

Product Certificate Number	11212-3-CER
Applicant	CIRCUTOR, S.A. Vial Sant Jordi, s/n 08232 Villadecavalls. Barcelona, Spain
Series/	CirPower Hyb 4k-48, Circutor CVM 1-D
Model/	CirPower Hyb 4k-48, Circutor CVM 1-D
Type of generating unit	Hybrid Inverter
Technical Data	See page 2 and 3
Standard	UNE 207001 IN: 2015: Requisitos y ensayos para sistemas que eviten el vertido de energía a la red de distribución.

Having assessed the test report number: 11212-3-TR performed by CERE Testing Laboratory based on the requirements of the EN ISO/IEC 17025:2005

The above-mentioned generating unit complies with the requirements of the: UNE 207001 IN: 2015: Requisitos y ensayos para sistemas que eviten el vertido de energía a la red de distribución.

This certification is according the CERE internal process PET-CERE-09 Rev 9 based on the requirements of the EN ISO/IEC 17065:2012. For this certification process the conformity assessment activities was according Scheme Type 5 based on:

- Testing of production samples selected by CERE.
- Audit of quality system according ISO 9001 with certificate number: QMS 140506-01 issued by a certification body accredited according EN ISO/IEC 17021.
- Inspection of the manufacturing process.

Madrid, February 27,2017. This certificate is valid until February 27,2020

Miguel Martínez Lavin
Certification Manager

Model:	CIRCUTOR CirPower Hyb 4k-48
PV input	
Input Voltage	150-600 V
Standby input voltage	150 V
Maximum input current	20 A
Short-circuit current	20 A
Maximum DC power (cos $\varphi=1$)	4250 W @ 35 °C
Minimum start voltage	170 V
MPPT range	180-600 V
Maximum efficiency	98%
MPPT efficiency	99.9%
Installation category	OVC II
AC Grid	
Nominal voltage	230 V
Nominal frequency	50 Hz
AC voltage range	185-260 V
Frequency range	45-55 Hz
Nominal current (230 V)	17.4 A
Maximum current	20 A
Short-circuit current	25 A
AC power (230 V, 50 Hz, cos $\varphi=1$)	4000 W @ 35 °C
Maximum efficiency	96%
THD (I) with THD (V) < 3%	< 3.5%
PF	0.5 (capacitive)-0.5 (inductive)
Installation category	OVC III
Battery charger	
Voltage	38-60 V
Frequency	80 A
Maximum current	4000 W @ 35°C
Maximum power	2000 W @ 35 °C
Short circuit current	94,5%
THD (I) with THD (V) < 3%	Littlefuse CF58V 125 A
AC output	
Voltage	230 V
Frequency	50 Hz
Maximum current	17.4 A
Maximum power	4000 W @ 35 °C
Short-circuit current	25 A
THD (V) with THD (I) < 3%	<1%
General specifications	
Stand by consumption	< 0.5 W
Topology	Transformerless
Ethernet communications	
Connector	RJ-45
Network protocol	TCP / IP
User Interface	
Display	Tactile 3.5", color TFT
Services	Web server, Datalogger
Environmental features	
Environmental category (EN 62109-1)	Outdoor
Operating temperature	-20°C....+50°C
Storage temperature	-35°C....+70°C
Relative humidity (non-considering)	4-100%
Maximum altitude	2000 m
Protection degree	IP 55
Noise	< 30 dBA
Pollution degree	Outside: 3 Inside: 2

