

# Smart Gateway SGW-1



The SGW-1 is the heart of the Smart Energy Home system. It controls all devices in the system and acts as an interface to the Solarnative cloud server

## Key features



### 4.6 kW (20 A) PV string

Access point for a 1-phase string of inverters  
Filter unit to shield inverter string powerline communication



### No data cables anywhere

Powerline communication with inverters  
Robust and low-damping wireless LoRa communication with all other devices



### Easy installation

Ultra-long string design for East-West configuration  
Tool-free installation and cable connection  
Plug & Play over-the-air commissioning  
On-the roof Auto-detection and location of missing connectors  
Automatic roof mapping / smart layouting function



### Robust network connection

No connection to local Ethernet or WiFi required  
Approx.. 10 year LTE data package included (upgradable)



### Inherent safety

No high DC voltages during installation and operation (no risk of fire)  
Self-limiting string design

## Master-Slave configuration

**SGW-1:** There is only one model of the Smart gateway. Each gateway acts as access point to a 20 A (ie, 4.6 kW @ 230 V) string of PV modules with power stick micro-inverters. For larger systems several gateways can be combined in a master-slave configuration. Only the master gateway communicates with the cloud. The slave gateways send their data to the master gateway.

Each gateway automatically detects and integrates all devices in the system.

Each SGW-1 comes with a termination cap which needs to be placed on the output AC connector of the last inverter in the string.

## Technical Data

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### Connections

Micro-inverters	1-phase string self-limited at 20 A
# of micro-inverters	Minimum 13 modules facing south Up to 20 modules facing east + 20 modules facing west
Max. current	20 A
Connector	Solarnative AC connector (male)
Grid connection	3 x 6-10 mm <sup>2</sup> cable clamp (toolfree), standard installation cable
Nominal voltage	230 V @ 50 Hz / 240 V @ 60 Hz
Grid	
Overvoltage Class	II
Nominal frequency	50-60 Hz
Ouvercurrent protection	Requires max. 20 A
Mounting	Toolfree to mounting rail underneath PV module

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### Communication

Cloud communication	LTE wireless network
Inverter communication	Powerline communication
Communication with other devices	LoRa WAN wireless
GPS	included

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### General Data

Dimensions (length x width x height)	142 mm x 56.4 mm x 37.5 mm (5.6 in x 2.2 in x 1.5 in)
Weight	100 g (3.5 oz)
Ingress protection	IP65
Noise emission	< 40 dB

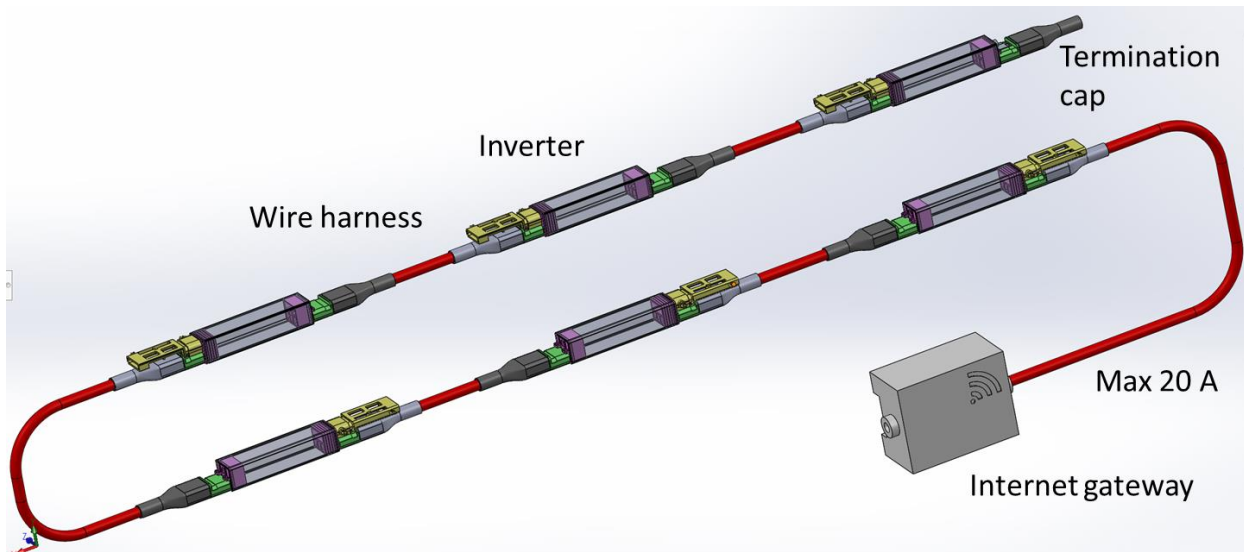
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### Compliance (pending)

Certification (pending)

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## Smart Energy Home: system architecture



System	INV-350-a	INV-350-i
Maximum current per string		20 A
Number of inverters per string	Unlimited. Self-regulated system	
Recommended maximum number of inverters per string)	South: 13 @ 400 Wp modules -15 @ 350 Wp modules / East-West: 28 @ 400 Wp modules -36 @ 350 Wp modules	
System components	Inverter, wire harness, termination cap, Internet gateway (optional: energy meter)	
Connectivity	Powerline communication from inverters to gateway, LTE to cloud server and LoRa to other system devices	