

## EFASOLAR 500M

EFASOLAR 500M with a modular design and a Master/Slave concept, contributes to the efficiency enhancement, especially in the lower power input range and for the overall availability of the photovoltaic power plant.

### EFASOLAR 500M

#### Customer Benefits

- 2 independent MPPTs algorithms
- Master/slave control
- Flexible and high efficiency
- High availability and reliability
- DC and AC protection

#### Key Benefits

- Modular design for large scale projects
- Extended DC inputs configuration with current measurement
- Reactive power compensation at night
- Grid dispatch integration
- All protective devices and features included

#### Main Features



##### Grid Support

- Q, P Control inbuilt
- Grid support features
- Grid code compliance
- IEC 62116, BDEW standards
- LVRT capability



##### Modular Design

- Optimized for PVStation
- Front access for enhanced O&M
- Robust design
- 600 mm depth
- Fast & easy field installation



##### PV Interface

- Wide MPPT range
- Interconnection DC load switch
- Configurable DC inputs
- Fuse protected
- Individual current measurements



##### Reliability Focus

- 2 separate power units
- Extended temperature range
- High quality components
- Fast & easy replacement
- Fast troubleshooting



##### Power Plant Controller

- Dynamic P, Q control modes
- Grid dispatch integration
- Open communication protocol
- HMI remote access
- Integration in monitoring software solutions



##### After Sales

- Warranty extension options
- Service & availability contracts
- Customer service portal & hotline
- Extended support using Efacec international structure

Electrical	
<b>Input</b>	
Maximum power	600 kW
Minimum voltage	480 V
Maximum voltage	900 V (1000 V optional)
MPPT range	480 V - 820 V
Maximum current	1084 A
Number of independent MPP inputs	2
Number of DC inputs <sup>1</sup>	8 inputs equipped with fuses
<b>Output</b>	
Rated power	500 kVA
Rated voltage <sup>2</sup>	315 V
Rated current	916 A
Frequency	50 Hz / 60 Hz
Maximum current	1018 A
THD	< 3%
Power factor <sup>3</sup> /Displacement power factor <sup>4</sup>	1,0 / 0,8 inductive to 0,8 capacitive
Required grid type	IT grid
Isolation transformer	No
<b>Efficiency</b>	
Maximum <sup>5</sup>	98,4%
Euro-efficiency <sup>5</sup>	98,2%
CEC efficiency <sup>5</sup>	98,3%
Protective devices	
DC disconnect device	Motor-drive switch disconnecter
AC disconnect device	Circuit breaker
DC overvoltage protection	Type II surge arrester
AC overvoltage protection	Type I surge arrester
Auxiliaries overvoltage protection	Type II surge arrester
Ground fault monitoring	•
Overvoltage	•
Undervoltage	•
Overfrequency	•
Underfrequency	•
Anti-islanding	•
Reverse polarization	•
Short circuit on the output	•
Overtemperature	•
Asymmetrical current	•
General data	
Ambient temperature	-10 °C ... +50 °C / +14 °F ... +122 °F
Max. permissible value for relative humidity (noncondensing)	15% ... 95%
Cooling concept	Air forced cooling
Auxiliaries power supply	230 V
Max. self-consumption (operation) / self-consumption (night)	1350 W / <95 W
Color	RAL 7035
Altitude for rated conditions / Maximum operating altitude above sea level <sup>6</sup>	1000 m / 3000 m
Dimensions (WxDxH)	3000 x 605 x 1910 mm / 118,1 x 23,8 x 75,2"
Weight	1695 kg / 3737 lb
Protection degree	IP20 / NEMA 2
Protective class	I
Standards	
CE marking	Yes
Safety/EMC	EN 50178, EN 62109-1, EN 62109-2 / EN 61000-6-2, EN 61000-6-4
Grid interface	IEC 62116, BDEW, P.O.12.3, Arrêté 23-04-2008, ABNT NBR 16149, ABNT NBR 16150, South African Grid code, Chilean Grid Code
Interfaces	
Local Human Machine Interface	4.3" Color, touch screen
Remote interface	Web Virtual HMI
Communication protocols	Modbus TCP/RTU
Data storage	Datalogger
Optionals	
	Remote monitoring software
	Reactive energy compensation module
	Maintenance service
	Warranty extension

• Base feature

- (1) - Other configurations can be used.
- (2) - Other AC voltage, DC voltages and power classes can be configured.
- (3) - Power factor > 0,98 at rated output voltage and power load > 15%.
- (4) - The adjustable range can be extended and other values can be configured.
- (5) - Efficiency measured without auxiliary power supply consumption and at input and output rated voltage.
- (6) - Please consult Efacec with the specific operating conditions in order to characterize an eventual derate with altitude.

