

# Single-Inductor Single-Sensor Multi-Channel Distributed PV Solar System

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Seeking R&D and/or  
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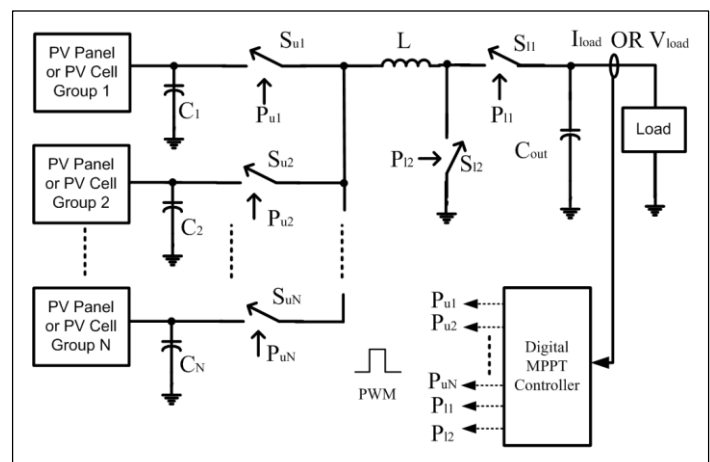
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## Single-Inductor Single-Sensor Multi-Channel Distributed PV Solar System

- Current common low-cost PV solar systems utilize a centralized architecture
  - Single centralized power converter with maximum power point tracking (MPPT) control
  - Large numbers of PV panels are connected in series and parallel to generate high voltage and high power/current.
- This allows for higher efficiency with reduction of partial shading and mismatching effects
  - Yet, dramatically increases the number of power converters, sensors, and controllers needed
- Our technology is a multi-channel with multiple PV panels or cells solar system
  - MPPT (Maximum Power Point Tracking) Control
  - With only a single inductor, a single power converter, a single sensor, and a single MPPT controller.

## Advantages of Single-Inductor Single-Sensor Multi-Channel Distributed PV Solar System

- Similar localized MMPT and power system as current, which allows for higher efficiency
- Allows for N number of cells to have only a single sensor and controller
  - No need for multipliers
- Decrease in size and cost of system
- Decrease in cost of system



**Figure 1.** Scheme of Single-Inductor Single-Sensor Multi-Channel distributed PV solar system

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