

Product Certificate Number	11212-4-CER-E1
Applicant	CIRCUTOR, S.A. Vial Sant Jordi, s/n 08232 Villadecavalls. Barcelona, Spain
Series/	Fronius Symo / CDP / MC3 / GE CTX
Model/	Fronius Symo 15.0-3/ CDP-0 / MC3-63 / GE CTX 634052
Type of generating unit	Three Phase Inverter / Dynamic Power Controller
Technical Data	See page 2, 3 and 4
Standard	UNE 217001 IN: 2015: Requisitos y ensayos para sistemas que eviten el vertido de energía a la red de distribución.

Having assessed the test report number: 11212-4-TR performed by Fundación Tecnalia Research and Innovation based on the requirements of the EN ISO/IEC 17025:2005

The above-mentioned generating unit complies with the requirements of the: UNE 217001 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 were based on:

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

This certificate cancels and supersedes the certificate number: 11212-4-CER.

Madrid, March 07, 2017. This certificate is valid until February 27, 2020

Miguel Martínez Lavin
Certification Manager

INPUT DATA	SYMO 3.0-3-S	SYMO 3.7-3-S	SYMO 4.5-3-S	SYMO 3.0-3-M	SYMO 3.7-3-M	SYMO 4.5-3-M
Max. input current ($I_{dc,max1} / I_{dc,max2}$)				16.0 A / 16.0 A		
Max. array short circuit current (MPP ₁ /MPP ₂)				24.0 A / 24.0 A		
Min. input voltage ($U_{dc,min}$)				150 V		
Feed-in start voltage ($U_{dc,start}$)				200 V		
Nominal input voltage ($U_{dc,r}$)				595 V		
Max. input voltage ($U_{dc,max}$)				1,000 V		
MPP voltage range ($U_{mpp,min} - U_{mpp,max}$)	200 - 800 V	250 - 800 V	300 - 800 V		150 - 800 V	
Number MPP trackers		1			2	
Number of DC connections		3			2+2	
OUTPUT DATA	SYMO 3.0-3-S	SYMO 3.7-3-S	SYMO 4.5-3-S	SYMO 3.0-3-M	SYMO 3.7-3-M	SYMO 4.5-3-M
AC nominal output ($P_{ac,r}$)	3,000 W	3,700 W	4,500 W	3,000 W	3,700 W	4,500 W
Max. output power	3,000 VA	3,700 VA	4,500 VA	3,000 VA	3,700 VA	4,500 VA
AC output current ($I_{ac,max}$)	4.3 A	5.3 A	6.5 A	4.3 A	5.3 A	6.5 A
Grid connection (voltage range)	3-NPE 400 V / 230 V or 3-NPE 380 V / 220 V (+20 % / -30 %)					
Frequency (Frequency range)	50 Hz / 60 Hz (45 - 65 Hz)					
Total harmonic distortion	+ 3 %					
Power factor ($\cos \phi_{ac,r}$)	0.70 - 1 incl. / cap.			0.85 - 1 incl. / cap.		

INPUT DATA	SYMO 5.0-3-M	SYMO 6.0-3-M	SYMO 7.0-3-M	SYMO 8.2-3-M
Max. input current ($I_{dc,max1} / I_{dc,max2}$)				16.0 A / 16.0 A
Max. array short circuit current (MPP ₁ /MPP ₂)				24.0 A / 24.0 A
Min. input voltage ($U_{dc,min}$)				150 V
Feed-in start voltage ($U_{dc,start}$)				200 V
Nominal input voltage ($U_{dc,r}$)				595 V
Max. input voltage ($U_{dc,max}$)				1,000 V
MPP voltage range ($U_{mpp,min} - U_{mpp,max}$)	163 - 800 V	195 - 800 V	228 - 800 V	267 - 800 V
Number MPP trackers			2	
Number of DC connections			2+2	
OUTPUT DATA	SYMO 5.0-3-M	SYMO 6.0-3-M	SYMO 7.0-3-M	SYMO 8.2-3-M
AC nominal output ($P_{ac,r}$)	5,000 W	6,000 W	7,000 W	8,200 W
Max. output power	5,000 VA	6,000 VA	7,000 VA	8,200 VA
AC output current ($I_{ac,max}$)	7.2 A	8.7 A	10.1 A	11.8 A
Grid connection (voltage range)	3-NPE 400 V / 230 V or 3-NPE 380 V / 220 V (+20 % / -30 %)			
Frequency (Frequency range)	50 Hz / 60 Hz (45 - 65 Hz)			
Total harmonic distortion	+ 3 %			
Power factor ($\cos \phi_{ac,r}$)	0.85 - 1 incl. / cap.			

