

# PID-Analysis

14.9.2015

Middle East

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# System description

- 297 PV Panels 215Wp poly
- 4 Inverters
- 12 Island Inverters
- Ground mounted system

# Visual inspection



## Electric

- No inverter errors
- Cables & plugs no visual damage
- PV cables should be protected from sharp edges
- Grounding present at inverter & mounting structure

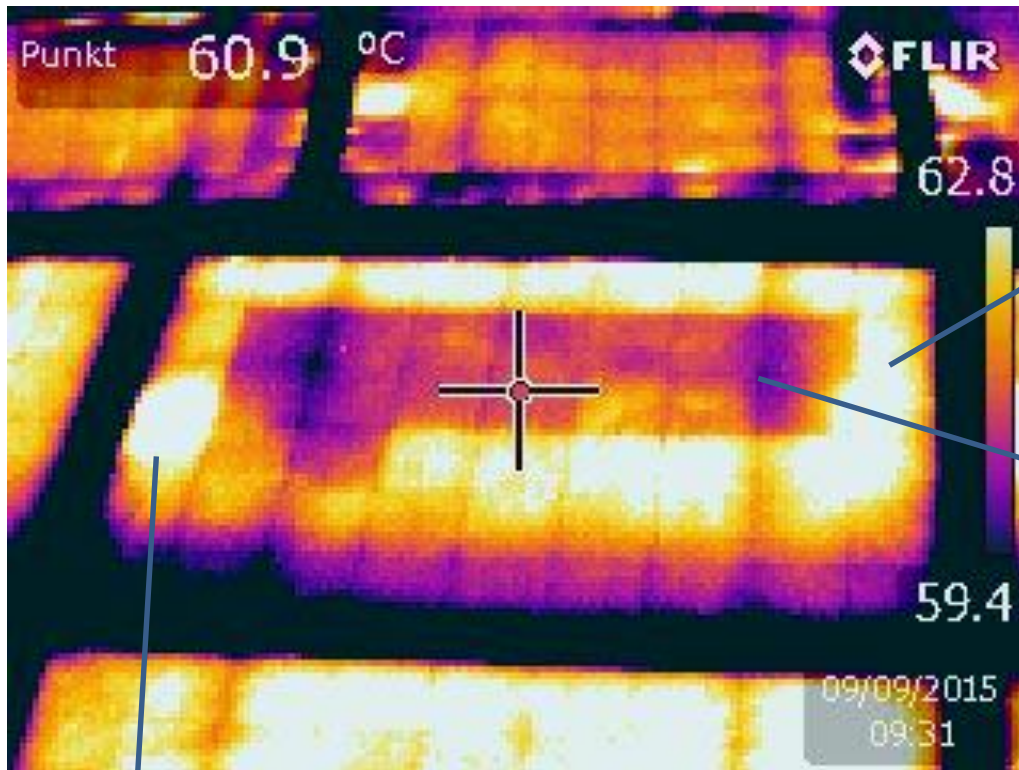
## System

- Some permanent shading by fence (can lead to local hotspots over a longer time)
- No visual damage of glass or cells

# Measurements - Voltage

	Nominal	Measured
PV Panel - open circuit voltage ( $V_{OC}$ )	33.45V (@STC)	7.5 ... 28.5V
PV String Voltage (max power point) $25 \times V_{mpp}$	836.3V (@STC)	149 ... 200V

# Measurements - Infrared



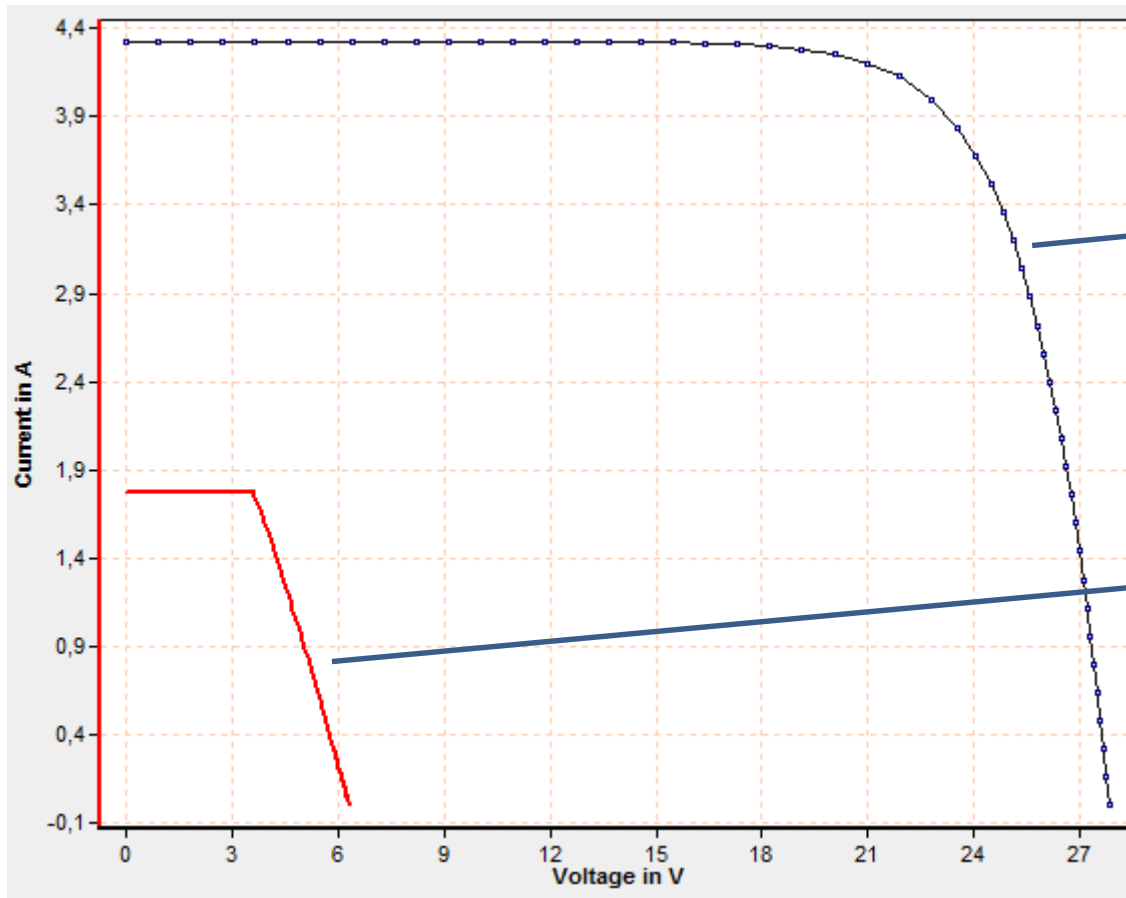
Hot cells at the edge  
(peculiar)

Cooler cells in the middle

Junction box (normal)

Temperature difference approx 3-4K

# Measurements – IV-curve



Nominal Curve

Measured Curve

# Concussions

- Significant reduction in generated power
- No visual damage
- No inverter errors
- No observable design errors
- No observable faults in execution
- PID (Potential Induces Degradation) on all PV panels



# Next steps

- EL-Analysis of 1 module
- Trial run with SMA Offset-box

# Contact



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