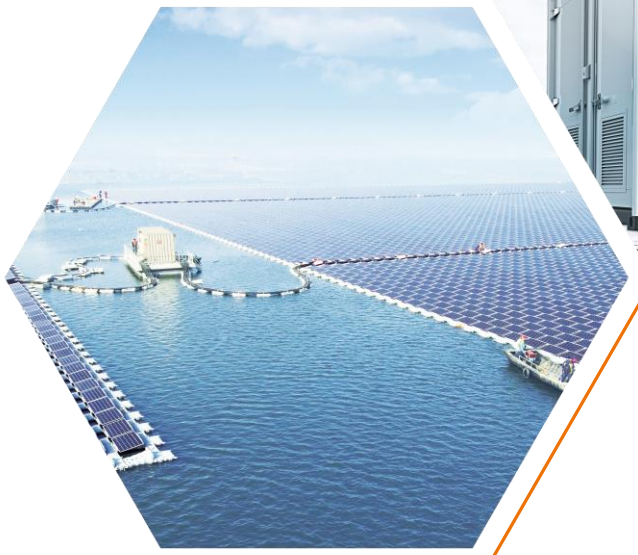
SUNGROW
Clean power for all



# CX Series at a glance:
# SG33/40/50/110CX

Simon Hammer, Senior Product Manager, Sungrow Germany

# INTRODUCING: COMMERCIAL EXTREME SERIES

**SG33CX | SG40CX | SG50CX**


**SG110CX**

# INNER VALUES COUNT

- Sungrow solutions are built of the best components in the industry

| | | |
|---|---|---|
| **GERMANY**<br>Inverter module | **JAPAN**<br>Capacitor | **JAPAN**<br>Fan |
| **TAIWAN \| CHINA**<br>Relay | **USA**<br>CPU | **SWITZERLAND**<br>Sensor |

# NEXT GENERATION INVERTER SOLUTION


**CONVENIENT INSTALLATION**

- Multiple handling grips
- Horizontal mounting possible
- Easily accessible connectors
- High environmental resistance

# NEXT GENERATION INVERTER SOLUTION


**HASSLE-FREE O&M**

- Remote firmware update
- String current monitoring
- Online IV curve scan
- Proactive fault analysis

# NEXT GENERATION INVERTER SOLUTION


**FLEXIBLE PLANT DESIGN**

- Up to 1100 $V_{DC}$
- 2 String connection terminals per MPPT (fuseless design)
- 3 Strings per MPPT max. (DCAC ratio increase)
- Support of Bifacial PV Modules
- Wide input voltage range
- DC/AC ratio up to 1.5

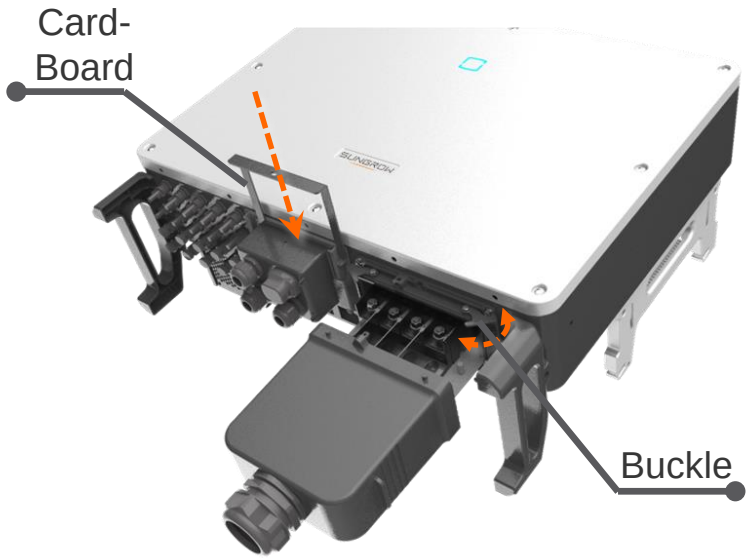
# NEXT GENERATION INVERTER SOLUTION


**SMART FEATURES**

- Anti PID & PID recovery
- Q @ Night
- Smart active cooling
- Commissioning via APP + Bluetooth
- Optional WiFi

