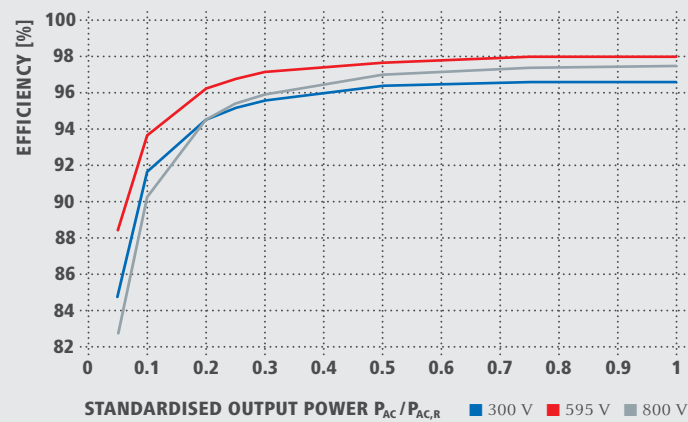
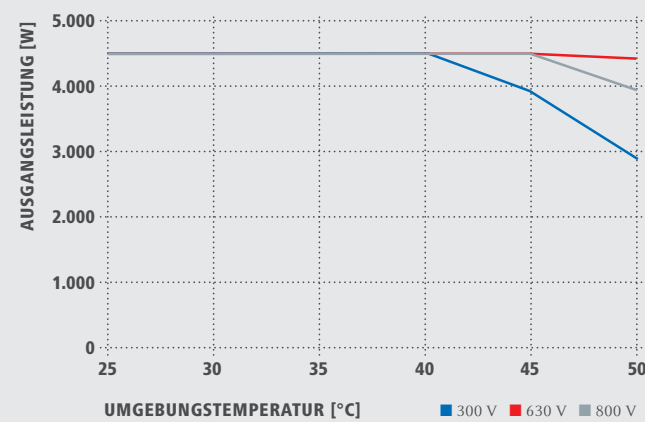


FRONIUS SYMO 4.5-3-S EFFICIENCY CURVE



FRONIUS SYMO 4.5-3-S TEMPERATURE DERATING



TECHNICAL DATA FRONIUS SYMO (3.0-3-S, 3.7-3-S, 4.5-3-S, 3.0-3-M, 3.7-3-M, 4.5-3-M)

| EFFICIENCY | SYMO 3.0-3-S | SYMO 3.7-3-S | SYMO 4.5-3-S | SYMO 3.0-3-M | SYMO 3.7-3-M | SYMO 4.5-3-M |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Max. efficiency | 98.0 % | | | | | |
| European efficiency (ηEU) | 96.2 % | 96.7 % | 97.0 % | 96.5 % | 96.9 % | 97.2 % |
| η at 5 % Pac,r ¹⁾ | 80.3 / 83.6 / 79.1 % | 83.4 / 86.4 / 80.6 % | 84.8 / 88.5 / 82.8 % | 79.8 / 85.1 / 80.8 % | 81.6 / 87.8 / 82.8 % | 83.4 / 90.3 / 85.0 % |
| η at 10 % Pac,r ¹⁾ | 87.8 / 91.0 / 86.2 % | 90.1 / 92.5 / 88.7 % | 91.7 / 93.7 / 90.3 % | 86.5 / 91.6 / 87.7 % | 87.9 / 93.6 / 90.5 % | 89.2 / 94.1 / 91.2 % |
| η at 20 % Pac,r ¹⁾ | 92.6 / 95.0 / 92.6 % | 93.7 / 95.7 / 93.6 % | 94.6 / 96.3 / 94.5 % | 90.8 / 95.3 / 93.0 % | 91.9 / 96.0 / 94.1 % | 92.8 / 96.5 / 95.1 % |
| η at 25 % Pac,r ¹⁾ | 93.4 / 95.6 / 93.8 % | 94.5 / 96.4 / 94.7 % | 95.2 / 96.8 / 95.4 % | 91.9 / 96.0 / 94.2 % | 92.9 / 96.6 / 95.2 % | 93.5 / 97.0 / 95.8 % |
| η at 30 % Pac,r ¹⁾ | 94.0 / 96.3 / 94.5 % | 95.0 / 96.7 / 95.4 % | 95.6 / 97.2 / 95.9 % | 92.8 / 96.5 / 95.1 % | 93.5 / 97.0 / 95.8 % | 94.2 / 97.3 / 96.3 % |
| η at 50 % Pac,r ¹⁾ | 95.2 / 97.3 / 96.3 % | 96.9 / 97.6 / 96.7 % | 96.4 / 97.7 / 97.0 % | 94.3 / 97.5 / 96.5 % | 94.6 / 97.7 / 96.8 % | 94.9 / 97.8 / 97.2 % |
| η at 75 % Pac,r ¹⁾ | 95.6 / 97.7 / 97.0 % | 96.2 / 97.8 / 97.3 % | 96.6 / 98.0 / 97.4 % | 94.9 / 97.8 / 97.2 % | 95.0 / 97.9 / 97.4 % | 95.1 / 98.0 / 97.5 % |
| η at 100 % Pac,r ¹⁾ | 95.6 / 97.9 / 97.3 % | 96.2 / 98.0 / 97.5 % | 96.6 / 98.0 / 97.5 % | 95.0 / 98.0 / 97.4 % | 95.1 / 98.0 / 97.5 % | 95.0 / 98.0 / 97.6 % |
| MPP adaptation efficiency | > 99.9 % | | | | | |

