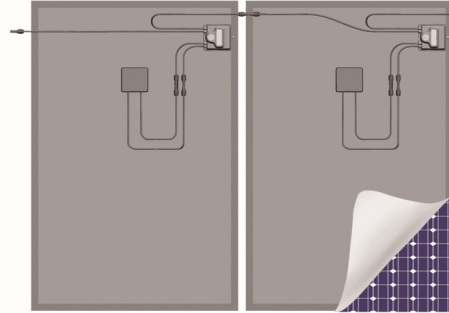


## Product Picture



## Product features

- ⚙ Module level Maximum Power Point Tracking(MPPT), 5-25% more power yield.
- ⚙ Real-time panel monitoring, timely warning and positioning the problem.
- ⚙ Secure solar system, remote shutdown, elimination of high voltage danger.
- ⚙ Module added-on, compatible with third party inverter, available for the new or the existing solar power station.
- ⚙ 25 years lifespan, perfectly matching solar modules.

## Technical Data

Product Code	Honeybee650
<b>INPUT</b>	
Max. Input Power	650W
Max. Input Voltage	75VDC
Operating Voltage Range	12 ~ 75VDC
MPPT Voltage Range	12 ~ 75VDC
Isc	16A
Max. Input Current	15A
<b>OUTPUT</b>	
Max. Output Power	650W
Voltage Range	0 ~ 75VDC
Max. Output Current	15A
Max. Efficiency	99.60%
<b>OTHERS</b>	
Max. System Voltage	1500VDC
Operating Temperature Range	-40 ~ +85 °C
Relative Humidity	0~100%
Ingress Protection	IP68
Protective Class	II
Communication	915M / 2.4G / PLC
<b>INSTALLATION SPECIFICATION</b>	
Size	130.3×109.6×25mm
Weight	540g
Connector (Input/Output)	Compatible with MC4
<b>STANDARD / CERTIFICATION</b>	
Safety	IEC/EN 62109-1:2010 the Low Voltage Directive(2014/35/EU)
EMC	EN 61000-6-1:2007 EN 61000-6-3:2007/+A1:2011 EN 61000-6-2:2005 EN 61000-6-4:2007/+A1:2011 the EMC Directive(2014/30/EU)
Certification	CE

