.5 A				33.0 A / 25.0 A				
MPP-voltage range	300 - 500 V	300 - 500 V	300 - 800 V	350 - 800 V	350 - 800 V	400 - 800 V	450 - 800 V	500 - 800 V	500 - 800 V
Operating voltage range	200 - 600 V	200 - 600 V	200 - 1000 V	200 - 1000 V					
Max. input voltage	600 V	600 V	1000 V	1000 V					
Nominal input voltage	208	350 V	350 V	NA	NA	NA	NA	NA	NA
	220 / 240	370 V	370 V	NA	NA	NA	NA	NA	NA
	480	NA	NA	675 V	685 V	695 V	710 V	720 V	720 V
Admissible conductor size DC	AWG 14 ... AWG 6 copper direct, AWG 6 aluminum direct, AWG 4 ... AWG 2 copper or aluminum with input combiner								
Number of MPPT	2								

OUTPUT DATA	10.0-3 208/240	12.0-3 208/240	10.0-3 480	12.5-3 480	15.0-3 480	17.5-3 480	20.0-3 480	22.7-3 480	24.0-3 480
Max. output power	208	9995 VA	11995 VA	NA	NA	NA	NA	NA	NA
	220 / 240	9995 VA	11995 VA	NA	NA	NA	NA	NA	NA
	480	NA	NA	9995 VA	12495 VA	14995 VA	17495 VA	19995 VA	23995 VA
Max. output current	208	31.5 A	35.0 A	NA	NA	NA	NA	NA	NA
	220 / 240	29.7 A / 27.3 A	35.0 A / 32.8 A	NA	NA	NA	NA	NA	NA
	480	NA	NA	13.7 A	17.1 A	20.5 A	23.9 A	27.4 A	31.1 A
Max. Efficiency		97.0 %	97.0 %	98.1 %	98.1 %	98.0 %			
CEC Efficiency	208	96.5 %	96.5 %	NA	NA	NA	NA	NA	NA
	240	96.5 %	96.5 %	NA	NA	NA	NA	NA	NA
	480	NA	NA	96.5 %	97.0 %	97.0 %	97.5 %	97.5 %	97.5 %
Admissible conductor size AC	AWG 14 - AWG 6								
Grid connection (U _{ac,r})	208/240	208/240	480 Delta +N**	480 Delta + N**	480 Delta + N**				
Frequency (f _i)	60 Hz								
Total harmonic distortion	< 1.75 %								
Power factor	0 - 1 ind./cap.								

INTERFACES	STANDARD WITH ALL FRONIUS SYMO MODELS
Wi-Fi*/Ethernet/Serial	Wireless standard 802.11 b/g/n / Fronius Solar.web, SunSpec Modbus TCP, JSON / SunSpec Modbus RTU
6 inputs and 4 digital I/Os	Load management; signaling, multipurpose I/O
USB (A socket)	Datalogging and inverter update possible via USB
2x RS422 (RJ45 socket)	Fronius Solar Net, interface protocol
Datalogger and Webserver	Included

*The term Wi-Fi® is a registered trademark of the Wi-Fi Alliance.

**+N for sensing purposes - no current carrying conductor.

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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 3,000 employees worldwide, we shift the limits of what's possible - our record of over 1,000 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

