

# Smart Gateway

## SGW-1

### System Control Unit

The Smart Gateway SGW-1 is the brain of the Solarnative Smart Energy Home system. It controls all devices in the system and acts as interface to the Solarnative cloud server via LTE/5G.



## 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 layout 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

# System Setup

Each Smart Gateway SGW-1 acts as access point to a 20 A (i.e., 4.6 kW @ 230 V) string of PV modules with Solarnative Power Stick micro-inverters. The gateway automatically detects and integrates all devices in the system. It comes with a termination cap to close the output AC connector of the last inverter in the string.

For larger systems, several gateways can be combined in a master-slave configuration. In this setup, the master gateway communicates with the cloud via LTE/5G, whilst the slave gateways send their data to the master gateway via LoRa.

## Technical Data

Connections	Smart Gateway SGW-1
Micro-inverters	1-phase string self-limited at 20 A
Max. current	20 A
Connector	Solarnative AC connector (male)
Grid connection	3 x 6-10 mm <sup>2</sup> cable clamp (tool-free), standard installation cable
Nominal grid voltage	230 V at 50 Hz / 240 V at 60 Hz
Overvoltage Class	II
Nominal frequency	50-60 Hz
Overcurrent protection	Requires max. 20 A
Mounting	Tool-free attachment to mounting rail underneath PV module

Communication	Smart Gateway SGW-1
Cloud communication	LTE wireless network
Inverter communication	Powerline communication
Communication with other devices	LoRa WAN wireless
GPS	included

General Data	Smart Gateway SGW-1
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

Compliance	Smart Gateway SGW-1
Certifications (pending)	

## Smart Energy Home System Architecture

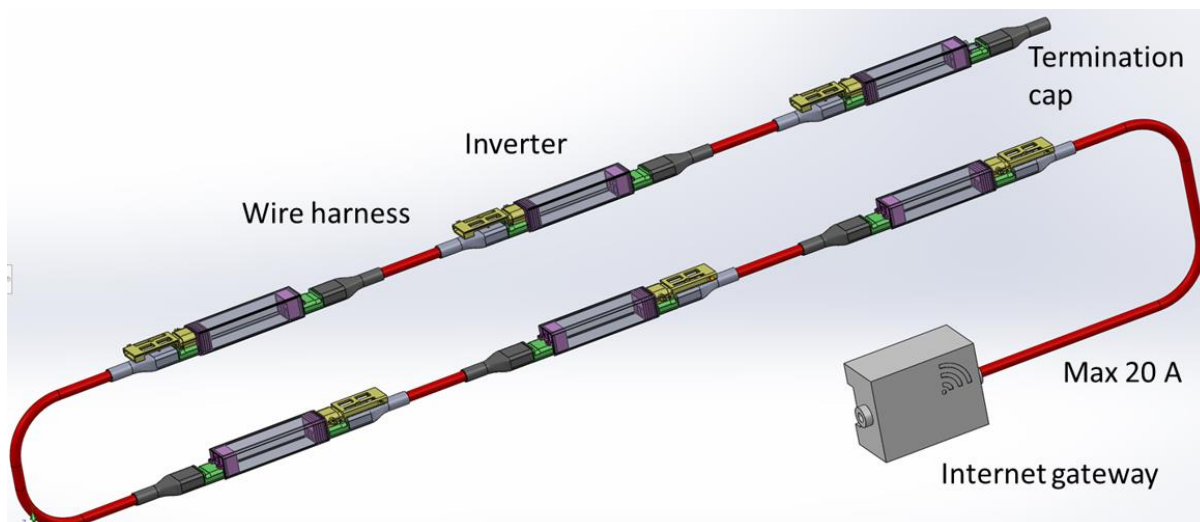


Illustration: Example setup with six PV modules

System	Smart Gateway SGW-1
Maximum current per string	20 A
Number of inverters per string	Unlimited. Self-regulated system. No minimum number of inverters.
Recommended maximum number of inverters per string	South orientation: up to 13 modules East-West orientation: up to 20 modules facing east + up to 20 modules facing west
System components	Inverter, wire harness, termination cap, smart gateway (optional: power meter)
Connectivity	Powerline communication from inverters to smart gateway, LoRa to other system devices, LTE to cloud server