

Solar Series Converter

LV & ELV SOLAR CHARGERS

PRODUCT SHEET

POWER
OUTPUTS

MAX
OUTPUT
2.0kW

DC OUT
48V

KEY FEATURES

- Industry-leading MPPT for the greatest solar harvesting
- Highest efficiency conversion
- Widest range of DC input for maximum PV flexibility
- Lowers OPEX by up to 80%
- Increases return on investment
- Modular architecture for quick and easy system integration/expansion
- Forced-air cooled by a temperature controlled, high-reliability, monitored fan



With peak efficiency near 98%, the Solar Series high-efficiency Solar Charger provides significant energy savings. Each charging module is designed for operation with solar panel configurations of one or two strings and, with a wide input operating voltage window, offers maximum flexibility for the greatest optimization. Module design is based on a high-frequency transformer guaranteeing galvanic isolation between that of solar panels and loads and batteries. Various additional protection elements ensure safety and investment preservation.

The Solar Series chargers include market leading MPPT algorithms, allowing commencement of solar harvesting far sooner and for much longer than other comparative devices. This combined with the highest conversion efficiency maximizes PV generation delivering the greatest ROI.

Enatel's solar chargers are New Zealand-made to guarantee design, manufacture and process integrity. The Solar Series represents unrivalled reliability with a robust proven conversion topology. Modules can be integrated into COMPACT solutions or operate as standalone units.

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Specifications

DC INPUT RATINGS		
MODEL:	SM2048HE	SM1848HE
NOMINAL VOLTAGE:	230V	100V
INPUT VOLTAGE RANGE:	85–400V (200–360V non-derating output power)	60–140V (limited to 17A input)
START-UP VOLTAGE:	120V	60V
MAXIMUM OPEN CIRCUIT VOLTAGE:	450V	160V
MAXIMUM INPUT CURRENT:	10.5A	18A
MPPT EFFICIENCY:	98.5%	98.5%
PEAK EFFICIENCY:	>97% @ 20–85% load with 200-250V DC input	>96% @ 25–70% load with 85-100V DC input

DC OUTPUT RATINGS		
NOMINAL VOLTAGE:	48V	
VOLTAGE RANGE:	43-60V	
MAXIMUM OUTPUT CURRENT:	41.7A	37.5A
POWER RATING:	2.0kW	1.8kW

ENVIRONMENTAL REQUIREMENTS	
AMBIENT TEMPERATURE:	-20°C to 70°C [-4°F to 158°F] (maximum output power is derated above 55°C [131°F])
STORAGE TEMPERATURE:	-30°C to 85°C [-22°F to 185°F]

MECHANICAL	
DIMENSIONS:	W: 111.5 mm [4.39 in]
	H: 44.0 mm [1.73 in] (1U)
	D: 282.0 mm [11.1 in] overall (rack depth 260.0 mm [10.24 in])
WEIGHT:	1.50 kg [3.31 lb]
COOLING:	Forced-air cooled (front to back airflow)

COMPLIANCES	SM2048HE	SM1848HE
SAFETY:	IEC 62109-1, AS 62040.1	IEC 62109-1, AS 62040.1 IEC 62368-1
IMMUNITY:	CISPR 24	
EMISSIONS:	CISPR 32	
OTHER:	CE & RoHS Compliant	

Due to product development, specifications are subject to change without prior notice. Pictures may be representative: actual products may differ.