



# SUNNY TRIPOWER CORE1 STP 50-41

New version with AFCI and I-V generator diagnostics



"Business Unit Home & Business Solutions"

# Agenda



## SUNNY TRIPOWER CORE1 STP 50-41 NEW VERSION WITH AFCI AND I-V GENERATOR DIAGNOSTICS

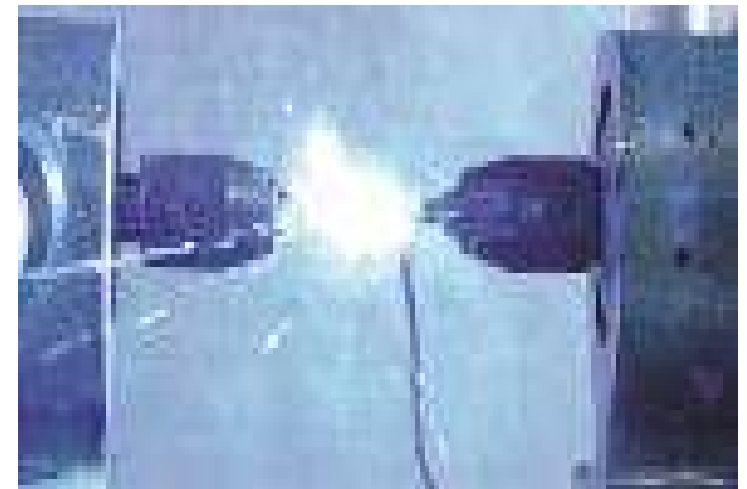
- 1 AFCI (Arc Fault Circuit Interruption)
- 2 I-V Diagnostics Function
- 3 Market Launch Planning

# New Feature: AFCI (Arc Fault Circuit Interruption)



## Benefit and Motivation

- Increasing market demand of integrated AFCI functionality: especially required by **insurance** companies
- AFCI integration directly in the inverter leads to reduction of the **installation cost** and reduces the complexity of the PV design
- No need of external components
- **Proven** AFCI algorithm due to many years of experience using the same AFCI solution in Sunny Tripower CORE1-US (UL 1699B certified!)
- **Future proof** release of Sunny Tripower with integrated AFCI: The AFCI will be an upcoming standard 2022 for IEC Countries (IEC 63027)

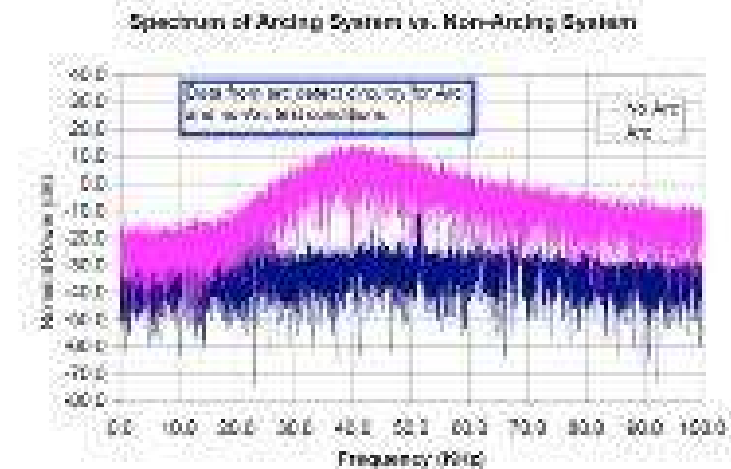


# New Feature: AFCI (Arc Fault Circuit Interruption)



## Realization

- **Easy activation** of the AFCI via inverter Parameter
- **Safe** detection due to a permanent spectrum analysis of the DC input current
- Alert via **messaging** function
- Safe DC **interruption** after arc fault detection



