Increasing capacity for **SOLAR WATER SOLUTIONS** with **RSI**

The intelligent IP66 off-grid Solar Inverter (RSI) is designed to run with large Grundfos pumps, greatly expanding possibilities for solar water solutions offering low (or nearly no) operating costs.

The RSI is incredibly easy to setup and install, and pairs easily with SP submersible pumps and MS motors as well as a broad range of Grundfos pumps, creating a modular system which allows maximum components flexibility.

Weatherproof for outdoor installation

With an IP66 enclosure class rating, the RSI is resistant to rain, dust and sand, meaning there is no requirement for a weatherproof cabinet with ventilation and air filter. The RSI can handle ambient temperatures up to 140 °F (60 °C). In addition to substantial cost savings for installation, placing the solar inverter beneath the solar panel array means only a very short DC cable is required, and this is an extremely important safety advantage for users and personnel.

Continuous system optimization

Advanced MPPT software continuously optimizes the system by compensating for environmental effects on solar panel array, improving power and water output by up to 30 %. Environmental effects cover

1) temperature compensation,
2) handling of multiple local power points due to partial shading, and
3) protection against power oscillation due to rapid cloud movement.

Quick setup with Grundfos pump motors

The quick setup Wizard pairs the RSI quickly with a broad range of Grundfos pumps. With a built-in Grundfos motor library all that is required is confirmation of motor type and pre-set value; no parameter input is necessary for Grundfos pumps. This means

1) setup completed in less than 5 minutes, and
2) enables setup of the RSI in the workshop prior to a plug-and-pump experience on site.

AC/DC compatible

You can switch the solar inverter to mains power or generator if required, because the drive is compatible to both AC and DC power input without the need to change any parameter settings. Simply connect the two power sources via an external switchover box, and you take advantage of solar energy during the day and mains power or generator during the night.

AN INVESTMENT THAT PAYS FOR ITSELF

THERE ARE SUBSTANTIAL BENEFITS OVER TIME WHEN INSTALLING A SOLAR WATER SOLUTION, AND PAYBACK TIME IS OFTEN SURPRISINGLY QUICK.

If you already have an SP pump installed and can see just how high your energy and perhaps fuel transport costs really are, then you should consider a solar energy solution using a solar inverter. With Grundfos, retrofitting a solar energy source to your SP pump is straightforward and the cost benefit is immediate.

Use with Grundfos pumps up to **50 HP**

The RSI is designed to work with a broad range of submersible and surface pumps. A solar energy water supply system with a solar inverter can run a Grundfos pump up to 50 HP in size.

The RSI is available in two models:

Power (P2)	DC (input to drive)	AC (input to motor)
3 HP to 50 HP	Max. 800 VDC	3 x 380-440 V
2 HP to 20 HP	Max. 300 VDC	3 x 208-240 V

Correct sizing of your solar energy water supply system:
Getting pump sizing right is important and should always start with the specific application and a focus on the entire system. Taking into consideration the seasonal, climatic and geographical fluctuations in the availability of solar energy is also necessary.

For this reason, you need to talk to Grundfos to ensure correct sizing of your solar energy water supply system and use our sizing tool available on Grundfos Product Center.

See product-selection.grundfos.com

A complete solar energy water supply system package with a solar inverter includes:

- Grundfos pump 50/60 Hz
- RSI solar inverter
- Sine wave filter
- Solar panel
- Circuit breaker
- Surge protection
- Dry run sensor

Technical specifications

Category	Parameter	3 x 380 - 440V	3 x 208 - 240V
Installation Environment	Min. Ambient Temperature	14 °F (-10 °C)	14 °F (-10 °C)
	Max. Ambient Temperature	140 °F (60 °C)	140 °F (60 °C)
	Max. Relative Humidity	100 %	100 %
Electrical Data	Min. MPPT Voltage	400 VDC	230 VDC
	Max. Input Voltage	800 VDC	380 VDC
	Min Frequency	5 Hz	5 Hz
	Max. Frequency	60 Hz	60 Hz
	Output, Phase	3 Phase	3 Phase
	Output, Rated Voltage	440 VAC	220 VAC
Enclosure class	Enclosure class	IP66	IP66

Power Size, HP	Product Number		Electrical Data	
			Rated Output Current, Amp	
	3 x 380 - 440 V	3 x 208 - 240V	3 x 380 - 440 V	3 x 208 - 240 V
2	-	99090622	-	8
3	99044348	99090633	5.6	11
4	99044349	99090634	8	12.5
5	99044350	99090635	9.6	18
7.5	99044351	99090636	12	24.2
10	99044352	99090637	16	31
15	99044363	99090638	23	48
20	99044364	99090639	31	62
25	99044365	-	38	-
30	99044366	-	46	-
40	99044367	-	61	-
50	99044368	-	72	-

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