INPUT DATA	SYMO 10.0-3-M	SYMO 12.5-3-M	SYMO 15.0-3-M	SYMO 17.5-3-M	SYMO 20.0-3-M
Max. input current ($I_{dc,max1} / I_{dc,max2}$)	27.0 A / 16.5 A ²⁾		33.0 A / 27.0 A		
Max. usable input current total ($I_{dc,max1} + I_{dc,max2}$)	43.5 A		51.0 A		
Max. array short circuit current (MPP ₁ /MPP ₂)	40.5 A / 24.8 A		49.5 A / 40.5 A		
Min. input voltage ($U_{dc,min}$)	200 V				
Feed-in start voltage ($U_{dc,start}$)	200 V				
Nominal input voltage ($U_{dc,r}$)	600 V				
Max. input voltage ($U_{dc,max}$)	1,000 V				
MPP voltage range ($U_{mpp,min} - U_{mpp,max}$)	270 - 800 V	320 - 800 V	370 - 800 V	420 - 800 V	420 - 800 V
Number MPP trackers	2				
Number of DC connections	3+3				
Max. PV generator output ($P_{dc,max}$)	15.0 kW _{peak}	18.8 kW _{peak}	22.5 kW _{peak}	26.3 kW _{peak}	30.0 kW _{peak}
OUTPUT DATA	SYMO 10.0-3-M	SYMO 12.5-3-M	SYMO 15.0-3-M	SYMO 17.5-3-M	SYMO 20.0-3-M
AC nominal output ($P_{ac,r}$)	10,000 W	12,500 W	15,000 W	17,500 W	20,000 W
Max. output power	10,000 VA	12,500 VA	15,000 VA	17,500 VA	20,000 VA
AC output current ($I_{ac,max}$)	14.4 A	18.0 A	21.7 A	25.3 A	28.9 A
Grid connection (voltage range)	3-NPE 400 V / 230 V or 3-NPE 380 V / 220 V (+20 % / -30 %)				
Frequency (Frequency range)	50 Hz / 60 Hz (45 - 65 Hz)				
Total harmonic distortion	1.8 %	2.0 %	1.5 %	1.5 %	1.3 %
Power factor ($\cos \phi_{ac,r}$)	0 - 1 incl. / cap.				

Power analyzer characteristics:

Model:	CDP-0, CDP-G, CDP-DUO
Circuito de alimentación	
Tension nominal	230 Vca (80...115%)
Frecuencia	50...60 Hz
Consumo	6 VA / 6 W
Tension nominal	12 VCC
Circuito de medida de tension	
Margen de medida	10...300 Vca
Frecuencia	50...60 Hz
Circuito de medida de corriente	
Corriente nominal	.../250 mA
Corriente máxima	.../300 mA
Clase de precision	
Potencia	0,5%
Energía	1%
Salidas de relé	
Número	4
Tipo	Libre de potencial
Corriente máxima de maniobra	6 A
Comunicaciones	
Interfaz de usuario	Ethernet
Comunicacion con inversor	RS-232, RS-485, RS-422
Comunicacion otros equipos	RS-485
Características constructivas	
Dimensiones	6 módulos DIN
Envolvente	Plástico UL94-V0 Autoextinguible
Peso	250 gr
Condiciones ambientales	
Temperatura de trabajo	-25°C...+70°C
Humedad relativa	95% sin condensación