# New Feature: I-V Diagnostics Function

## Benefit and Motivation

- **Easy** detection of yield losses due to PV generator defects
- Enhancement of maintenance/inspection portfolio **offering** by the installers
- Easy reporting functionality of relevant data and graphics due to automatic PDF Export function



### I-V GENERATOR DIAGNOSE REPORT

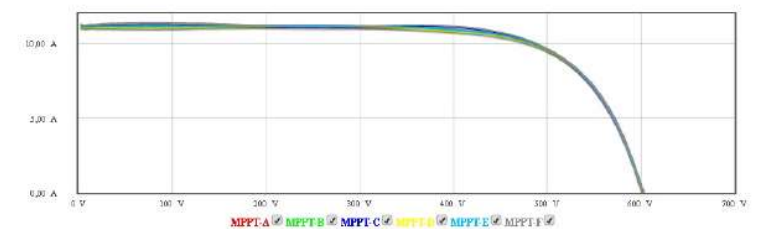
STP50-41

Seriennummer 3010747660

#### Information Wechselrichter

Gerättyp	STP50-41
Gerätecode	SN: xxxxxxxx660
Seriennummer	3010747660
Datum	06.01.2008
Uhrzeit	00:00:56

#### Übersicht



MPPT	V <sub>mp</sub> [V]	I <sub>mp</sub> [A]	P <sub>mp</sub> [W]	V <sub>oc</sub> [V]	I <sub>sc</sub> [A]	FF
MPPT-A	481	10.04	4831	603	11.23	0.71
MPPT-B	481	10.07	4845	601	11.23	0.72
MPPT-C	478	10.21	4880	602	11.32	0.72
MPPT-D	481	10.01	4814	602	11.20	0.71
MPPT-E	484	10.02	4855	603	11.24	0.72
MPPT-F	475	10.33	4904	602	11.37	0.72

#### Messung durchgeführt

Firma: \_\_\_\_\_

Datum: \_\_\_\_\_

Name: \_\_\_\_\_

#### Disclaimer

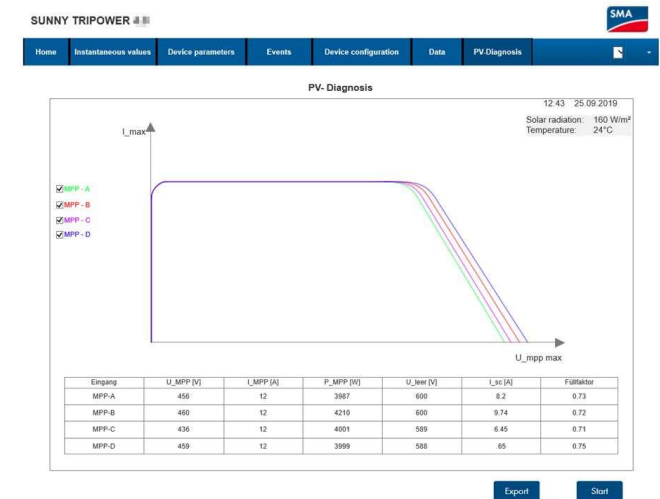
Die Ergebnisse der I-V-Diagnostikfunktion hängen von den Umgebungsbedingungen des PV-Generators (z.B. Temperatur, Verschattung, Sonneneinstrahlung) sowie von den Einstellungen und dem Betriebszustand aller Systemkomponenten ab. Die Ergebnisse sollten nur von Fachkräften und unter Beachtung dieser Informationen verwendet werden, um die Qualität und die Gesamtleistung der PV-Anlage zu bewerten.

# New Feature: I-V Diagnostics Function



## Realization

- **Live** measurement of Voltage / Current characteristic of the PV strings via "measure button" (Web UI)
- **Display** of an I-V (Current-Voltage) curve per MPP Tracker
- Deviation to the **typical characteristic** of a PV generator indicates issues with the PV-Module or DC-installation
- Further functional enhancements are planned for SMA Data Manager M and Sunny Portal





Thank you!



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