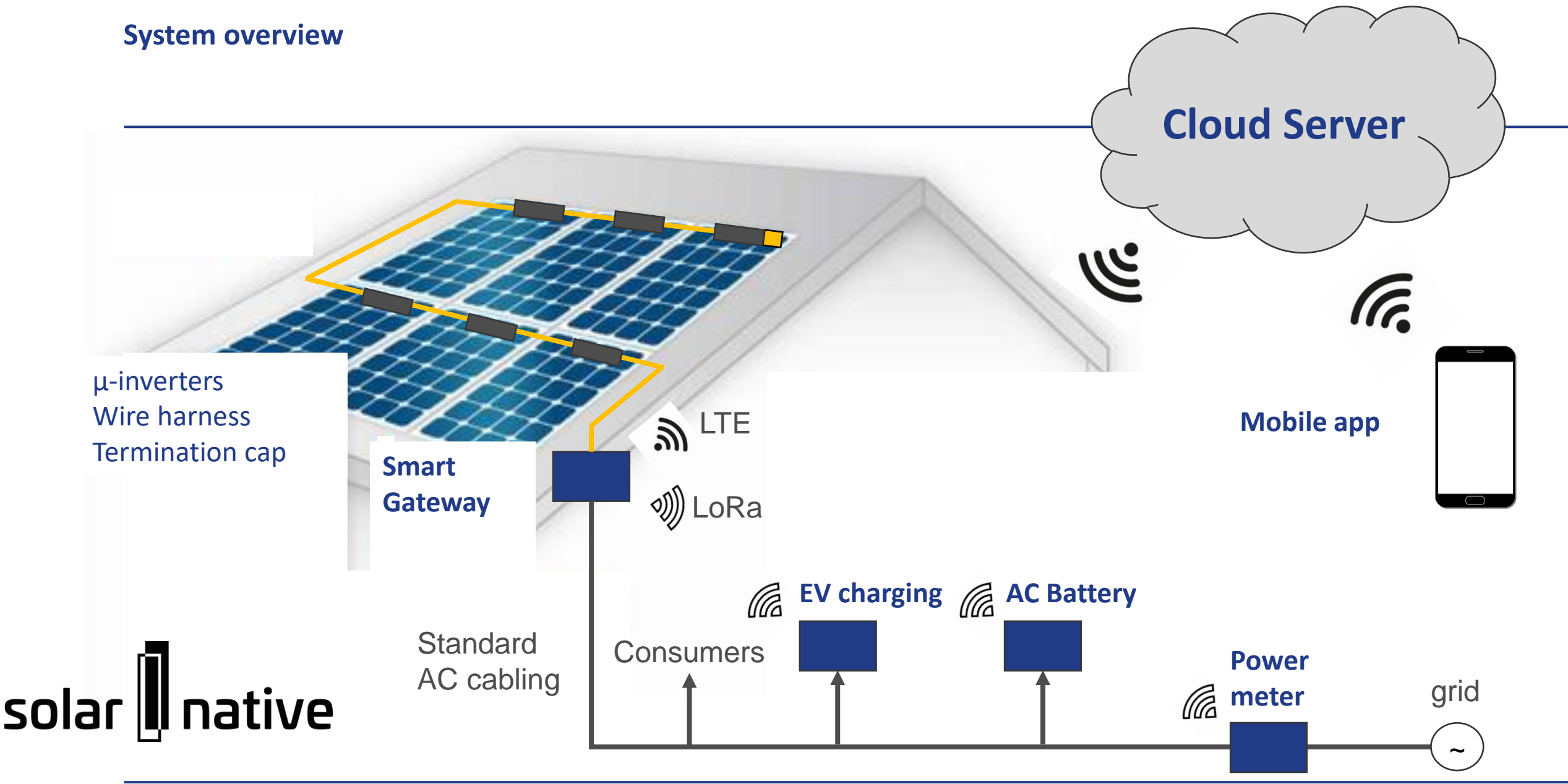


# Smart Energy Home

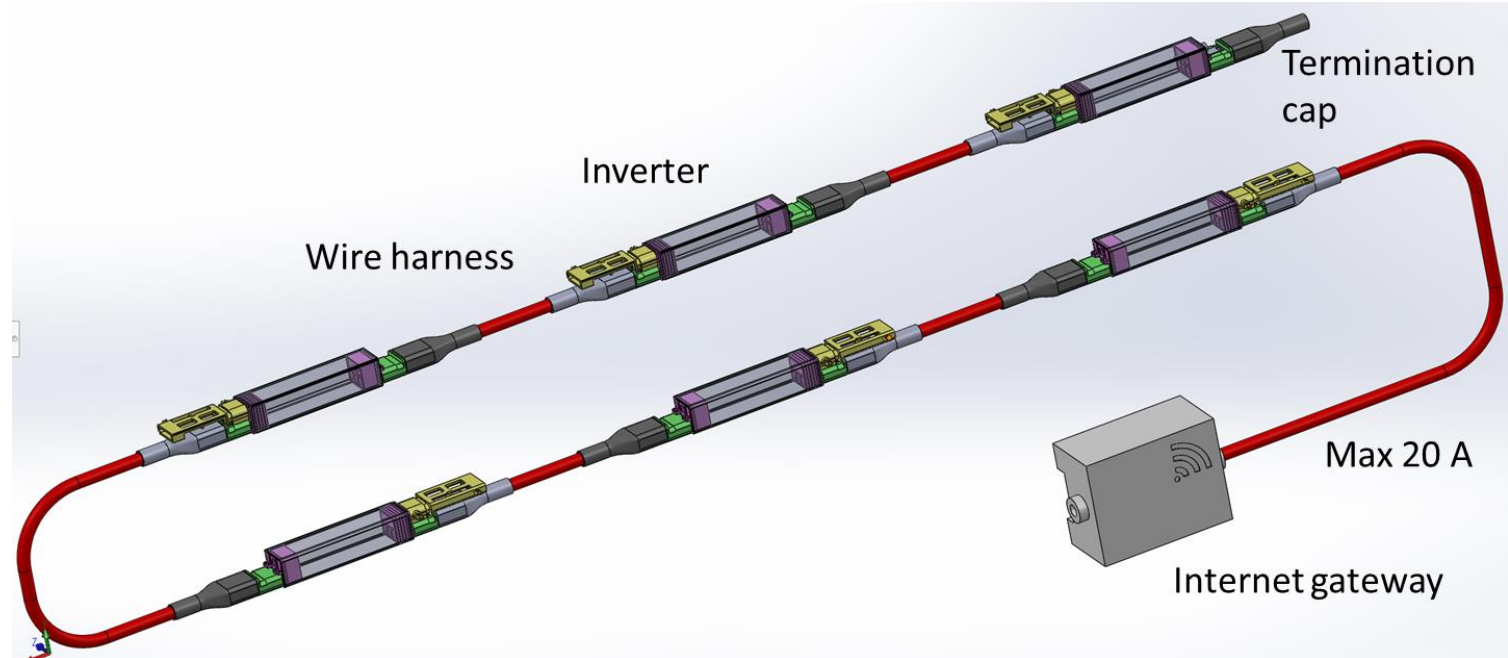


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- The Smart Energy Home system is a complete energy solution for residential home owners.
  - Based on Solarnative's proprietary high-frequency technology, the system covers energy generation, storage, electric vehicle charging and large consumers.
  - The whole system is designed for optimized energy generation and storage, easy installation, and highest reliability.
  - At the heart is our revolutionary micro-inverter / AC module technology
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# System overview