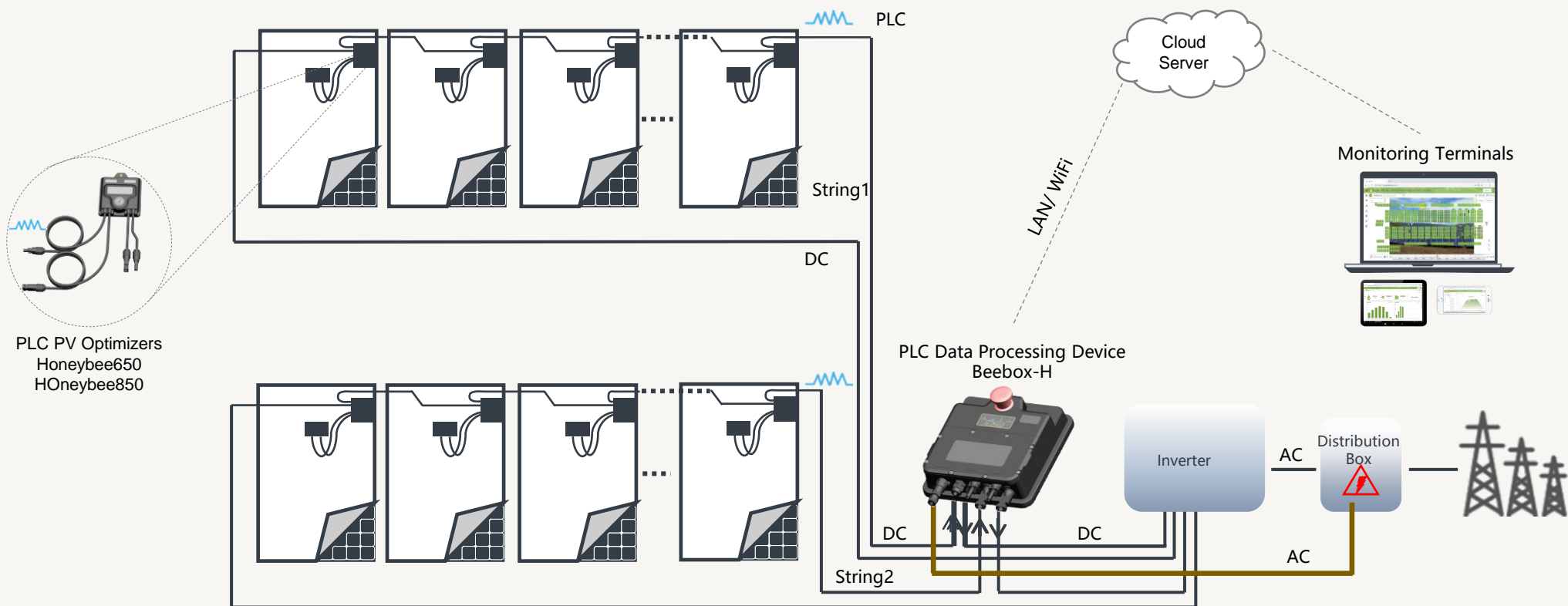


# GNE PV Module Optimization & Monitoring & Shutdown Diagram

----- (Add-on Optimizers, PLC Communication, Residential Projects)

Case: 10kW PV System, 500W module 20pcs, 2 Strings

20 PLC Honeybee650 / Honeybee850 + 1 Beebox-H



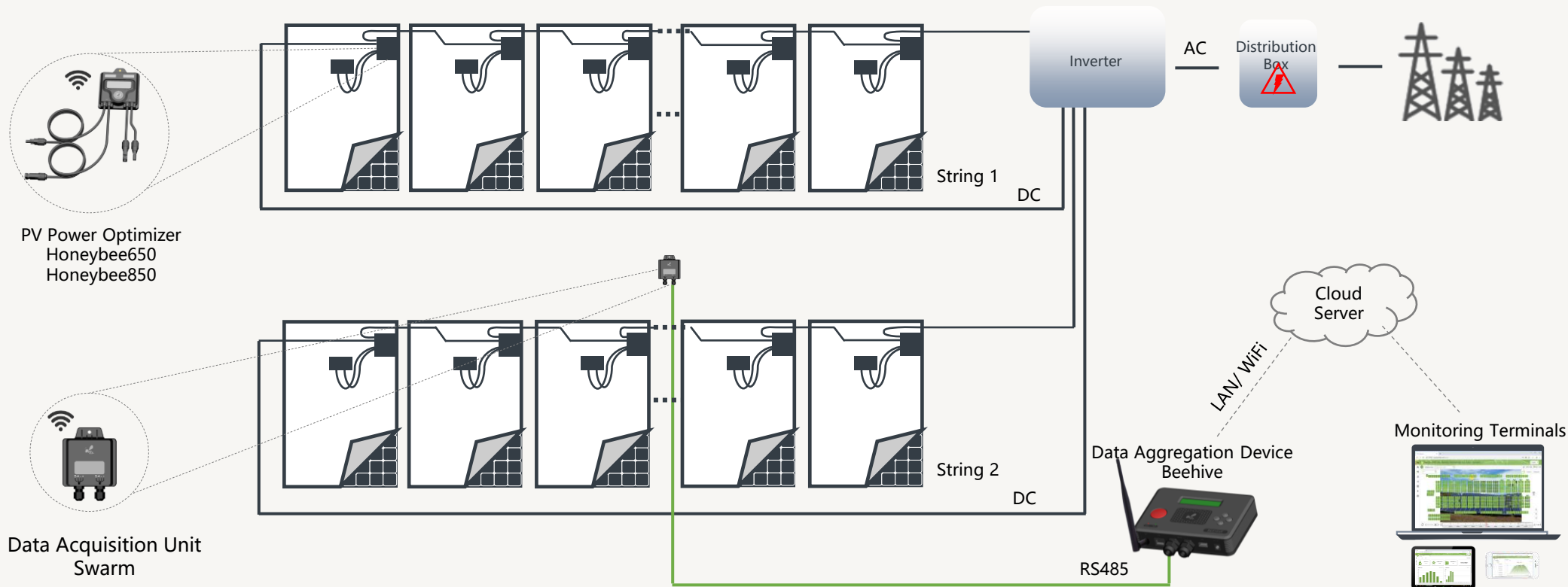


# GNE PV Module Optimization & Monitoring & Shutdown Diagram

----- (Add-on Optimizers, RF 2.4G/915M/868M, Residential Projects)

