EFASOLAR 2000

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EFASOLAR 2000 outdoor inverter is designed to be the most cost effective solution for utility-scale power plants. This 2 MW power block design allows to reduce the equipment count, wiring requirements and transportation costs. This high efficiency inverter with PV fuse protected connections allows an input voltage up to 1050 Vdc. The modular concept includes two MPPTs allowing further optimization of the PV field.

Customer Benefits

- Outdoor inverter
- 2 advanced MPPT algorithms
- 2.2 MVA solar inverter at 25 °C
- DC and AC protection
- Optimized for MV transformer and switchgear integration

Key Benefits

- Modular design for utility scale projects
- Logistic costs optimization
- Reactive power compensation at night
- Auxiliary power supply included
- Grid dispatch integration

Main Features

Grid Support

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

Compact Design

- Optimized for transportation requirements
- Easy access to all components
- Efficient cooling system
- Internal auxiliary transformer to supply all customer loads
- Fast & easy field installation

PV Interface

- Wide MPPT range
- Input voltage up to 1050 V
- Configurable DC inputs
- Fuse protected
- Individual current measurements

Reliability Focus

- Robust to support harsh environmental conditions
- 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

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Technical Data

	EFASOLAR 2000
Electrical	
Input	
Maximum power	2500 kW
Minimum voltage	600 V
Maximum voltage	1050 V
MPPT range	625 V - 930 V
Maximum current	3700 A
Number of independent MPP inputs	2
Number of DC inputs [1]	16 inputs equipped with fuses
Output	
Rated power (25 °C/50 °C)	2200 kVA / 2000 kVA
Rated voltage [2]	405 V
Rated current	2850 A
Frequency	50 Hz / 60 Hz
Maximum current	3136 A
THD	< 3%
Power factor [3]/Displacement power factor [4]	1,0 / 0,8 inductive to 0,8 capacitive
Required grid type	IT grid
Isolation transformer	No
Efficiency	
Maximum [5]	98,7%
Euro-efficiency [5]	98,5%
CEC efficiency [5]	98,6%
Protective devices	
DC disconnect device	Motor-drive switch disconnector
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	-20 °C ... +55 °C / -4 °F ... +131°F
Max. permissible value for relative humidity (noncondensing)	15% ... 95%
Cooling concept	Air forced cooling
Auxiliaries power supply	400 V (internal transformer)
Max. self-consumption (operation) / self-consumption (night)	2600 W / <170 W
Color	RAL 7035
Altitude for rated conditions / Maximum operating altitude above sea level [6]	1000 m / 3000 m
Dimensions (WxDxH)	2579 x 1510 x 2200 mm / 101,5 x 59,4 x 86,6”
Weight	3050 kg / 6724 lb
Protection degree	IP54 / NEMA 3
Protective class	I
Standards	
CE marking	Yes
Safety/EMC	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.

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