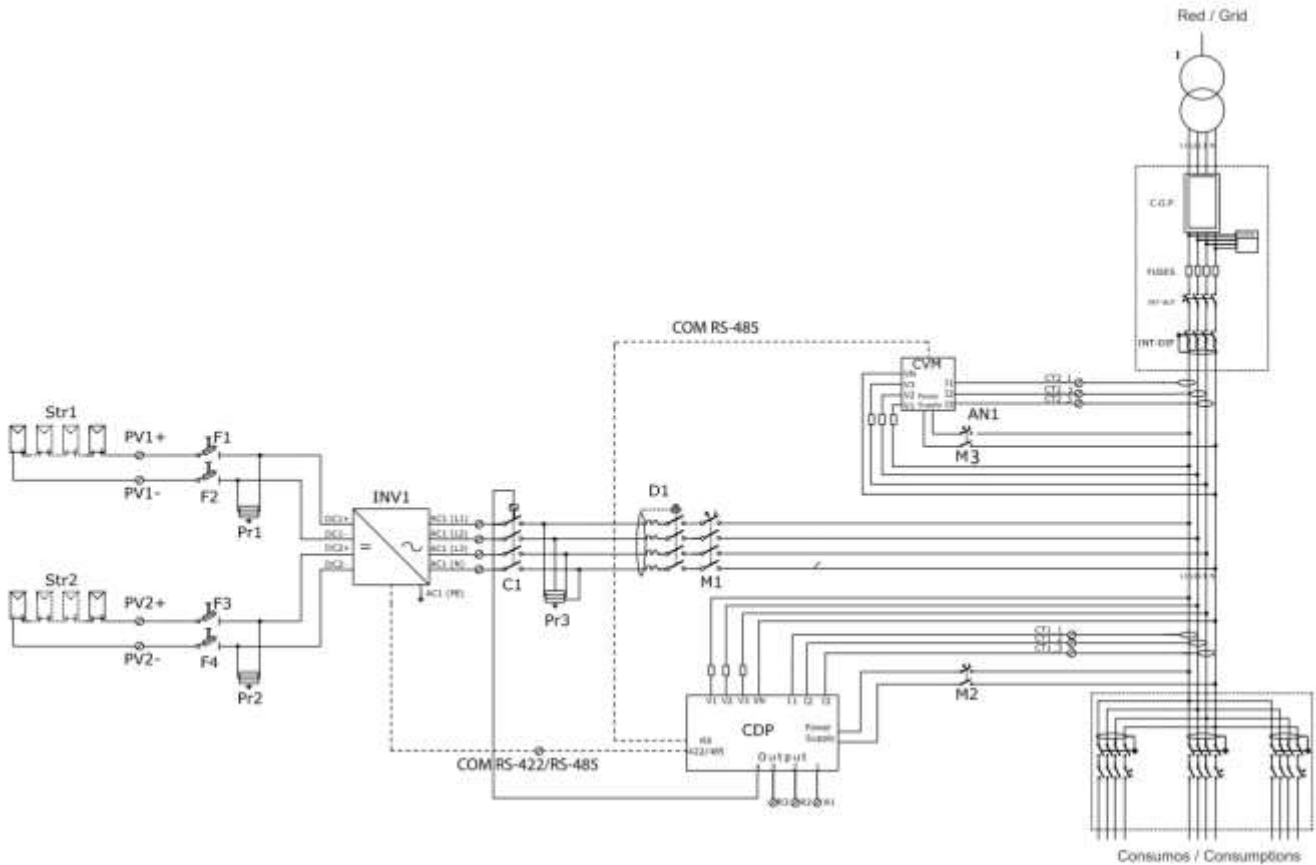
Switch of grid characteristics:

Model:	CTX 634052
Intensidad nominal	63 A
Combinación de contactos	4NA
Tensión de la bobina	230 V
CA/CC	CA/CC
Nº Modulos	3
Tipo	CTX63 40 230 U
Código	666156
Sum. (uds)	3

Current sensors:

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. (DEZAC)
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:

11212-4-TM
11212-5-TM
11212-6-TM
11212-7-TM
11212-9-TM

The inspection of manufacturing process was performed in
manufacture facilities:

On February 10, 2017

Inspection Report Number:

11212-2-IF