Case: 10kW PV System, 500W module 20pcs, 2 Strings

20 Honeybee650 / Honeybee850 + 1 Swarm + 1 Beehive



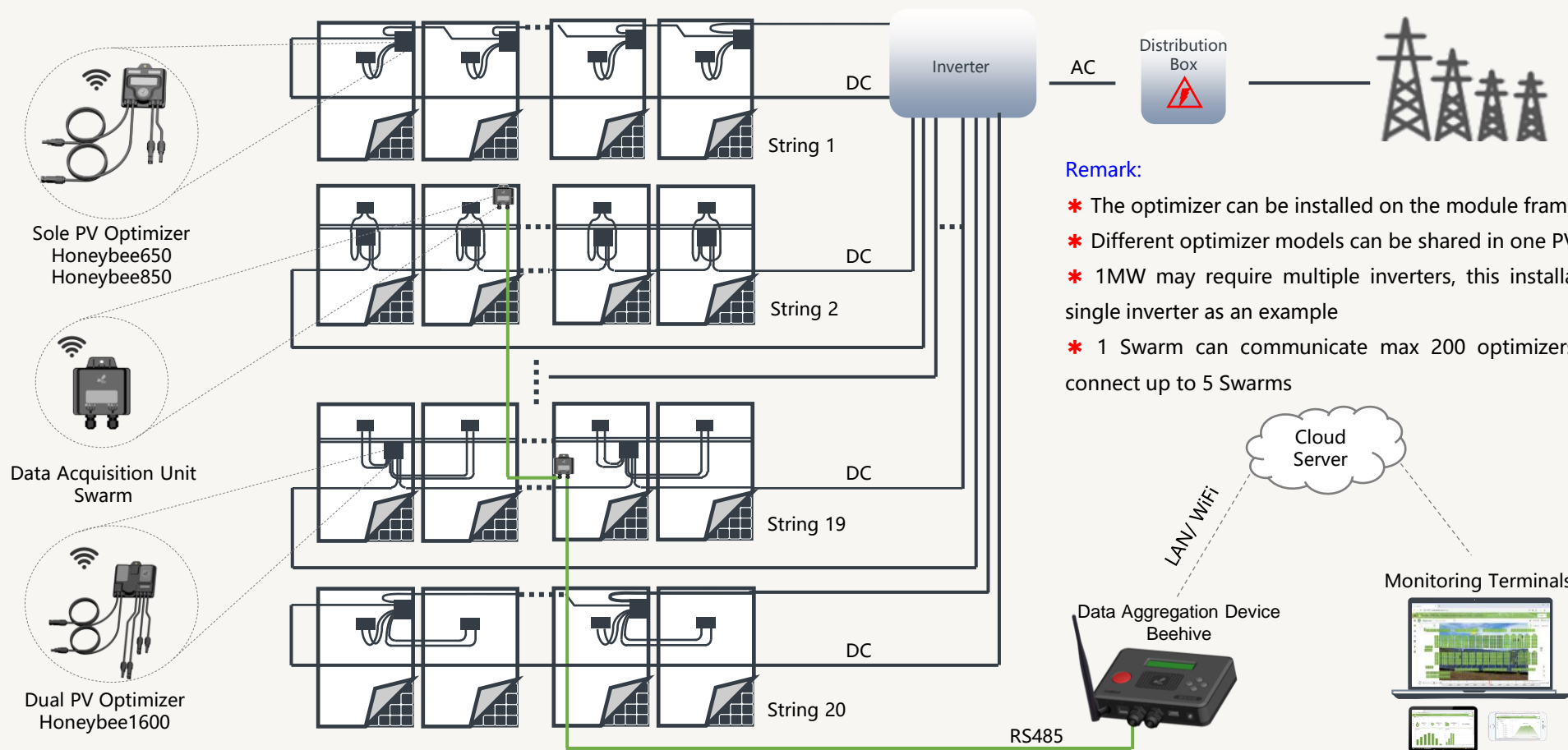


# GNE PV Module Optimization & Monitoring & Shutdown Diagram

----- (Add-on Optimizers, RF 2.4G/915M/868M, Medium or Large Scale Projects)

Case: 1MW PV System, 500W module 2000pcs, 20 modules per string, 100 Strings

2000 Honeybee650 / Honeybee850 or 1000 Honeybee1600 + 10 Swarm + 2 Beehive



**Remark:**

- \* The optimizer can be installed on the module frame or module bracket
- \* Different optimizer models can be shared in one PV system or PV string
- \* 1MW may require multiple inverters, this installation diagram takes a single inverter as an example
- \* 1 Swarm can communicate max 200 optimizers, and 1 Beehive can connect up to 5 Swarms