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

The intelligent off-grid Solar Inverter (RSI) is designed to run with 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 as well as a broad range of Grundfos pumps, creating a modular system which allows maximum components flexibility.

Weatherproof for outdoor installation

With up to IP66 enclosure class rating, some of our RSI are 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 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 optimisation

Advanced MPPT software continuously optimises 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 **250 kW**

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 250 kW in size.

Power (P2)	DC (input to drive)	AC (input to motor)
2.2 to 250 kW	Max. 800 VDC	3 x 380-440 V
1.5 to 15 kW	Max. 400 VDC	3 x 208-240 V

Accurate 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 are encourage 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 running sensor

Technical specifications

Category	Parameter	3 x 380 - 440V	3 x 208 - 240V
Installation Environment	Min. Ambient Temperature	-10 °C	-10 °C
	Max. Ambient Temperature	60 °C	60 °C
	Max. Relative Humidity	100 %	100 %
Electrical Data	Min. MPP Voltage	400 VDC	230 VDC
	Max. Input Voltage	800 VDC	400 VDC
	Min Frequency	5 Hz	5 Hz
	Max. Frequency	60 Hz	60 Hz
	Output, Phase	3 Phase	3 Phase
	Output, Rated Voltage	380-440 VAC	208-240 VAC
Enclosure class	Enclosure class	IP54 / IP66	IP66

Power Size, kW IP 66	Product Number 3 x 380 - 440 V	Rated Output Current, A	Product Number 3 x 208 - 240 V	Rated Output Current, A	Power Size, kW IP54	Product Number 3 x 380 - 440 V	Rated Output Current, A
1.5	-	-	99090622	8	45	99648886	87
2.2	99044348	5.6	99090633	11	55	99648887	105
3.0	99044349	8	99090634	12.5	110	99648888	205
4.0	99044350	9.6	99090635	18	132	99648889	261
5.5	99044351	12	99090636	24.2	160	99648890	310
7.5	99044352	16	99090637	31	200	99648891	385
11	99044363	23	99090638	48	250	99648892	460
15	99044364	31	99090639	62			
18.5	99044365	38	-	-			
22	99044366	46	-	-			
30	99044367	61	-	-			
37	99044368	72	-	-			

GRUNDFOS Holding A/S
Poul Due Jensens Vej 7
DK-8850 Bjerringbro
Tel: +45 87 50 14 00
www.grundfos.com

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