DeltaGrid® EM Energy Management
PV Gateway / SGDC-D43-PV

| Features

- Integrated PV gateway and Modbus splitter
- RS-485/232/422 interface and Ethernet / LTE support
- Monitor PV inverter operation status to stabilize grid and power supply
- Cloud management system for optimizing yield and site management
- DNP3 quantification and NCC , Taipower certification
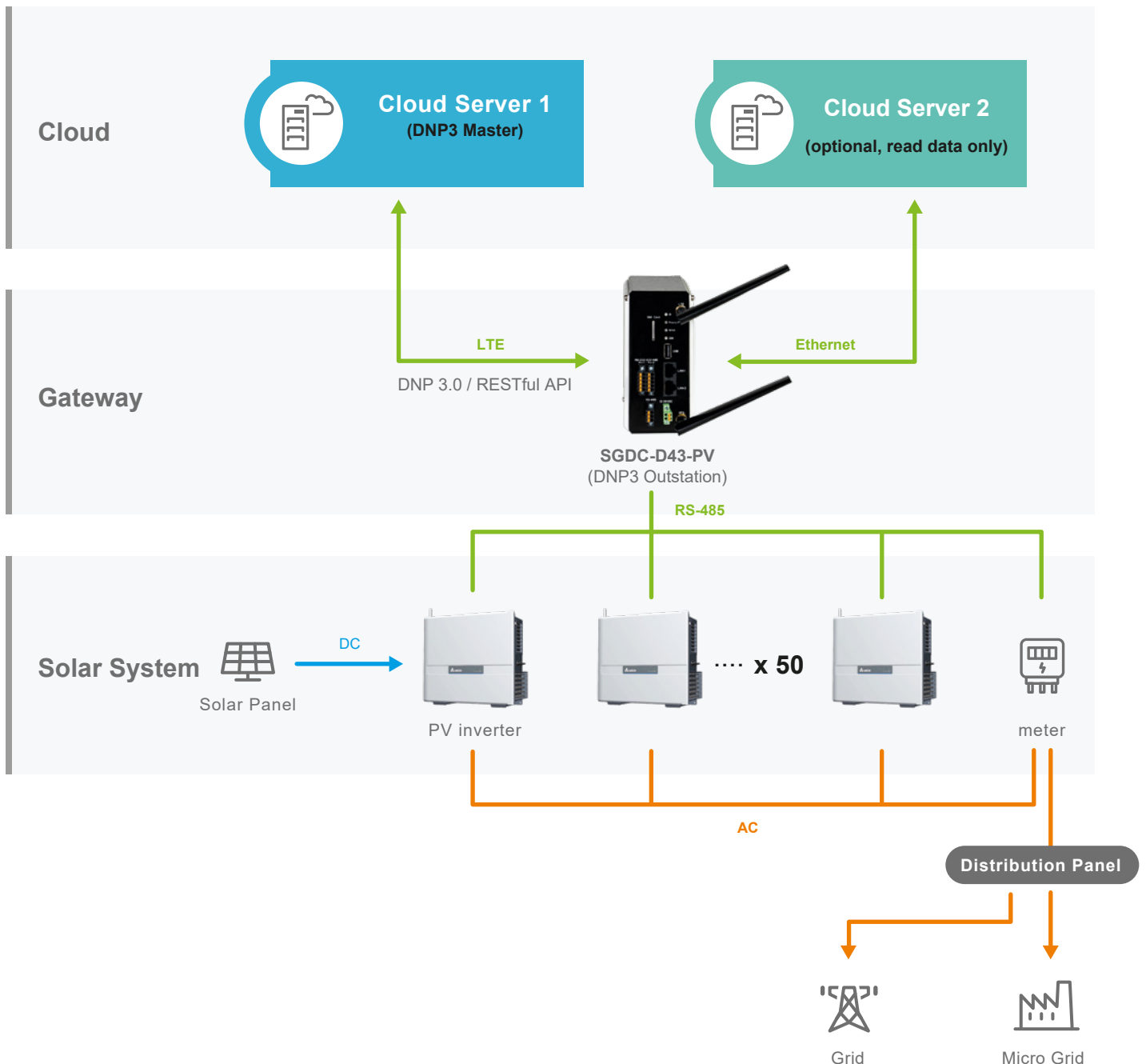
Distributed
Solar System

Centralized
Solar System

Compact PV Gateway for Improving Grid Stability

Solar energy plays an important role in renewable energy, which has been growing rapidly in recent years. Solar power generation is easily affected by weather, which has an impact on grid stability. Delta's SGDC-D43-PV PV gateway provides numerous interfaces for collecting information from PV inverters and meters, and this data can be sent to a cloud server via LTE / Ethernet for further analysis. The SGDC-D43-PV can receive commands from a specified cloud server to improve grid quality with intelligent PV inverters, thus fulfilling the monitoring and controlling.

Cloud

Cloud Server 1
(DNP3 Master)

Cloud Server 2
(optional, read data only)

Gateway

LTE
DNP 3.0 / RESTful API

Ethernet

SGDC-D43-PV
(DNP3 Outstation)

RS-485

Solar System

Solar Panel

DC

PV inverter

···· x 50

meter

AC

Distribution Panel

Grid

Micro Grid

Specification

Model	SGDC-D43-PV
General	
Power Input	12-36VDC (2-pin terminal block)
Dimension (W x H x D)	77.5 x 135 x 135 mm (without antenna)
Operation Temperature	-40°C to 70°C
Operation Humidity	5% to 95%, non-condensing
Mounting	DIN rail
LED	● Power ● System ready/fault ● WAN ● SIM
GPS	Provide location and time sync.
IP protection	IP30
Communication	
WAN	LTE, support Band 3 (1800MHz), Band 8 (900MHz) and Band 28 (700MHz)
LAN	RS-485 x 3, Ethernet x 2
Interface	● USB ● SIM card slot ● Reset button ● Console port
Communication Protocol	IPv4, TCP/IP, UDP, DHCP, Telnet, DNS, HTTP, HTTPS, NTP
Platform	
CPU	ARM Cortex–A8 processor
Memory	4GB eMMC, 512MB DDRIII DRAM
OS	Linux

Function	
Read and Control	● Read voltage, current, active power, power factor and frequency from meter and send data to cloud server ● Only accept control commands from specified cloud server ● Unsolicited response when data exceeds dead band
Management	● Easy web for administrator to monitor and diagnose communication ● Only allow IP address specified in white list to login
Data Storage	● Built-in USB 2.0 host for data storage or system backup ● Store 7-day data in local gateway
Communication	Reset communication module or re-connect to base station when disconnected or under weak connection
Supported PV Inverter	Delta, PrimeVOLT and Ablerex (increasing)

Certification	
NCC PLMN 10	NCC CCAH204G0530T4
DNP3	DNP3 IED Certification Procedure, Subset Level 2 Version 2.7 2016
TPC	Taipower company certification

Smarter. Greener. Together.

Delta Electronics

186 Ruey Kuang Rd., Neihu, Taipei 11491, Taiwan

TEL：+886-2-8797-2088 #3216
JACKY.HR.LAI@deltaww.com