SunSniffer®
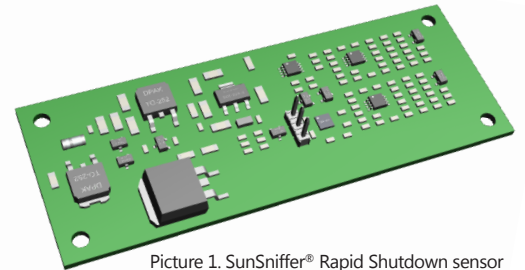# Retrofit RSD

The heart of the SunSniffer® technology for highly accurate detection of module data and rapid power shutdown function - easily retrofitted to already installed plants.

SunSniffer®

Picture 1. SunSniffer® Rapid Shutdown sensor

This solution can **retrofit conventional modules**. It **shuts down each module**, fully meeting the requirements of NEC 2017.

An **enabled inverter or our special RSD-String Reader** continually sends the signal „permission-to-operate". In absence of this signal, the **sensor automatically shuts the module off.**
To avoid deadlock, the system still has **1 volt standby power**.

The data is transmitted over the existing cabling via **Powerline Communication** (PLC), in total accordance with the specifications of SunSpec Alliance.

Besides the RSD function, the sensor provides full SunSniffer® functionality: **precise measurements of the module**, and **sophisticated analysis by artificial intelligence** in the Webportal.

Picture 2.
SunSniffer® Retrofit box;
cable length:
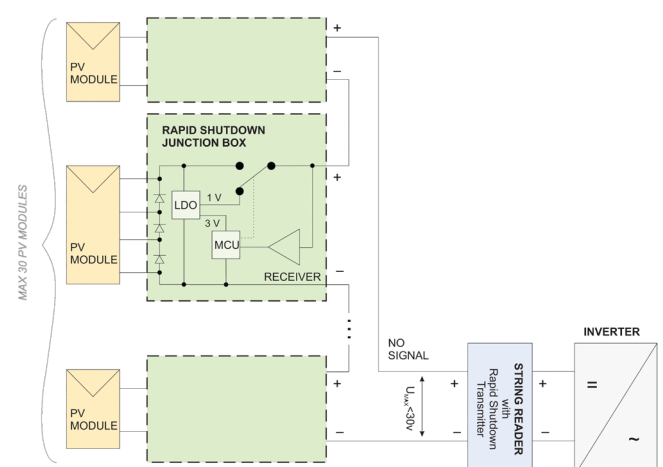2x5cm, 2x90cm

Permission to operate mode:
power generation without any contraints,
„permission-to-operate" signal is sent continuously.
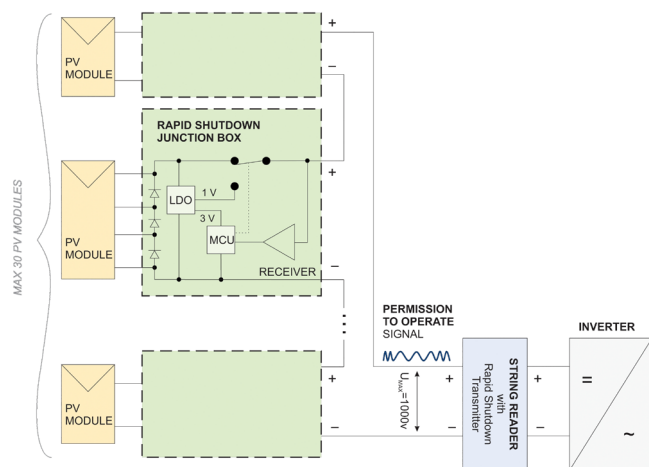
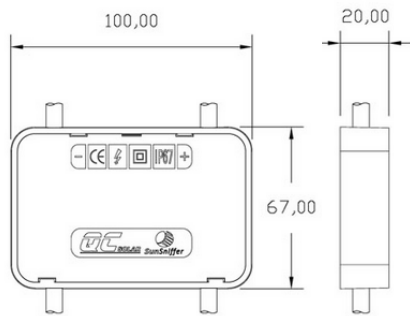Picture 3. Permission to operate mode