# EASY INSTALLATION

## SG33/40/50CX



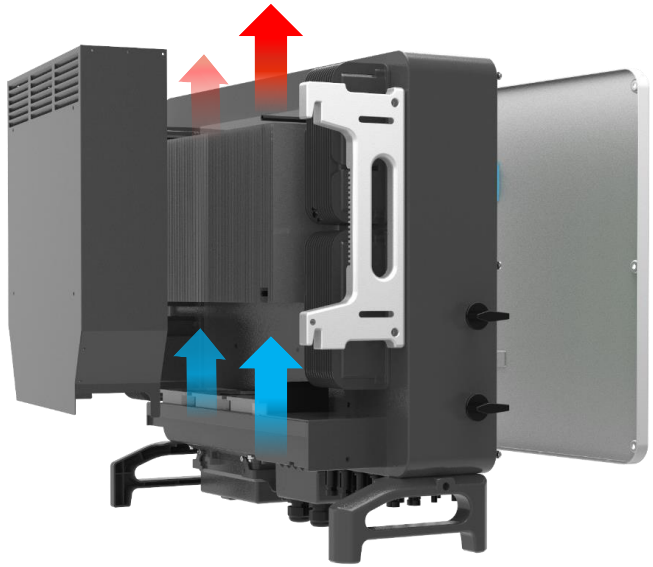

- External access for AC & Communication terminal connection
- Buckle design, quick installation of AC terminal block
- Card-Board design, easy installation of communication terminal block

## SG110CX

- Separate compartment for AC & Communication terminal connection
- Door opening by 2 screws
- Wide wiring space

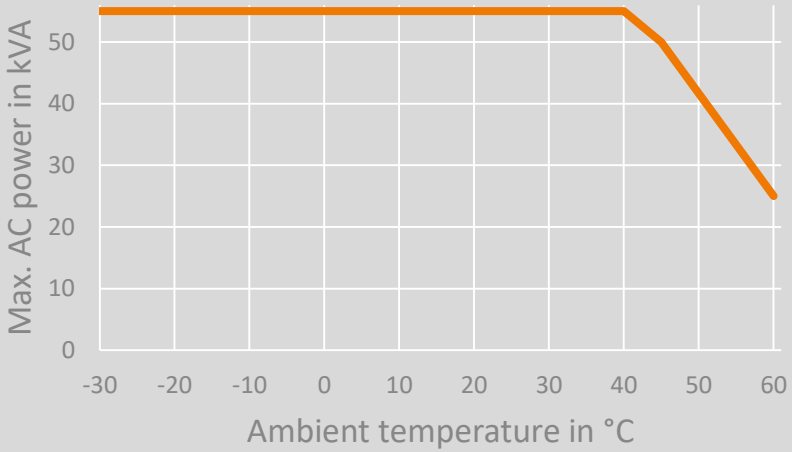
# INTELLIGENT AIR COOLING

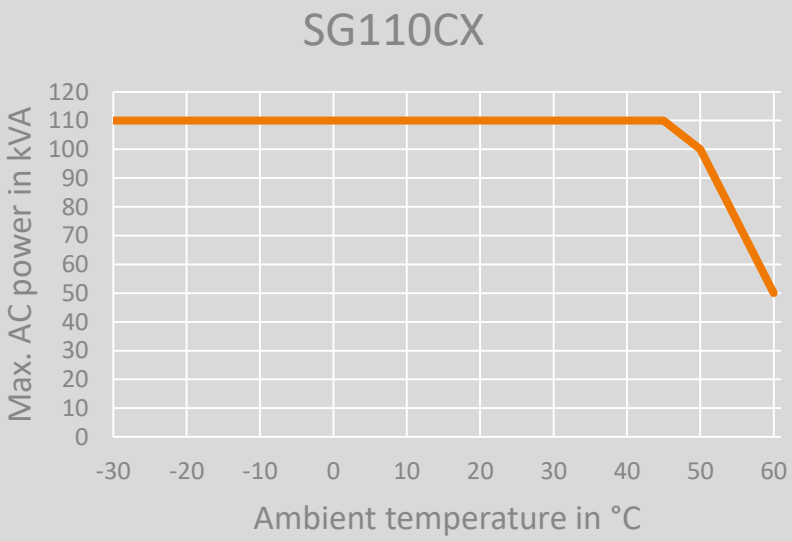
- Low operating temperature significantly enhancing the lifetime of the internal electronic components
- Max. power output up to high ambient temperatures (40/45 °C)
  Optimized yield for high ambient temperature installations