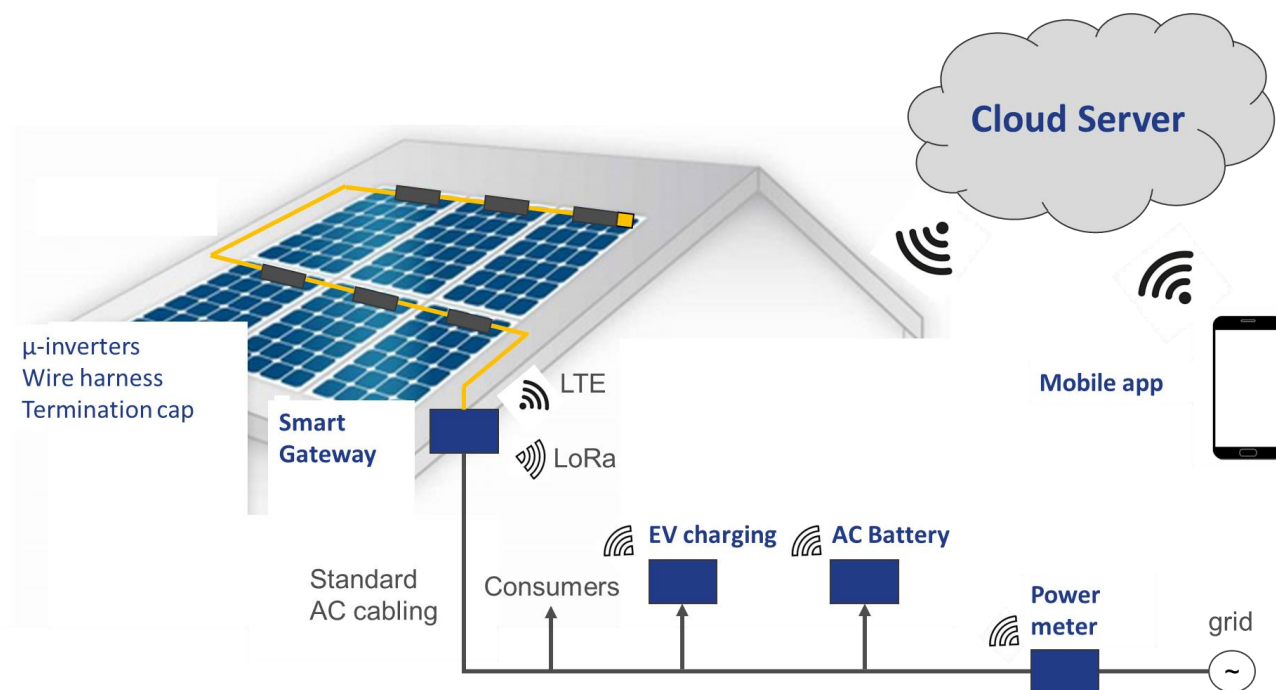
- Generic system architecture
- 20 A 1-phase strings for each gateway
- Scalable PV system size with an unlimited number of gateways combinable in master-slave configuration
- Scalable system configuration with several batteries, meters, EV chargers



## Easy installation



- Easy system planning
- Factory-mounted micro-inverters
- No need for return cables from the end of each string
- No data cables anywhere in the system
- On-the-roof missing connector detection / location
- No inverter mounting
- No LAN conflicts
- No additional surge-protection devices required
- Complete Over-the-air commissioning and updates
- Auto-detection of all devices
- Automatic module mapping function
  - No need to scan serial numbers



- Unique micro-inverter with 350 W AC-power, suitable for PV modules with nominal power up to 440 Wp.
- Available in two versions
  - Add-on version INV-350-a for standard modules (pre-mounting inside module frame in module fab or field-mounting to mounting structure)
  - Module-integrated version INV-350-i; completely integrated as AC module

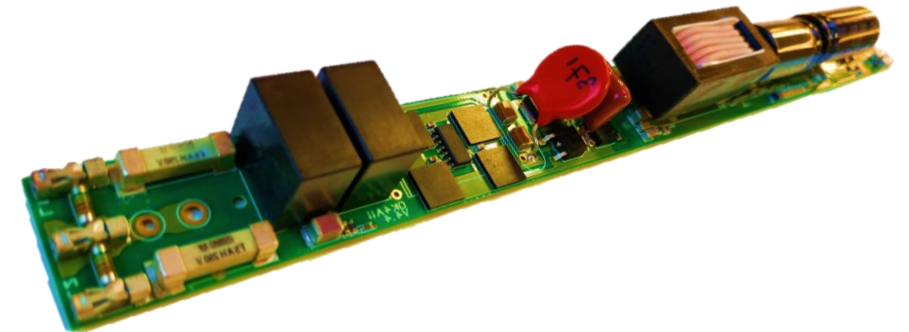


## Power Stick INV-350

Highest energy yield

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- Module-level optimization
  - special shading-tolerant module layouts with substring-optimization.
  - No standby losses
  - Daily start-up at sunrise
  - Superior low-light performance
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## Power Stick INV-350

Highest reliability

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- Lowest losses
  - Unique thermal management
  - Minimized volume-to-surface ratio facilitates heat transfer and minimizes thermal impact of solar irradiance
  - Module frame integration provides efficient cooling
  - Overall 10°C cooling doubles the lifetime
  - Minimized component count and high degree of chip integration reduces failure rates.
  - Usage of highly reliable automotive-grade components
  - 25 years warranty are only the beginning
- 





## Power Stick INV-350

Inherent safety

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- No dangerous high DC voltages in the system
  - Safe installation
  - Safe operation
- Automatic Module-level switch-off when grid is down
  - Compliant with NEC 2021 rapid shutdown requirements
- Self-limiting strings
  - No danger by connecting too many modules to one string

