SolarMax S-Series

Central inverter 20S/35S

S stands for smart and sturdy. We are convinced you will be impressed with the performance.

As the owner of a photovoltaic installation you appreciate this inverter's high degree of efficiency (up to 97 %) and the fact that it is stunningly good value for money. As a result, and thanks to its high quality, the SolarMax S is guaranteed to get more out of any PV installation. And it's reliable too: the MaxControl service package removes the need for you to monitor your PV installation. For up to 20 years, if you so wish. It means you can protect your investment effectively and at the same time benefit from our know-how.

As a PV plant engineer, you are impressed by the SolarMax S's flexibility both indoors and outdoors and by its superb temperature resistance.

As an installer, you like its compact form and low weight. Installation on the solar module is easy and efficient, thanks to the integrated DC main circuit breaker and the possibility of connecting the strings directly to the Solar Max 20S/35S.

As an operator, you are impressed by the reliable operation of the SolarMax S and by its ease of use via the graphic display. Our entire range of data communication and monitoring is also available for use with this inverter. In the unlikely event of the PV installation developing a fault, we will automatically alert you by e-mail or SMS text message as part of the MaxControl service package. The integrated string monitoring capability provides greater security and improves operability of the installation.

As an energy provider, you appreciate the fact that this genuine 3-phase inverter requires no neutral wire load and prevents asymmetric feed into the network in the event of a fault. The SolarMax S conforms to all applicable requirements and codes. It also has integrated mains monitoring compliant with the new VDE 0126-1-1. With its digital sine current regulator, the inverter meets all the demands for good quality mains current.

The market leader with vast experience and even greater know-how: Sputnik Engineering's first central inverter was commissioned in 1992. Since then more than 6'000 SolarMax central inverters have been connected to the 50 Hz grid.

The Sputnik team is there to advise you from start to finish – from the initial idea, through the planning stage all the way to the operation of your photovoltaic installation.

SolarMax®
by Sputnik Engineering

Technical data

SWISS QUALITY

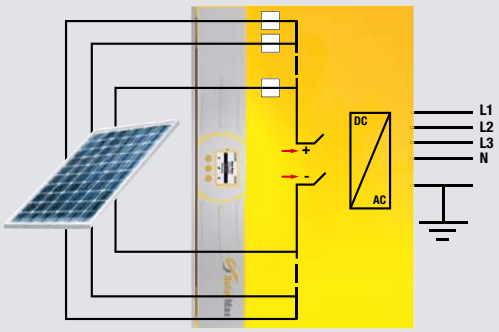
BAUART GEPRÜFT
TÜV Rheinland Product Safety
TYPE APPROVED

	SolarMax 20S	SolarMax 35S
Input (DC)		
Maximum generator output *	24 kW	45 kW
Maximum power tracking window	400...800 Vdc	
Maximum input voltage	900 Vdc	
STC voltage range of solar generator (helps to determine module interconnection with mono- and poly-Si cells)	540...635 Vdc	
Input current	0...48 Adc	0...78 Adc
Current ripple	< 4% peak-peak	

Output side (AC)		
Rated output	20 kW	35 kW
Maximum power	22 kW	38.5 kW
Nominal mains voltage / range	3*400 / 320...460 Vac	
Output current	0...31 Aac	0...54 Aac
Power factor (PF)	> 0.98	
Nominal mains frequency / range	50 / 45...55 Hz	
Harmonic distortion at rated output	< 3 %	

System data		
Night consumption	2...7 W	
Maximum efficiency	96.6 %	96.8 %
European efficiency	95.5 % @ 600 Vdc 96.0 % @ 700 Vdc	95.5 % @ 600 Vdc 96.1 % @ 700 Vdc
Ambient temperature	–20 °C...+60 °C	
Rated output up to ambient temperature of	+45 °C	
Relative humidity	0…98 %, non-condensing	
Protection type	IP54	
Circuit type	Digital sine wave controller, transformless, two-stage, PWM (IGBT), (no galvanic isolation)	
Display	Graphic LC display 128 x 64 pixels, with background illumination and status LED	
CE-compliant according to	EN 61000-6-2, EN 61000-6-3, EN 50178	
Mains monitoring	VDE 0126-1-1	
Fault current monitoring	VDE 0126-1-1	
Mark of conformity	“Type approved” TÜV Rheinland	
Additional standards	DK 5940, RD 661	
Data logger	Data logger for energy yield, peak output and operating duration for the last 31 days, 12 Months and 10 years	
Data communication	RS 485 / Ethernet	
Status signalling contact	Relay terminals (potential free)	
Dimensions (WxDxH)	655 x 455 x 1090 mm	
Weight	98 kg	125 kg
Casing	Aluminium, powder-coated	
AC connection	Screw terminals 5 x 35 mm², bushing 1 x M40 for cable diameter 20-33 mm	
DC connection	Screw terminals 3 x 35 mm², bushing 3 x M20 for cable diamater 6-15 mm, integrated string fuse module	
	MC4 connections for 7 strings	MC4 connections for 14 strings

* Recommended overdimensioning 15 % (ISE Fraunhofer study)



Features

- **Highest efficiency level (η-conversion > 96.5 %, η-MPP > 99 %)**
- **Excellent value for money**
- **Low weight and volume in protection type IP54**
- **Intelligent cooling system (rated output up to 45 °C ambient temperature)**
- **Integrated DC isolation switch compliant with VDE 0100-712**
- **Simple direct connection of strings to device with integrated fuse monitoring**
- **Mains monitoring compliant with VDE 0126-1-1, “TÜV type approved”**
- **FDC (Full Digital Controlled) digital sine current regulator**
- **Long life due to use of film capacitors**
- **2-year warranty, extendable up to 20 years**
- **User-friendly with convenient graphic LCD**
- **Ethernet / RS 485 interface as standard**
- **MaxControl option for automatic alarm, device monitoring, data analysis and reaction time guarantee**
- **Genuinely 3-phase, no neutral wire load**
- **Minimum AC leakage current on PV generator thanks to new transformerless inverter system**

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