PV monitoring solutions

Smart junction box for substring level monitoring

Connected

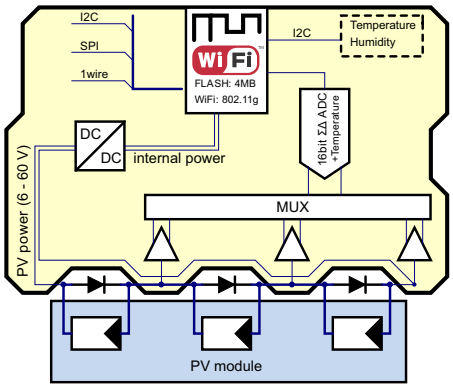
- PV powered with minimal power consumption
- Seamless connection to any WiFi infrastructure
- Over-the-air configuration and data acquisition

Real-time

- Synhronized data acqisition of all devices
- Automatic time sinhronization over wireless network
- SQL database data storage for post analyses

Scalable

- Unlimited number of units in a system
- External digital sensors interfaces (I^2C, SPI and 1wire)
- Perfectly fits into junction box
- Custom shapes available upon request



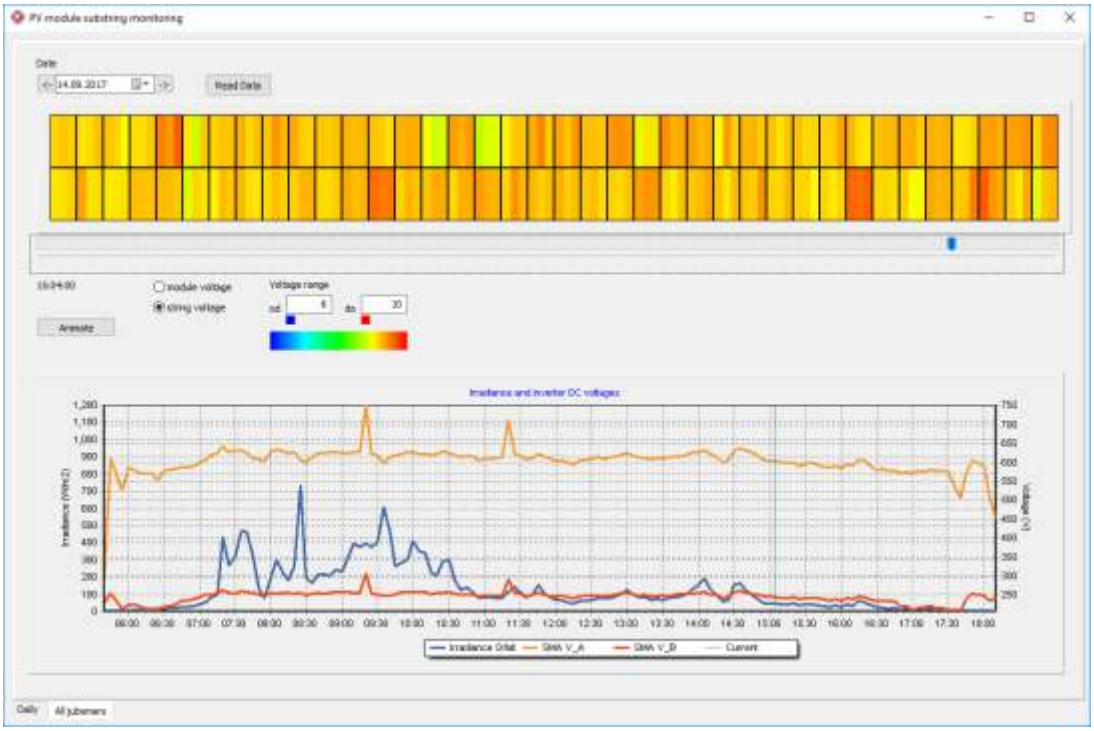
MAIN CHARACTERISTICS

- Measures voltage of each substring in PV module.
- Seamlessly connects to a Wi-Fi infrastructure.
- Powered from the PV module with minimal power consumption.
- Inputs for internal and external temperature and relative humidity sensors.
- Easily fits into a junction box and electrically connects to bypass diodes' sockets.
- All devices are precalibrated.
- Windows control software with SQL database data storage for post analyses.
- Industrial level FCC, CE and Wi-Fi Alliance certified Wi-Fi interface.

ELECTRICAL PROPERTIES

Parameter	Value	Comment
Input voltage (active mode)	9 – 60 V	Active Wi-Fi interface
Input voltage (standby mode)	6 – 60 V	Measurement is active but no data is transferred via Wi-Fi
Voltage measurement	–5 – +15 V	Resolution 0.5 mV, uncertainty ±0.2% (after calibration)
Sampling rate	1 min	Adjustable, duration of sample 1 s
Synchronization uncertainty	±0.5 s	Synchronized with NTP synced clock over Wi-Fi every minute
Working temperature range	–40 °C – +125 °C	
Internal temperature	–40 °C – +125 °C	Uncertainty ±0.5 °C in a temperature range 0 °C – +70 °C
External sensor interfaces	I²C, SPI and 1wire	Currently supports DS18B20 digital temperature sensors and SHT2x humidity sensors. Support for others is under way.

DATA ANALYSIS SOFTWARE



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