Intelligent air cooling

Fan Slide & Swap design




**Less derating, maximum output**

# LONG PRODUCT LIFETIME BY DESIGN

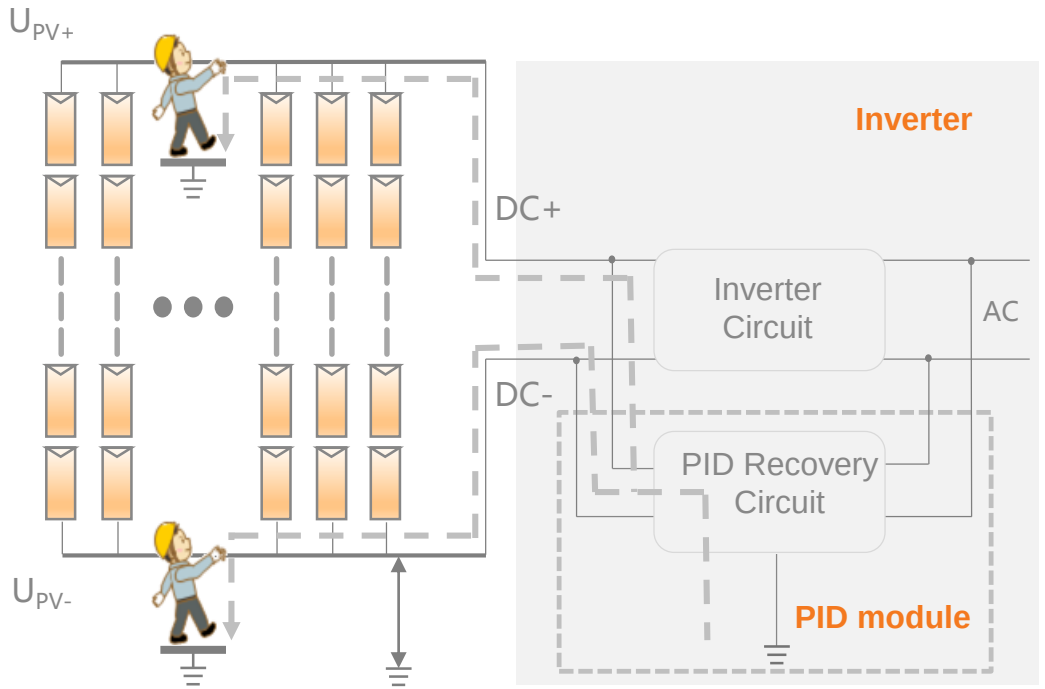
- IP66 protection, best performance against water impact
- Key components encapsulated in electronic cavity separated from heat sink
- IP68 fans for maximum investment security and highest yield
- High corrosion resistance, C5-rated

Aluminum alloy die casting, electrostatic spraying

Intelligent air cooling

# INTEGRATED PID RECOVERY FUNCTION

- **Repair:** Integrated PID recovery module, controlling the PV-Ground voltage to be higher than 0 V at night
- **Safety:** When it is detected that leakage current is greater than the set value, PID power supply is turned off




**Randomly selected 2 modules, test parameters before and after PID repair**

| Parameter item | Isc | Voc | Imax | Vmax | Pmax |
|---|---|---|---|---|---|
| Nominal value | 8.65 | 37.5 | 8.14 | 29.5 | **240** |
| #1 module PID affected | 8.35 | 36.9 | 7.89 | 28.9 | **228** |
| #1 module after repair | 9.05 | 37.23 | 8.27 | 29.98 | **248** |
| #2 module PID affected | 8.47 | 36.84 | 8.02 | 28.8 | **231** |
| #2 module after repair | 8.92 | 37.22 | 8.22 | 30.08 | **247** |

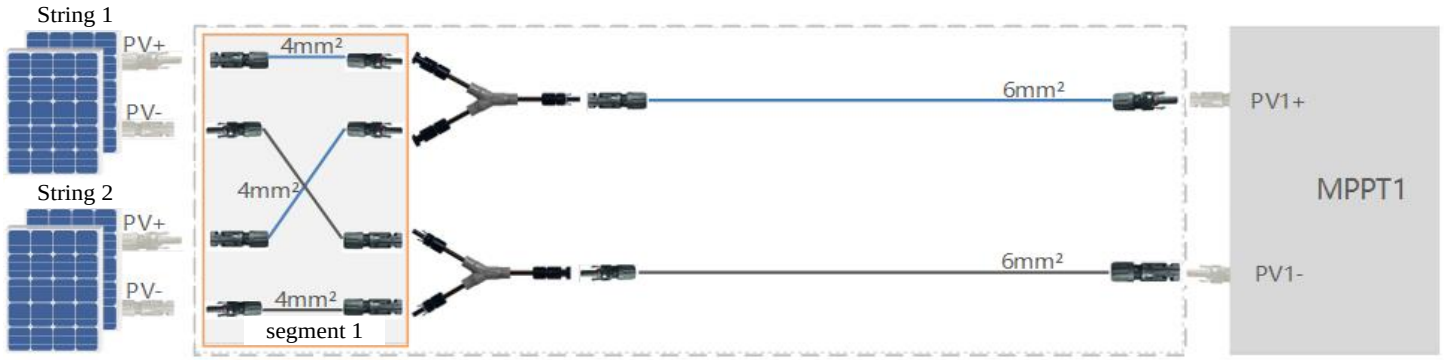
**Open circuit voltage (Voc) test values before and after PID repair**

