

Type	Sunumo Plus 1K	Sunumo Plus 1.5K	Sunumo Plus 2K	Sunumo Plus 2.5K	Sunumo Plus 3K	Sunumo Plus 3.6K	Sunumo Plus 3K-M	Sunumo Plus 4K-M	Sunumo Plus 5K-M	Sunumo Plus 6K-M	Suntorio Plus 4K	Suntorio Plus 5K	Suntorio Plus 6K	Suntorio Plus 8K	Suntorio Plus 10K	Suntorio Plus 12K	Suntorio Plus 15K	Suntorio Plus 17K	Suntorio Plus 20K	Suntorio Plus 25K	Suntorio Plus 30K	Suntorio Plus 33K	Suntorio Plus 40K	Suntorio Plus 50K	Suntorio Plus 60K	
Input (DC)																										
Max. PV Array Power [Wp] @ STC	1200	1800	2400	3000	3630	4420	3630	4840	6050	7200	4840	6050	7260	9680	12000	18000	22500	25500	26000	37500	40000	40000	60000	65000	78000	
Max. DC Voltage [V]	450	450	500	500	500	500	600	600	600	600	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
MPPT Voltage range [V]	60-425	60-425	60-450	60-450	60-500	60-500	90-550	90-550	90-550	90-550	160-900	160-900	160-900	160-900	160-900	180-900	180-900	180-900	180-900	180-900	180-900	180-900	180-900	280-900	280-900	
Nominal DC Voltage [V]	360	360	360	360	360	360	360	360	360	360	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	
Start Voltage [V]	70	70	70	70	70	70	100	100	100	100	180	180	180	180	180	200	200	200	200	200	200	200	300	300		
Min. DC Voltage [V]	50	50	50	50	50	50	80	80	80	80	150	150	150	150	150	150	150	150	180	180	180	180	250	250		
Max. DC Input Current [A]	11	11	11	11	11	11	11/11	11/11	11/11	11/11	11/11	11/11	11/11	22/11	22/11	22/11	22/22	22/22	22/22	22/22	22/22/22	22/22/22	44/33/33	44/33/33		
Max. DC Short Circuit Input Current [A]	13.2	13.2	13.2	13.2	13.2	13.2	13.2/13.2	13.2/13.2	13.2/13.2	13.2/13.2	13.2/13.2	13.2/13.2	13.2/13.2	22/11	22/11	22/11	22/11	22/11	22/11	22/11	22/11	22/11	44/33/33	44/33/33		
Number of DC Connection Sets per MPPT	1	1	1	1	1	1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/1	2/1	2/1	2/2	2/2	2/2	2/2	2/2	2/2	4/3	4/3		
Number of MPPT	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3		
DC Switch	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
Output (AC)																										
Rated AC Power [W]	1000	1500	2000	2500	3000	3680	3000	3680/4000	4600/5000	6000	4000	5000	6000	8000	10000	12000	15000	17000	20000	25000	30000	30000	40000	50000		
Max. AC Power [VA]	1100	1650	2200	2750	3000	3680	3300	3680/4400	4600/5000	6000	4000	5000	6000	8000	10000	13200	16500	18700	22000	27500	30000	33000	44000	55000		
Rated AC Current [A] @230Vac	4.3	6.5	8.7	10.9	13.0	16.0	13.0	16.0/17.4	20.0/17.4	5.8	7.2	8.7	11.6	11.6	11.6	17.4	21.7	25.8	29.0	37.9	43.5	45.5	58.0	72.5		
Max. AC Current [A]	4.8	7.2	9.7	12.8	14.5	16.0	15.0	16.0/21.0	22.2/25.0	28.7	6.4	8.1	9.7	12.9	15.9	20.0	25.0	28.3	33.0	42.0	50.0	50.0	65.0	80.0		
Nominal AC voltage/range	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	220V, 230V, 240V/180V-280V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V	3L/N/PE, 220/380V, 230/400V, 240/415V, 180V-280V/312V-485V			
Grid frequency / range	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/±5Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz	50Hz, 60Hz/44Hz-55Hz, 54-65Hz		
Power factor [cos φ]	>0.99 [full load]	>0.99 [full load]	>0.99 [full load]	>0.99 [full load]	>0.99 [full load]	>0.99 [full load]	>0.99 [full load]	0.9 leading~0.9 lagging	0.9 leading~0.9 lagging	0.8 leading~0.8 lagging	0.9 leading~0.9 lagging	0.9 leading~0.9 lagging	0.9 leading~0.9 lagging	0.9 leading~0.9 lagging	0.9 leading~0.9 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging		
Total Harmonic Distortion [THD]	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%	< 3%	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)	< 3% (at nominal power)		
Feed-in	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	1L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE	3L+N+PE		
Efficiency																										
Max. Efficiency	97.1%	97.2%	97.4%	97.5%	97.6%	97.6%	97.6%	97.8%	97.9%	97.9%	97.8%	97.8%	97.8%	98.0%	98.0%	98.3%	98.4%	98.5%	98.5%	98.6%	98.8%	98.8%	98.8%	98.8%		
Euro Efficiency	96.6%	96.7%	96.9%	97.0%	97.1%	97.1%	97.1%	97.4%	97.5%	97.5%	97.0%	97.2%	97.4%	97.5%	97.6%	98.0%	98.1%	98.2%	98.2%	98.4%	98.5%	98.5%	98.5%	98.6%		
MPPT Accuracy	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%		
Protection																										
Internal Over-voltage Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
DC Insulation Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
DC / GFC / Grid Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
AC Short Circuit Current Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
Thermal Protection	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
AC Surge Protection	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	III (Integrated), II (Optional)	III (Integrated), II (Optional)	III (Integrated), II (Optional)	III (Integrated), II (Optional)	II (Integrated)	II (Integrated)	II (Integrated)	II (Integrated)	II (Integrated)		
String Current Monitoring	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated	Integrated		
DC Surge Protection	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	II (Optional)	II (Optional)	II (Optional)	II (Optional)	II (Integrated)	II (Integrated)	II (Integrated)	II (Integrated)	II (Integrated)		
DC Fuse	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional		
Anti-island protection monitoring interface	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD	AFD		
AC Connection	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Plug-in connector	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block	Terminal Block		
DC Connection	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4	MCA/H4		
LCD / LED Display	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	LCD (16x2 Characters, Backlight/ LED (3 Lights))	3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display	3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display	3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display	3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display	3.5 inch Graphic LCD Display, Backlight, Inverter Parameter and Data Display	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight	3.5 inch Graphic LCD Display, Backlight			
Display Language	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English	English		
Communication port	RS232	RS232	RS232	RS232	RS232	RS232	RS232	RS232	RS232	RS232	1*RS485+1*RS232	1*RS485+1*RS232	1*RS485+1*RS232	1*RS485+1*RS232	1*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232	2*RS485+1*RS232			
Communication	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)	Wi-Fi / GPRS / Ethernet (Optional)			
General Data																										
Topology	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless	Transformerless		
Consumption at Night [W]	<0.2	<0.3	<0.4	<0.5	<0.6	<0.7	<0.8	<0.9	<1.0	<1.1	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6			
Consumption at Standby [W]	6	7	8	9	10	11	12	13	14	15	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			
Operating Temperature Range	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)	-25°C to +60°C (45°C to 60°C with derating)			
Cooling Method	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Natural Convection	Intelligent fan	Intelligent fan	Intelligent fan	Intelligent fan	Intelligent fan	Intelligent fan	Intelligent fan	Intelligent fan			
Ambient Humidity	0% to 100% Non-condensing	0% to 100% Non-condensing																								