Shutdown mode:
Absence of „permission-to-operate" signal for 10 seconds initiates automated shutdown, current is cut off.
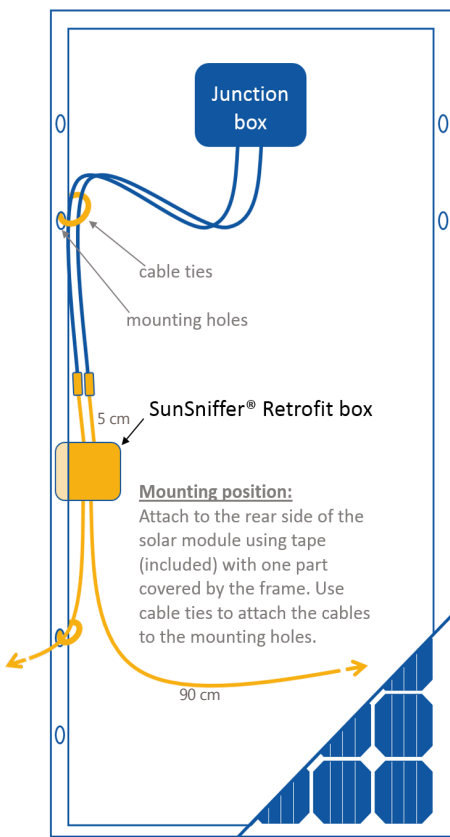

Picture 4. Shutdown mode

SunSniffer® Technology

SunSniffer®
Retrofit RSD

Picture 5. SunSniffer® Retrofit housing specifications

HOUSING TECHNICAL SPECIFICATIONS:

Item	QC0816432
Rated current (J/D)	14.5 A / 30 A
Rated voltage	IEC 1000 V / UL 600 V
Dimensions	100 x 67 x 20 mm
Temperature range	-40°C~ 85 °C
Cable size	4.0 mm^2 / 12 AWG
Protection degree	IP 67
Flammability class	5VA
Cable length	5 cm / 90 cm

Picture 6. Easy and fast installation:
Just plug the Retrofit box between the modules.

Mounting position:
Attach to the rear side of the solar module using tape (included) with one part covered by the frame. Use cable ties to attach the cables to the mounting holes.

RSD-SENSOR TECHNICAL SPECIFICATIONS:

Working voltage	5 ~ 45 ± 0.2 V
Temperature	-40 ~ + 85 ± 1 °C
Current consumption	≤ 10 mAmp
Serial Number length (SN)	30 bit
Data transmission interval (T) including:	30 ± 0.4 sec
- temperature transmission interval ($T_{t°C}$)	4 ± 0.4 min
- SP full serial number transmission interval (T_{SNfull})	4± 0.4 min
- voltage transmission interval (T_V)	30 ± 0.4 sec
Communication protocol	Power line with S-FSK modulation
Power control mode	Permission to operate watchdog
Dimensions (LxWxH)	92x34x10mm

The SunSniffer® sensor transmits data with 30 seconds interval.

There are three types of data sent:
1) Module full serial number SN
2) Module voltage V
3) Module Temperature t°C.
The sequence is repeated every 4 minutes.

Please refer to data packet sequence below.
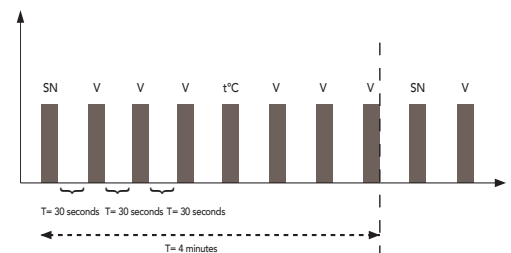
Picture 7. Sequence of data packets