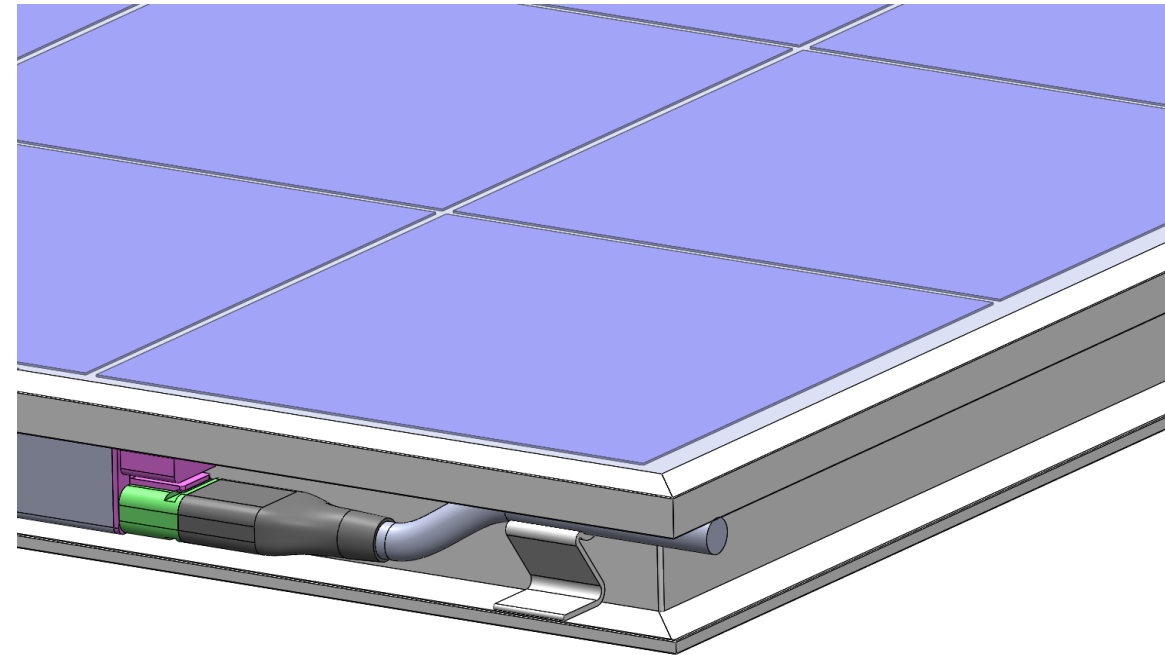


## Power Stick INV-350

### AC module benefits

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- no by-pass diodes required
- Low-voltage module
  - Up to 2 % higher module efficiency with lower edge distances
  - Reduced material cost
- Unique sub-string layout with 33 % improved shading tolerance and sub-string optimization
- Proprietary hot-spot and hot-cell protection
- Easy-installation frame design
- Enabler for high-efficiency Perovskite Tandem technology



- The smart gateway is the brain of the home energy system and controls the individual devices.
- It communicates with inverters via power line communication and with all devices in the system via a low-power wireless LoRa network. It communicates with the Solarnative cloud server via LTE/5G.
- Fast-plug clamps and cable connectors; tool-free assembly



- 3-phase or 3 x 1-phase power meter for grid connection point, large consumers or to integrate third-party batteries and EV chargers into the monitoring system
- Miniaturized dimensions
  - Fits in every electrical cabinet
- Easy and safe current measurement
- Wireless control



## EV charger (Wallbox)

- Twin-Wallbox 11 / 22 kW (configurable)
- Bi-directional AC-charging
- Integration of vehicles into smart energy home
- Remote control with mobile app
- Flexible power split
- PV surplus charging
  - Automatic 1-phase / 3-phase switch and smart battery usage enables surplus charging from 1 W surplus
- Smart scheduling to allow auto-switch from surplus charging to priority charging
  - Fully-charged when leaving
  - Compatible with car preheat
- Flexible prioritization with other devices
- Easy installation, AC connection from top or bottom
- Extremely low standby consumption of 1-2 W
- Configurable cable lengths



Launch in  
Q3/2023

- Modular battery system without limit
  - Independent AC batteries with 0.9 kWh storage capacity and 375 W charging / discharging power
  - Up to 32.4 kWh storage capacity with 13.8 kW charging / discharging power
- True 3-phase storage/supply
- Full off-grid back-up system
- Smart charging strategy (to avoid power limits during noon-peak)
- Lightweight and compact size
- Unique high-frequency AC battery technology leads avoids cell mismatch and overheating and leads to unprecedented lifetime and safety
- No dangerous high DC voltages



Launch in  
Q1/2024



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