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Órgão de certificação da BV CPS GmbH  
Acreditado nos termos da norma EN 45011 -  
ISO/IEC Guia 65

## Certificado de conformidade

**Requerente:** Steca Elektronik GmbH  
Mammostraße 1  
8770 Memmingen  
Alemanha

**Produto:** Dispositivo de prevenção contra ilhamento integrado  
entre o gerador e a rede pública de baixa tensão

**Modelo:** StecaGrid 4200, StecaGrid 4200x, StecaGrid 3600,  
StecaGrid 3600x, StecaGrid 3010, StecaGrid 3010x,  
StecaGrid 3000, StecaGrid 2300, StecaGrid 2300x,  
StecaGrid 2020, StecaGrid 1800, StecaGrid 1800x

### Use em conformidade com os regulamentos:

Dispositivo de prevenção contra ilhamento em conformidade com a norma IEC 62116:2008 para sistemas fotovoltaicos com um acoplamento em paralelo de fase única por meio de um inversor no abastecimento das redes públicas. O dispositivo de prevenção contra ilhamento é uma parte integrante dos inversores designados.

### Regras e normas aplicadas:

IEC 62116:2008

Procedimento de ensaio de anti-ilhamento para inversores de sistemas fotovoltaicos conectados à rede elétrica

No momento da emissão deste certificado, o conceito de segurança de um produto representativo acima mencionado corresponde às especificações de segurança válidas para a utilização especificada, de acordo com os regulamentos.

**Número do relatório:** 10TH0241-IEC62116  
**Número do certificado:** U13-0329  
**Data de emissão:** 21-05-2013      **Válido até:** 20-05-2016

Órgão de certificação

Dieter Zitzmann



Deutsche  
Akkreditierungsstelle  
D-ZE-12024-01-01



QUALITY



HEALTH



SAFETY



ENVIRONMENT



SOCIAL  
ACCOUNTABILITY

# Certificate

The manufacturer: **Steca Elektronik GmbH**  
**Mammostrasse 1**  
**D-87700 Memmingen**  
**Germany**

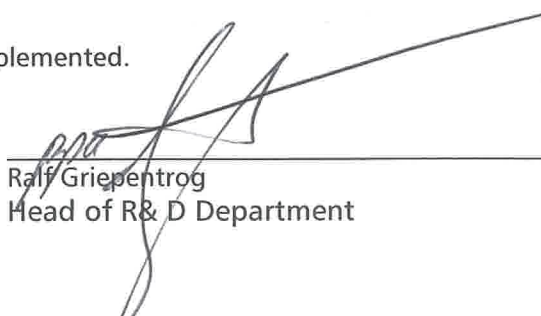
herby certifies, that its photovoltaic inverters for connection to the low voltage grid

StecaGrid 1800, StecaGrid 1800x  
StecaGrid 2300, StecaGrid 2300x  
StecaGrid 3010, StecaGrid 3010x  
StecaGrid 3000, StecaGrid 3000x  
StecaGrid 3600, StecaGrid 3600x  
StecaGrid 4200, StecaGrid 4200x  
StecaGrid 2020

fulfil in the setting "Brazil" the following requirements (only for three-phase systems):

- The injected DC current into the grid is  $< 0.5\%$  of nominal current.
- The total harmonic distortion of the output current (THDI) is lower than 5%. (for details of odd and even harmonics please refer to the appendix "Extract from test report for unit certificate Determination of electrical properties" of DIN V VDE V 0126-1-1/A1:2011.
- The power factor is between 0.98 inductive and 0.98 capacitive.
- The disconnection and connection of the inverter to the point of power injection is done with internal relays which are controlled by a software which will initiate:
  - an immediate ( $< 0.2$  s) automatic disconnection from the public grid provided that voltage and frequency are outside of the range of  $0,8 \times V_{nom} - 1,10 \times V_{nom}$  and 57.5 Hz – 62.0 Hz.
  - a reduction of PM is instantaneous power delivered when  $f$  exceeds 60,5Hz. When frequency decreases,  $P$  shall be maintained at the minimum value reached during frequency increase until  $59,95\text{Hz} \leq f \leq 60,05\text{Hz}$  for at least 300s. After 300s with  $59,95\text{Hz} \leq f \leq 60,05\text{Hz}$ ,  $P$  will be restored to available power with a maximum ramp rate of 20%Pm/min.
  - the software with its adjustments can not be accessed by the end-user.
- The reconnection time after clearance of a grid failure is not shorter than 300 s. Reconnection to the grid is allowed for frequencies between 59.9 Hz and 60.1 Hz
- The ability to stop power production on remote command within 1 min is realized by clean contacts.
- A fault ride through capacity isn't implemented.

Memmingen, the 15<sup>th</sup> of May 2013



Ralf Griepentrog  
Head of R&D Department