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Before Repair | 712V | 716V | 708V | 709V | 707V | 709V | 708V | 708V | 708V | 709V |
| After Repair | 723V | 727V | 723V | 724V | 724V | 725V | 726V | 726V | 728V | 729V |

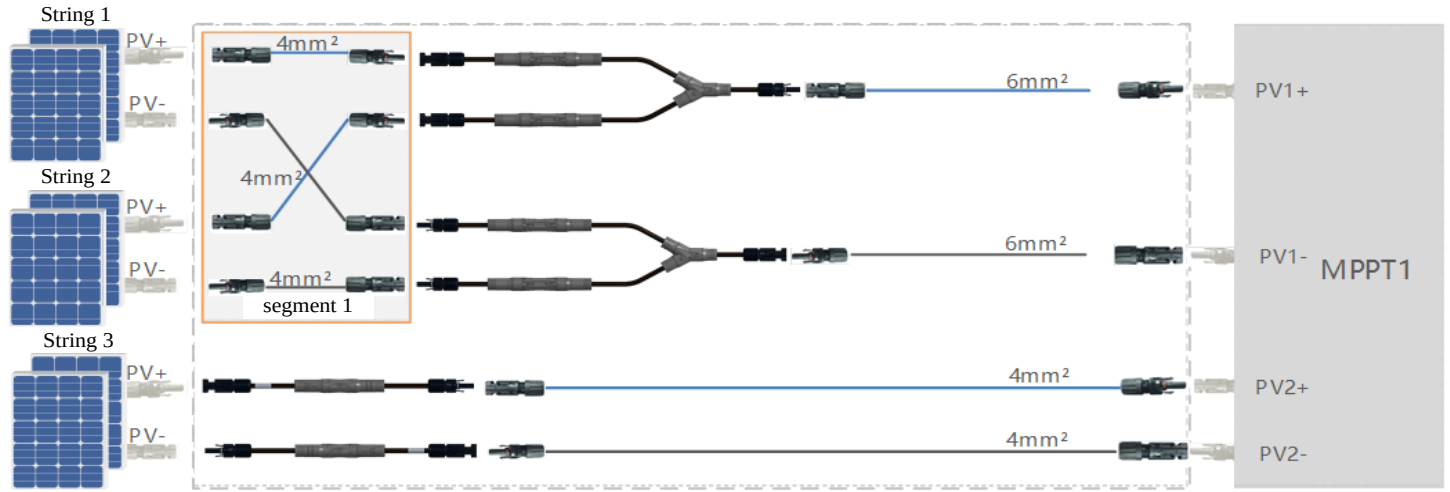
# FLEXIBLE STRING CONFIGURATION

- Possibility to connect max. 2 strings to 1 input connector
- Possibility to connect max. 3 strings to 1 MPPT
- Additional equipment available via Sungrow

A




B




**2 strings to 1 input connector**

- Reduction of string cabling costs
- External Y-Connectors

**3 strings to 1 MPPT**

- Increase of the DC/AC ratio
- External Y-Connectors + In-Line fuse *
- External In-Line fuse *

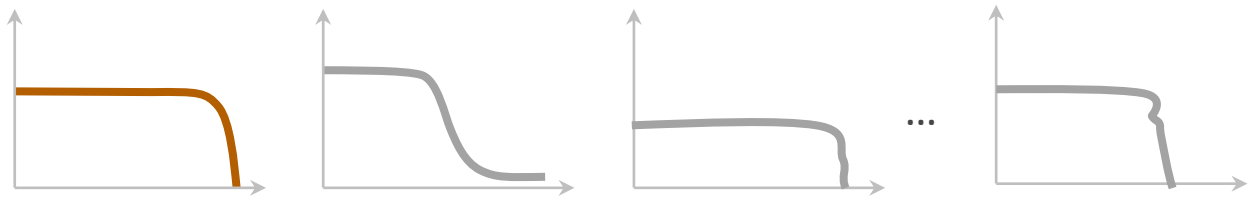
* Acc. to IEC TS 62548 / IEC 60364-7-712 (2017)

