



# PROJECT REFERENCES

[www.APsystems.com](http://www.APsystems.com)

# 10 YEARS OF INNOVATION, A GLOBAL REACH

APsystems was founded in San Jose, CA in 2010 to offer microinverter systems technology unmatched in the solar industry, drive product innovation by anticipating and adapting to ever-evolving PV system standards and design, and grow our business by helping our customers grow theirs. APsystems was originally branded APS Microinverters, and rebranded in 2016 to reflect our growing focus on providing a single systemic solution for our customers and end-users.

APsystems is pushing the market forward with constant, intensive research and development to make tomorrow's microinverter technology available today. APsystems is a worldwide leader in advanced solar microinverter technology. In fact, with over 100,000 installations in more than 80 countries, in 2019 APsystems became #1 multi-module microinverter manufacturer worldwide, offering the widest range of microinverters available on the market.

Organized around Sales Business Units operating in USA and Canada, Latin America, EMEA (Europe Middle East and Africa), and China including all Asia, our offices and personnel are in Rotterdam (Netherlands), Lyon (France), Seat-

tle (USA), Shanghai (China), Jiaxing (China), Guadalajara (Mexico), Sydney (Australia), and San Jose (USA). Our 165 employees are split approximately evenly between R&D/Engineering and those that are customer facing.

The company utilizes an asset-light business model which allows us to leverage our experienced, quality contract manufacturer (TDG - who is also a significant shareholder in APsystems) without taking on burdening assets and overheads.

This unique advantage allows us to grow dramatically without huge capital investment or construction lags, and further allows us to more effectively minimize costs, improve flexibility and apply more resources to R&D, sales and marketing. TDG's current manufacturing capacity and expertise means that they can easily double or triple our manufacturing volumes with no new capital investment or employee training. Our global production also includes since 2019, a site in Miao-Li, Taiwan to meet market demand. It brings our global production capacity to 420MW easily expandable as needed.

## FACTS & FIGURES

-  **WIDEST MLPE OFFER WORLDWIDE**
-  **110 PATENTS GRANTED**
-  **PROFITABLE SINCE 2012**
-  **80 COUNTRIES**
-  **100 000 INSTALLATIONS**





# I A ROBUST PRODUCT LINE

## Microinverters



## RSD



## Product overview

While APsystems offers a number of industry or region specific devices, our primary range of microinverters includes the two-module YC600 and the four modules QS1, compatible with each other on the same roof and Reactive Power Control features ready. APsystems also offers the only true three phase Quad with the YC1000. In addition, we produce energy control gateways (ECU-R and ECU-C) and utilize our proprietary data advanced monitoring and analysis system (EMA).

In 2019, the company launched APsmart, a new department that includes other advanced safety products such as a Rapid Shut-Down Solution to meet new safety regulations on Large PV rooftops solar projects. The APsmart RSD system is a SunSpec Alliance certified [paired] device which maintains constant communication between the RSD and transmitter, constantly monitoring voltage and current. APsmart offers state-of-the-art PV module rapid shutdown devices (RSD), ideal for any new or existing string or central inverter system, and meeting U.S. NEC 2017 690.12 Rapid Shutdown requirements.

APsmart solutions are powered by ASIC with internal IP and integrated with TI chips at the system-level application.

By the end of 2020 APsystems plans to launch the QT2 : the next generation of native 3-phase Multimodule Microinverter with Reactive Control features ready. The company has also plans to introduce APstorage, an ongrid AC-coupled energy storage solution offer dedicated to Residential solar.

## Documentation

### MICROINVERTERS

Full datasheets, installation and user manuals of our microinverters are available on our regional websites at:

**North America :** [usa.APsistemas.com](http://usa.APsistemas.com)

**Latin America :** [latam.APsistemas.com](http://latam.APsistemas.com)

**EMEA :** [emea.APsistemas.com](http://emea.APsistemas.com)

**Australia :** [aunz.APsistemas.com](http://aunz.APsistemas.com)

**China :** [china.APsistemas.com](http://china.APsistemas.com)

### RAPID SHUTDOWN DEVICES

RSD literature can be found at:

[www.APsmartglobal.com](http://www.APsmartglobal.com)

# MICROINVERTER PRODUCT LINE EVOLUTION

◀ SINGLE-PHASE ▶



## YC600 2 MPPT

Dual module, RPC, high-output 300W per channel  
The most advanced dual module microinverter in the world



