

### ZIGOR SOLAR MV45

Modular three-phase central inverter for utility scale PV Plants

#### Description



The ZIGOR SOLAR MV45 range of inverters has been specially designed for mid voltage grid connected solar generation plants. An outstanding feature of the 125 and 166 KW inverters is their 98% efficiency.

The ZIGOR SOLAR MV45 inverters provide high reliability and guaranteed operation. Another outstanding function is the high-energy efficiency of its MPPT, which is over 99%.

Another important feature is its automatic regulation of reactive power and communications tools between it and the centralised supervision and control system. All its parameters are configurable both locally and remotely.

These inverters operate with an output voltage 3x450 V and are adapted to meet with the requirements of response against voltage sags in accordance with several European Regulators.



ZIGOR SOLAR MV45

#### Features

- > Range of input DC voltage (300-720 VDC)
- > Maximum power point tracking (MPPT)
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion THD < 3%
- > Selectable power factor
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Strings currents monitoring:  
(with option ZIGOR SOLAR SB16)
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, over voltages, insulation failure with output to relay
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to inverter data
- > Maximum efficiency
- > Modularity
- > DC and AC surge protections included
- > Compatible with thin film modules
- > ETHERNET communication ports
- > Easy access through any web browser
- > Remote monitoring system ZIGOR SWS1000: communications system, parameter display, inverter records control, production, data storage etc, (optional)

#### Connectivity and accessories

##### > Built-in & integrated Web Server

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with ZIGOR SOLAR MV45 inverters. The Web server let the user to communicate with the inverters in different languages and records the following data: status, parameters, events, event log, production.

##### > ZIGOR SWS1000

The SWS 1000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the ZIGOR SOLAR MV45 inverters (optional).

See more information about connectivity and options on page 44

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



**ELECTRICAL CHARACTERISTICS**

Modelo	ZIGOR SOLAR	ZIGOR SOLAR
	MV45 125	MV45 166
Reference	17570	200103
Continuous output power	125 KW	166 KW
Maximum recommended PV power	+5% to +20%	
Nominal DC power	≥ 128 KW	≥ 170 KW
Nominal AC voltage	3x450 V	
Nominal frequency	50 Hz	
Power factor	1 adjustable ± 0.8	
Nominal line current AC	162 A	215 A
Current distortion AC <sup>(1)</sup>	<3% THD of nominal power	
Maximum open circuit voltage DC <sup>(2)</sup>	880 V	
Power tracking range (MPPT) DC	300 to 720 V	
Maximum input current DC	360 A	575 A
Maximum efficiency	98%	97,60 %
European efficiency	97,34%	96,27 %

**ENVIRONMENTAL AND MECHANICAL FEATURES**

Range of ambient temperatures	-10°C to +50°C	
Type and grade of environmental protection	IP21	
Approximate Weight	490 Kg	450 kg
Dimensions (HxWxD)	2150 x 800 x 600 mm	
Operating height <sup>(3)</sup>	<1000 m	
Relative humidity	0 to 95% without condensation	

**GENERAL FEATURES**

Refrigerating method	Internal forced ventilation External fan control (6 Amax.)	
Protection functions	Inverse polarity, Over/Sub-voltage AC Over/Sub-frequency, Overvoltage DC	
User interface	LCD screen	
Breakers (AC and DC)	Integrated in the system	
Communication software	Web server through Ethernet connection	
Equipment supervision: self diagnostic	Yes	
Data acquisition	SNMP	
ZIGOR SWS1000 System monitoring (option)	Ethernet, GSM modem (option), Data logger, Monitoring programme	

**STANDARDS**

Certificates	CE Marking, VDE, ENEL	
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-3) 2006/95/CE (EN 50178)	
Standards	IEC 62116 (2008) IEE 1547	

**Countries standards**

Spain	PO 12.3	
Germany	VDE 0126-1-1	
Italy	DK5940 (Chapter 8.2 Allegato 17. TERNA Regolazione)	
UK	G83	
France	Decret: Arrête du 23 avril 2008	

(1) For THDV < 1% and Nominal Power.

(2) This voltage must not be exceeded under any circumstances.

(3) No power derating for ambient temperatures up to 44° C.

These specifications may be changed without notice.