¹⁾ and at $U_{mpp\ min} / U_{dc,r} / U_{mpp\ max}$

| PROTECTIVE DEVICES | SYMO 3.0-3-S | SYMO 3.7-3-S | SYMO 4.5-3-S | SYMO 3.0-3-M | SYMO 3.7-3-M | SYMO 4.5-3-M |
|---------------------------|---|--------------|--------------|--------------|--------------|--------------|
| DC insulation measurement | Yes | | | | | |
| Overload behaviour | Operating point shift, power limitation | | | | | |
| DC disconnect | Yes | | | | | |

| INTERFACES | SYMO 3.0-3-S | SYMO 3.7-3-S | SYMO 4.5-3-S | SYMO 3.0-3-M | SYMO 3.7-3-M | SYMO 4.5-3-M |
|--------------------------------------|---|--------------|--------------|--------------|--------------|--------------|
| WLAN / Ethernet LAN | Fronius Solar.web / Fronius Solar.web, Modbus TCP, JSON | | | | | |
| 6 inputs or 4 digital in/out | Interface to ripple control receiver | | | | | |
| USB (A socket) ²⁾ | For USB sticks | | | | | |
| 2x RS422 (RJ45 socket) ²⁾ | Fronius Solar Net, interface protocol | | | | | |
| Signalling output ²⁾ | Energy management (potential-free relay output) | | | | | |
| Datalogger and Webserver | Included | | | | | |

²⁾ also available in the light version

TECHNICAL DATA FRONIUS SYMO (5.0-3-M, 6.0-3-M, 7.0-3-M, 8.2-3-M)

