

SMARTFORMER FOR SUNNY ISLAND

SI-TD-BOX-10



Simple

- Pre-wired AC distribution board
- Fast installation and commissioning

Complete

- Bypass switch for direct grid operation
- Load-shedding contactor to prevent battery deep discharge
- Miniature circuit breakers for PV and load

Efficient

- Maximum efficiency: 99%
- Highest yield over the entire power spectrum

Safe

- UL certified
- Optimized overload protection
- 5 year standard warranty, extendable to 20 years

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Split-phase stand-alone grids - now easier than ever

The Smartformer is the complete solution for off-grid and battery back-up systems up to seven kilowatts. It acts simultaneously as AC distribution and 120 / 240 V autotransformer. The transformer provides step-up and step-down options to supply loads with 120 V and 240 V using a Sunny Island and a Sunny Boy - with a high level of efficiency over the entire power spectrum. Thanks to the pre-wired bypass function, the PV system can be easily bridged via a robust switch for maintenance work. The optimized transformer overload protection and a load-shedding relay provide extra protection to the system. The Smartformer makes the stand-alone power supply simple and reliable.

Technical Data	Smarformer
General Data	
Number of phases	Split-phase
Rated voltage	120/240 V _{ac}
AC voltage range between L ₁ and N	102 ... 132 V
AC voltage range between L ₁ and L ₂	204... 264 V
Rated frequency	60 Hz
Dimensions (width x height x depth)	24.02 x 24.02 x 9.25 in (610 x 610 x 235 mm)
Weight	approx. 123.5 lbs (approx. 56 kg)
Idle power consumption	19 W (typical)
Nominal power transformer*	3,4 kVA
Max. efficiency / CEC efficiency	99 % / 98,8 %
Transformer AC power for 30 min ¹	4.4 kVA
Transformer AC power for 1 min ¹	8.8 kVA
Hookup access	Knockouts top: 2x 3/4", 2x 1", 2x 1 1/4" bottom: 5x 3/4", 3x 1", 3x 1 1/4"
Connections for Sunny Island	
Maximum number and nominal voltage of Sunny Island	1 x 120 V (L1, N)
Rated power	5.8 kW
Current at rated values	48 A
Fuses	circuit breaker K60A for AC2
PV plant connection	
Number of connections/nominal voltage	1 x 240 V (L1, L2, N)
Rated power	9.6 kW
AC power at grid parallel operation	6 kW
AC current at rated values	40 A
Fuses	circuit breaker Z50A or Z25A, adaptable
Load connection	
Number of connections/nominal voltage	1 x 120/240 V (L1, L2, N)
Rated power	7.2 kW
AC power at 40 °C	6.6 kW
Rated power / current between L ₁ and L ₂	6.7 kW / 28 A
Rated power / current between L ₁ and N	3.8 kW / 32 A
Rated power / current between L ₂ and N	3.4 kW / 28 A
Current at rated values	32 A, 28 A (with activated bypass: 2 x 48 A)
Fuse	circuit breaker K40A (with activated bypass: K60A)
Generator connection	
Number of connections / nominal voltage	1 x 120 / 240 V (L1, L2, N)
Rated grid input power	11.5 kW
AC input current	48 A
Fuse	circuit breaker K60A
Ambient conditions	
Operating temperature range	-13 °F ... +122 °F (-25 °C ... +50 °C)
Air humidity	0 - 100 % (non-condensing)
Protection class	NEMA Type 1
certification and permits	UL 1741
Features/function	
Warranty: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○
Integrated bypass for maintenance / load-shedding relay / transformer protection	● / ● / ●
Type designation	SI-TD-BOX-10
● Standard features ○ Optional features – Not available *power that can be transferred from one leg to another	Last revision: February 2012

