

TECHNICAL DATA FRONIUS SYMO HYBRID

/ The Fronius Symo Hybrid is the heart of the storage solution for 24 hours of sun - the Fronius Energy Package. With power categories from 3.0 to 5.0 kW, the three-phase inverter allows surplus energy from a photovoltaic system to be temporarily stored in the Fronius Solar Battery. Through intelligent energy flow management, the integrated Multi Flow Technology allows both the AC and the DC coupling of storage systems.



INPUT DATA	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
Number of MPP trackers		1	
Max. PV input power	5.0 kW	6.5 kW	8.0 kW
Max. input current ($I_{dc \max}$)		1 x 16 A	
Max. short circuit current, module array		24 A	
DC input voltage range ($U_{dc \min} - U_{dc \max}$)		150 - 1000 V	
Feed-in start voltage ($U_{dc \text{ start}}$)		200 V	
Usable MPP voltage range		150 - 800 V	
Number of DC connections (PV)		2	

BATTERY INPUT	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
Maximum output power to battery		Depends on connected Fronius Solar Battery	
Maximum input power from battery		Depends on connected Fronius Solar Battery	

OUTPUT DATA	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
AC nominal output ($P_{ac,r}$)	3,000 W	4,000 W	5,000 W
Max. output power	3,000 VA	4,000 VA	5,000 VA
Max. power from grid to battery	3,000 VA	4,000 VA	5,000 VA
Max. AC output current ($I_{ac \max}$)		8.3 A	
Grid connection (voltage range)		3-NPE 400 V / 230 V or 3-NPE 380 V / 220 V (+20 % / -30 %)	
Frequency (frequency range)		50 Hz / 60 Hz (45 - 65 Hz)	
Total harmonic distortion		< 3 %	
Power factor ($\cos \varphi_{ac,r}$)		0.85 - 1 ind. / cap.	

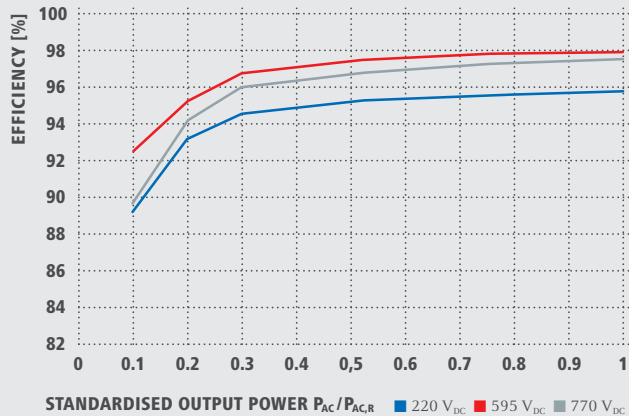
GENERAL DATA	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
Dimensions (height x width x depth)		645 x 431 x 204 mm	
Weight		19.9 kg	
Degree of protection		IP 65	
Protection class		1	
Overvoltage category (DC / AC) ¹⁾		2 / 3	
Inverter design		Transformerless	
Cooling		Regulated air cooling	
Installation		Indoor and outdoor installation	
Ambient temperature range		-25 - +60°C	
Permitted humidity		0 - 100 %	
Max. altitude		2,000 m (unrestricted voltage range)	
DC PV connection technology		2x DC+ and 2x DC- screw terminals 2.5 - 16 mm ²	
DC battery connection technology		1x DC+ and 1x DC- screw terminals 2.5 - 16 mm ²	
AC connection technology		5-pin AC screw terminals 2.5 - 16 mm ²	
Certificates and compliance with standards		VDE AR N 4105, ÖVE / ÖNORM E 8001-4-712, DIN V VDE 0126-1-1	
Emergency power function		Yes	

EFFICIENCY	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
Max. efficiency (PV - grid)	97.7 %	97.9 %	
Max. efficiency (PV - battery - grid)	> 90.0 %	> 90.0 %	> 90.0 %
Europ. efficiency (PV - grid)	95.2 %	95.7 %	96.0 %
MPP adaptation efficiency		> 99.9 %	

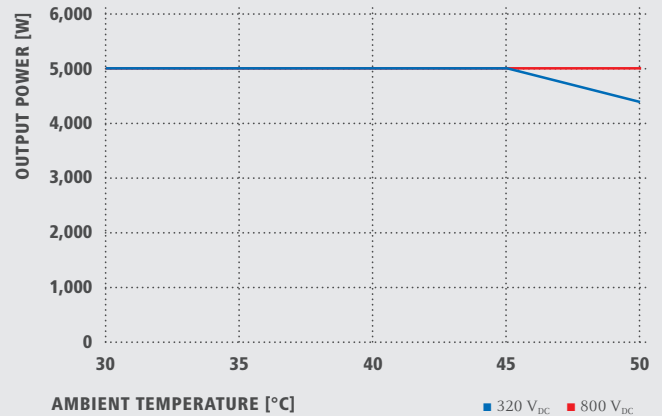
¹⁾ Testing to IEC 62109-1.

Further information regarding the availability of the inverters in your country can be found at www.fronius.com.

FRONIUS SYMO HYBRID 5.0-3-S EFFICIENCY CURVE



FRONIUS SYMO HYBRID 5.0-3-S TEMPERATURE DERATING



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PROTECTION DEVICES	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
DC disconnecter		Included	
Overload behaviour		Operating point shift, power limitation	
DC insulation measurement		Included	
Integral RCMU		Yes	
Reverse polarity protection		Yes	

INTERFACES	SYMO HYBRID 3.0-3-S	SYMO HYBRID 4.0-3-S	SYMO HYBRID 5.0-3-S
WLAN / Ethernet LAN		Fronius Solar.web, Modbus TCP SunSpec, Fronius Solar API (JSON)	
Datalogger and web server		Included	
Interface to battery and meter		Modbus RTU (RS485)	

Further information and technical data can be found at www.fronius.com.

TECHNICAL DATA FRONIUS SMART METER

/ The Fronius Smart Meter is a bidirectional meter which optimises self-consumption and records the household's load curve. In conjunction with the Fronius Solar.web online portal, the Fronius Smart Meter provides a clear overview of a user's own power consumption.



TECHNICAL DATA	FRONIUS SMART METER 63A-3	FRONIUS SMART METER 50ka-3 ¹⁾
Nominal voltage		400 - 415 V
Maximum current	3 x 63 A	3 x 50,000 A
Input Terminal capacity	1 - 16 mm ²	0.05 - 4 mm ²
Communication and Neutral line Terminal capacity		0.05 - 4 mm ²
Power consumption	1.5 W	2.5 W
Starting current		40 mA
Accuracy class		1
Active Energy Accuracy		Class B (EN50470)
Reactive Energy Accuracy		Class 2 (EN/IEC 62053-23)
Short-time overcurrent		30 x I _{max} / 0,5 s
Mounting		Indoors (DIN rail)
Housing		4 modules DIN 43880
Degree of protection		IP 51 (front frame), IP 20 (terminals)
Specified operating range		-25 - +55°C
Dimensions (Height x Width x Depth)		89.0 x 71.2 x 65.6 mm
Interface to inverter		Modbus RTU (RS485)
Display		8-digit LCD

¹⁾ Delivered without current sensors. Further information about selecting suitable current sensors can be found at www.fronius.com.