# IV CURVE SCAN & DIAGNOSIS

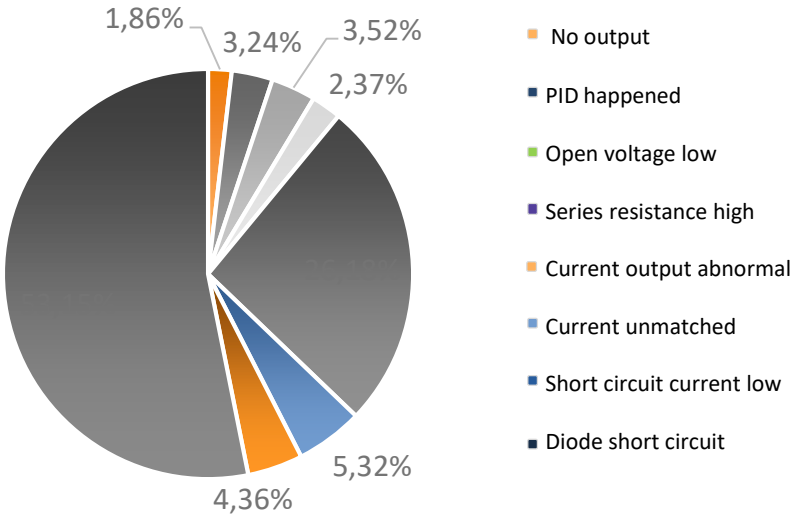
- Available through Sungrow Webportal (iSolarCloud) by one-click or automatic start
- Patented diagnosis algorithm enabling precise positioning of abnormal PV strings
- Graphical diagnostic report and recommendations for appropriate action

IV curve scanning » IV curve analysis » Report generation

**Curve analysis**



**Diagnostic report**



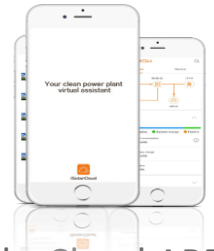
# MONITORING SOLUTION

SG33/40/50CX

SG110CX

**E-Net / WiFi**

Single inverter solution



iSolarCloud APP

**EyeM4**

Up to 10 inverters

**Com100**

Up to 30 inverters

Zero power export control

iSolarCloud

▶ **CX Series furthermore compatible with common 3rd party monitoring solutions like Meteocontrol, Solar-Log, Gantner, etc.**

# MAIN TECHNICAL PARAMETERS

| Electrical Data | SG33CX | SG40CX | SG50CX | SG110CX |
|---|---|---|---|---|
| Max. input voltage | 1100 V | | | |
| MPPT voltage range | 200 - 1000 V | | | |
| No. of MPPTs | 3 | 4 | 5 | 9 |
| No. of strings | 6 | 8 | 10 | 18 |
| Max. current per input connector | 30 A | | | |
| Max. short circuit current per MPPT | 40 A | | | |
| AC output power @ 45°C | 33 kVA | 40 kVA | 50 kVA | 100 kVA (@50°C) |
| AC output power @ 40°C | 36.3 kVA | 44 kVA | 55 kVA | 110 kVA (@45°C) |
| Nominal grid voltage | 400 V | | | |
| Nominal grid frequency | 50 / 60 Hz | | | |
| Power factor | 0,8 leading - 0,8 lagging | | | |
| Max. / European efficiency | 98.6 % / 98.3 % | | 98.7 % / 98.4 % | 98.7 % / 98.5 % |
| **General Data** | | | | |
| Dimensions (W × H × D) in mm | 702 x 595 x 310 | 782 x 645 x 310 | | 1051 x 660 x 362,5 |
| Weight | 50 kg | 58 kg | 62 kg | 85 kg |
| Operating temperature range | -30 to 60 °C (> 45 °C derating) | | | |
| Cooling concept | Smart forced air | | | |
| Degree of protection | IP66 | | | |
| Relative humidity range | 0 - 100 % | | | |
| DC / AC SPD | Type II / Type II | | | |
| DC connection | MC4 (Max. 6mm$^2$) | | | |
| AC connection | OT/DT (Al/Cu, Max. 70mm$^2$) | | | OT/DT (Al/Cu, Max. 240mm$^2$) |
| Communication port/protocols | RS485/Modbus / Optional: WiFi, Ethernet | | | |
| Display | LED, Bluetooth + App | | | |