/ Perfect Welding / Solar Energy / Perfect Charging

# FRONIUS SYMO

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

SHIFTING THE LIMITS


/ Featuring nine models ranging from 10 kW to 24 kW, the transformerless Fronius Symo is the ideal compact three-phase inverter for all 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 V DC rating, the Fronius Symo can be mounted in many different ways, including flat on a roof or pole mount. The modern design is equipped with the SnapINverter mounting system, allowing for lightweight, secure and convenient installation and repair. Several industry-leading features are available 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: powering commercial projects that last.

## 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 Compliant | 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 | | | | |
| Max. usable input current total (MPPT 1 + MPPT 2) | | 41.5 A | | | | 51 A | | | | |
| Max. array short circuit current (1.5 * Imax) MPPT 1/MPPT 2) | | 37.5 A / 24.8 A | | | | 49.5 A / 37.5 A | | | | |
| Integrated DC string fuse holders | | - | - | - | - | - | - | 6- and 6+ | | |
| 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 V | 350 V | 350 V | NA | NA | NA | NA | NA | NA | NA |
| | 240 V | 370 V | 370 V | NA | NA | NA | NA | NA | NA | NA |
| | 480 V | NA | NA | 675 V | 685 V | 685 V | 695 V | 710 V | 720 V | 720 V |
| Admissable 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 V | 9995 VA | 11995 VA | NA | NA | NA | NA | NA | NA | NA |
| | 240 V | 9995 VA | 11995 VA | NA | NA | NA | NA | NA | NA | NA |
| | 480 V | NA | NA | 9995 VA | 12495 VA | 14995 VA | 17495 VA | 19995 VA | 22727 VA | 23995 VA |
| Max. continuous output current | 208 V | 27.7 A | 33.3 A | NA | NA | NA | NA | NA | NA | NA |
| | 240 V | 24.0 A | 28.9 A | NA | NA | NA | NA | NA | NA | NA |
| | 480 V | NA | NA | 12.0 A | 15.0 A | 18.0 A | 21.0 A | 24.0 A | 27.3 A | 28.9 A |
| AC breaker size | 208 V | 35 A | 45 A | NA | NA | NA | NA | NA | NA | NA |
| | 240 V | 30 A | 40 A | NA | NA | NA | NA | NA | NA | NA |
| | 480 V | NA | NA | 15 A | 20 A | 25 A | 30 A | 30 A | 35 A | 40 A |
| Max. Efficiency | | 97.0 % | 97.0 % | 98.1 % | 98.1 % | | | 98.0 % | | |
| CEC Efficiency | 208 V | 96.5 % | 96.5 % | NA | NA | NA | NA | NA | NA | NA |
| | 240 V | 96.5 % | 96.5 % | NA | NA | NA | NA | NA | NA | NA |
| | 480 V | NA | NA | 96.5 % | 97.0 % | 97.0 % | 97.5 % | 97.5 % | 97.5 % | 97.5 % |
| Admissable conductor size AC | | AWG 14 - AWG 6 | | | | | | | | |
| Grid connection | | 208 / 240 V | 208 / 240 V | 480 V Delta +N** | 480 V Delta + N** | 480 V Delta + N** | | | | |
| Frequency | | 60 Hz | | | | | | | | |
| Total harmonic distortion | | < 1.75 % | | | | | | | | |
| Power factor | | 0 - 1 ind./cap. | | | | | | | | |

| INTERFACES | AVAILABLE WITH ALL FRONIUS SYMO MODELS |
|---|---|
| USB (A socket) | Datalogging and inverter update possible via USB |
| 2x RS422 (RJ45 socket) | Fronius Solar Net, interface protocol |
| **AVAILABLE WITH THE FRONIUS DATAMANAGER 2.0 CARD ( ONLY ONE CARD REQUIRED FOR UP TO 100 INVERTERS )** | |
| Wi-Fi/Ethernet/Serial/ Datalogger and webserver | 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 |

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

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