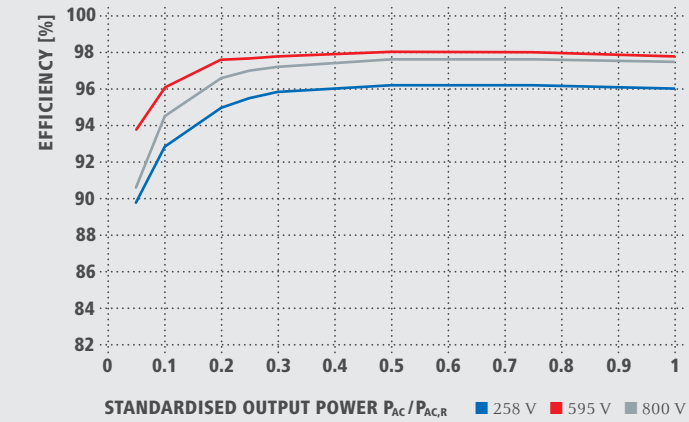
| INPUT DATA | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|--|-----------------|--------------|--------------|--------------|
| Max. input current ($I_{dc\ max\ 1} / I_{dc\ max\ 2}$) | 16.0 A / 16.0 A | | | |
| Max. array short circuit current (MPP ₁ /MPP ₂) | 24.0 A / 24.0 A | | | |
| Min. input voltage ($U_{dc\ min}$) | 150 V | | | |
| Feed-in start voltage ($U_{dc\ start}$) | 200 V | | | |
| Nominal input voltage ($U_{dc,r}$) | 595 V | | | |
| Max. input voltage ($U_{dc\ max}$) | 1,000 V | | | |
| MPP voltage range ($U_{mpp\ min} - U_{mpp\ max}$) | 163 - 800 V | 195 - 800 V | 228 - 800 V | 267 - 800 V |
| Number MPP trackers | 2 | | | |
| Number of DC connections | 2 + 2 | | | |

| OUTPUT DATA | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|---|--|--------------|--------------|--------------|
| AC nominal output ($P_{ac,r}$) | 5,000 W | 6,000 W | 7,000 W | 8,200 W |
| Max. output power | 5,000 VA | 6,000 VA | 7,000 VA | 8,200 VA |
| Max. output current ($I_{ac\ max}$) | 13.5 A | | | |
| Grid connection ($U_{ac,r}$) | 3-NPE 400 V / 230 V or 3-NPE 380 V / 220 V | | | |
| Min. output voltage ($U_{ac\ min}$) | 150 V | | | |
| Max. output voltage ($U_{ac\ max}$) | 280 V | | | |
| Frequency (f_g) | 50 Hz / 60 Hz | | | |
| Frequency range ($f_{min} - f_{max}$) | 45 - 65 Hz | | | |
| Total harmonic distortion | < 3 % | | | |
| Power factor ($\cos \phi_{pac,r}$) | 0.85 - 1 ind. / cap. | | | |

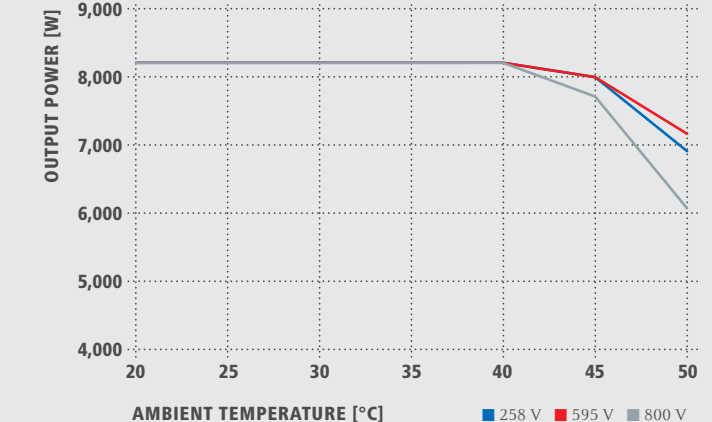
| GENERAL DATA | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|--|--|--------------|--------------|--------------|
| Dimensions (height x width x depth) | 645 x 431 x 204 mm | | | |
| Weight | 19.9 kg | | 21.9 kg | |
| Degree of protection | IP 55 | | | |
| Protection class | 1 | | | |
| Overvoltage category (DC / AC) | 2 / 3 | | | |
| Night time consumption | < 1 W | | | |
| Inverter design | Transformerless | | | |
| Cooling | Regulated air cooling | | | |
| Installation | Indoor and outdoor installation | | | |
| Ambient temperature range | -25 - +60 °C | | | |
| Permitted humidity | 0 - 100 % | | | |
| DC connection technology | 4x DC+ and 4x DC- Screw terminals 2.5 - 16mm ² ¹⁾ | | | |
| Mains connection technology | 5-pole AC Screw terminals 2.5 - 16mm ² ²⁾ | | | |
| Certificates and compliance with standards | DIN V VDE 0126-1-1/A1, VDE AR N 4105, IEC 62109-1/2, IEC 62116, IEC 61727, AS 3100, AS 4777-2, AS 4777-3, CER 06-190, G83/2, UNE 206007-1, SI 4777, CEI 0-21 | | | |