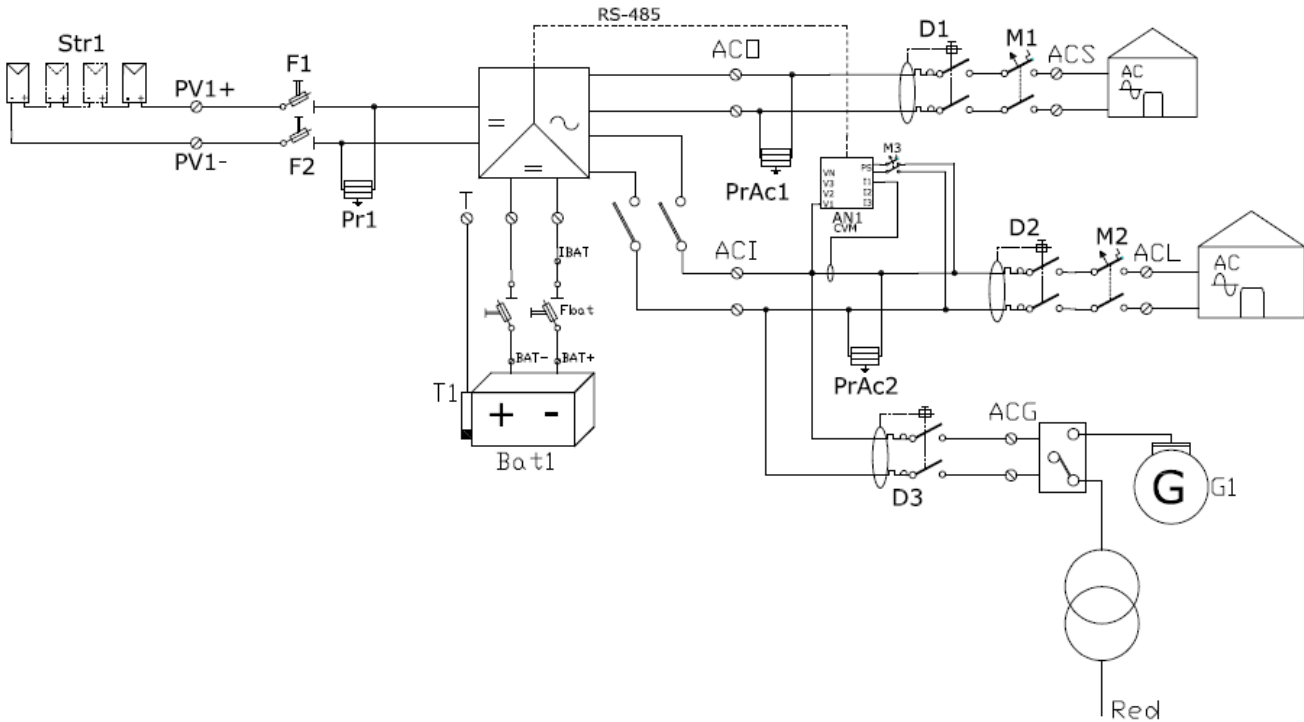
Wattmeter characteristics:

Circuito de alimentación	Alimentación monofásica	88...276 Vc.a.
	Frecuencia alimentación	50 / 60 Hz
	Consumo alimentación	2 V·A
Circuito de medida	Tensión nominal fase-neutro	110...230 Vc.a. (±20%)
	Frecuencia	50 / 60 Hz
	Corriente nominal	5 A
	Corriente mínima	250 mA
	Corriente máxima	32 A
Clase de precisión	Tensión, Corriente	0,5% + 1 dígito
	Potencia Activa, Potencia Reactiva	1% + 1 dígito
	Energía Activa	Clase 1 (IEC 62053-21)
	Energía Reactiva	Clase 2 (IEC 62053-23)
Características transistor de salidas	Tipo	Transistor optoaislado (colector abierto) NPN
	Tensión máxima de maniobra	42 Vc.c.
	Corriente máxima de maniobra	50 mA
	Frecuencia máxima	1000 imp/kWh
	Duración impulso	4...200 ms (configurable)
	Aislamiento	3,7 kV _{RMS} / 1 min
	Comunicaciones	Puerto
	Protocolo	Modbus / RTU (según modelo)

Current sensors characteristics

Model:	MC3-63	MC3-125	MC3-250
Corriente máxima	63 A	125 A	250 A
Frecuencia	50/60 Hz		
Tensión de aislamiento	3 kVca		
Corriente térmica de cortocircuito (I_{th})	60 I_n		
Corriente dinámica (I_{dyn})	2,5 I_{th}		
Tensión mas elevada para el material	0.72 kVca		
Clase	0.5		
Clase térmica	B (130 °C)		
Tipo de encapsulado	Plástico V0 autoextinguible		
Factor de seguridad	Fs 5		
Bornes secundarios precintables	Si		
Terminales secundarios	IP20		

Electrical Diagram:



Manufacturer:

CIRCUTOR, S.A.
Vial Sant Jordi, s/n
08232 Villadecavalls. Barcelona. SPAIN

The sample selected to test was representative of the production.
The sample was selected in manufacture facilities.

On January 16, 2017

Sample Report Number:

10978-3-TM
10978-8-TM
10978-9-TM

The inspection of manufacturing process was performed in
manufacture facilities:

On February 9, 2017

Inspection Report Number:

11212-1-IF