¹⁾ 16mm² without wire end ferrules

FRONIUS SYMO 8.2-3-M EFFICIENCY CURVE



FRONIUS SYMO 8.2-3-M TEMPERATURE DERATING



TECHNICAL DATA FRONIUS SYMO (5.0-3-M, 6.0-3-M, 7.0-3-M, 8.2-3-M)

| EFFICIENCY | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|--------------------------------|----------------------|----------------------|----------------------|----------------------|
| Max. efficiency | 98.0 % | | | |
| European efficiency (ηEU) | 97.0 % | 97.2 % | 97.3 % | 97.5 % |
| η at 5 % Pac,r ¹⁾ | 84.9 / 91.2 / 85.9 % | 87.8 / 92.6 / 87.8 % | 88.7 / 93.1 / 89.0 % | 89.8 / 93.8 / 90.6 % |
| η at 10 % Pac,r ¹⁾ | 89.9 / 94.6 / 91.7 % | 91.3 / 95.6 / 93.0 % | 92.0 / 95.9 / 94.7 % | 92.8 / 96.1 / 94.5 % |
| η at 20 % Pac,r ¹⁾ | 93.2 / 96.7 / 95.4 % | 94.1 / 97.1 / 95.9 % | 94.5 / 97.3 / 96.3 % | 95.0 / 97.6 / 96.6 % |
| η at 25 % Pac,r ¹⁾ | 93.9 / 97.2 / 96.0 % | 94.7 / 97.5 / 96.5 % | 95.1 / 97.6 / 96.7 % | 95.5 / 97.7 / 97.0 % |
| η at 30 % Pac,r ¹⁾ | 94.5 / 97.4 / 96.5 % | 95.1 / 97.7 / 96.8 % | 95.4 / 97.7 / 97.0 % | 95.8 / 97.8 / 97.2 % |
| η at 50 % Pac,r ¹⁾ | 95.2 / 97.9 / 97.3 % | 95.7 / 98.0 / 97.5 % | 95.9 / 98.0 / 97.5 % | 96.2 / 98.0 / 97.6 % |
| η at 75 % Pac,r ¹⁾ | 95.3 / 98.0 / 97.5 % | 95.7 / 98.0 / 97.6 % | 95.9 / 98.0 / 97.6 % | 96.2 / 98.0 / 97.6 % |
| η at 100 % Pac,r ¹⁾ | 95.2 / 98.0 / 97.6 % | 95.7 / 97.9 / 97.6 % | 95.8 / 97.9 / 97.5 % | 96.0 / 97.8 / 97.5 % |
| MPP adaptation efficiency | > 99.9 % | | | |

¹⁾ and at $U_{mpp\ min} / U_{dc,r} / U_{mpp\ max}$

| PROTECTIVE DEVICES | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|---------------------------|---|--------------|--------------|--------------|
| DC insulation measurement | Yes | | | |
| Overload behaviour | Operating point shift, power limitation | | | |
| DC disconnect | Yes | | | |

| INTERFACES | SYMO 5.0-3-M | SYMO 6.0-3-M | SYMO 7.0-3-M | SYMO 8.2-3-M |
|--------------------------------------|---|--------------|--------------|--------------|
| WLAN / Ethernet LAN | Fronius Solar.web / Fronius Solar.web, Modbus TCP, JSON | | | |
| 6 inputs or 4 digital in/out | Interface to ripple control receiver | | | |
| USB (A socket) ²⁾ | For USB-Sticks | | | |
| 2x RS422 (RJ45 socket) ²⁾ | Fronius Solar Net, Interface Protokoll | | | |
| Signalling output ²⁾ | Energy management (potential-free relay output) | | | |
| Datalogger and Webserver | Included | | | |

²⁾ also available in the light version