## QS1

### 4 MPPT

4-module, RPC, high-output 300W per channel  
Up to 300% faster installation

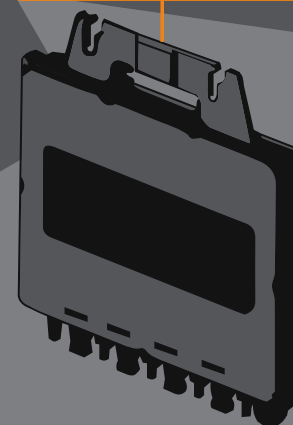
◀ 3-PHASE ▶



## YC1000

4-module, true 3-Phase  
The best selling 3-Phase micro in the world

NEXT GENERATION  
AVAILABLE Q4 2020

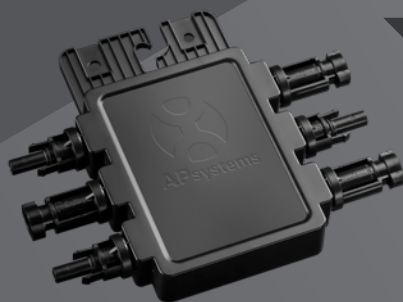


## QT2

4-module, RPC, true 3-Phase

# MLPE DC SERIES EVOLUTION : OPTIMIZER AND RSD

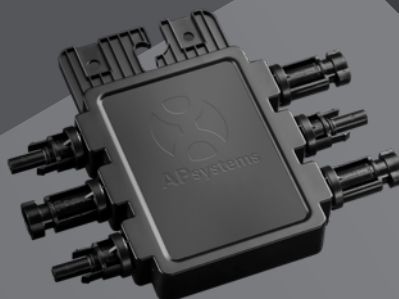
2016



## OPTIMIZER OPT700

- Single Panel Optimizer
- Single Panel Monitor
- Single Panel shutdown

2018



## DUAL RAPID SHUTDOWN OPT700-RS

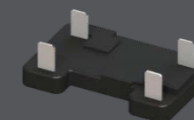
- Single Panel Monitor
- Single Panel Shutdown

2019



## RSD-PLC SUNSPEC COMPLIED

- Single Panel Shutdown



## JBOX REPLACEABLE RSD BLOCK



# RESIDENTIAL



# RESIDENTIAL SOLAR MADE POSSIBLE ANYWHERE WITH APSYSTEMS MICROS !

## SINGLE-PHASE





## 3-PHASE







# MULTI-RESIDENTIAL



# | 175KW, SOCIAL HOUSING | NETHERLANDS



## Project Overview

<b>Location</b>	Tamboerijnlaan, NL
<b>Size</b>	175kW, 108 apartments
<b>Microinverters</b>	YC500
<b>Date</b>	10/2017



# | 212KW, ZERO ENERGY MULTI-RESIDENTIAL | USA



## Project Overview

<b>Project</b>	Zero Energy multi-residential building
<b>Size</b>	212kW
<b>Microinverters</b>	150 x YC600 & 116 x QS1
<b>Date</b>	10/2019



# | 225KW, MULTI-FAMILY RESIDENTIAL | CANADA



## Project Overview

<b>Project</b>	Carrington View Apartments
<b>Location</b>	West Kelowna, BC, CANADA
<b>Date</b>	2019
<b>Size</b>	225kW (75kW per building on 3 buildings)
<b>Microinverters</b>	204 x YC1000
<b>Modules</b>	Canadian Solar 270W Mono all-black

## Testimonial

« After our first APsystems install, we really liked the product for performance and ease of install, » Monteith said. « I have APsystems YC500s installed on my own home. »

**Robert Monteith of Okanagan Solar Ltd.**



## 1.8MW, SOCIAL HOUSING | FRANCE



### Project Overview

<b>Location</b>	Vienne, France
<b>Size</b>	1,8MW across 280 roofs
<b>Microinverters</b>	YC500 , YC1000
<b>Date</b>	07/2018
<b>Elec production</b>	2MWh/Year, eq to 680 homes

### Testimonial

« We chose APsystems because of its extensive range of microinverter solutions, making it possible to easily address single-phase residential projects as well as small commercial buildings with a native 3-phase microinverter solution. »

**Jean-Baptiste Rouquerol, CEO of SUBSOL**





# SMALL & MEDIUM COMMERCIAL



## | 23KW, OFFICE | SOUTH AFRICA



### Project Overview

<b>Location</b>	Cape Town, South Africa
<b>Date</b>	11/2016
<b>Size</b>	23kW
<b>Microinverters</b>	23 xYC1000



## | 32KW, FULL BIPV | DENMARK





# | 40KW, SCHOOL | NETHERLANDS



## Project Overview

<b>Location</b>	Achterveld , Netherlands
<b>Date</b>	08/2016
<b>Size</b>	40kW
<b>Microinverters</b>	40 xYC1000



# | 59KW, CONSTRUCTION COMPANY | NETHERLANDS



## Project Overview

<b>Project</b>	Construction company VET
<b>Location</b>	Wormerveer, The Netherlands
<b>Date</b>	2019
<b>Size</b>	59kW
<b>Microinverters</b>	YC1000
<b>Modules</b>	Canadian Solar

## Summary

Solar Zaanstad installed APsystems microinverters at construction company Vet on an complex roof in Wormerveer, in the Netherlands. The construction was based on a zinc rounded roof, with east to west orientation.

## Testimonial

« Microinverters give you a higher return on investment for your PV installation. Monitoring is far better and more precise and a micro lasts much longer. Arguments that helped customers to make the best decision »

**Rik Koedam, director of Solar Zaanstad**



# | 100KW, GROUND MOUNT | ARMENIA



## Project Overview

<b>Location</b>	Armavir region, Armenia
<b>Date</b>	2017
<b>Size</b>	100kW
<b>Microinverters</b>	96 x YC1000



# | 108KW, GAS STATION | UNITED STATES

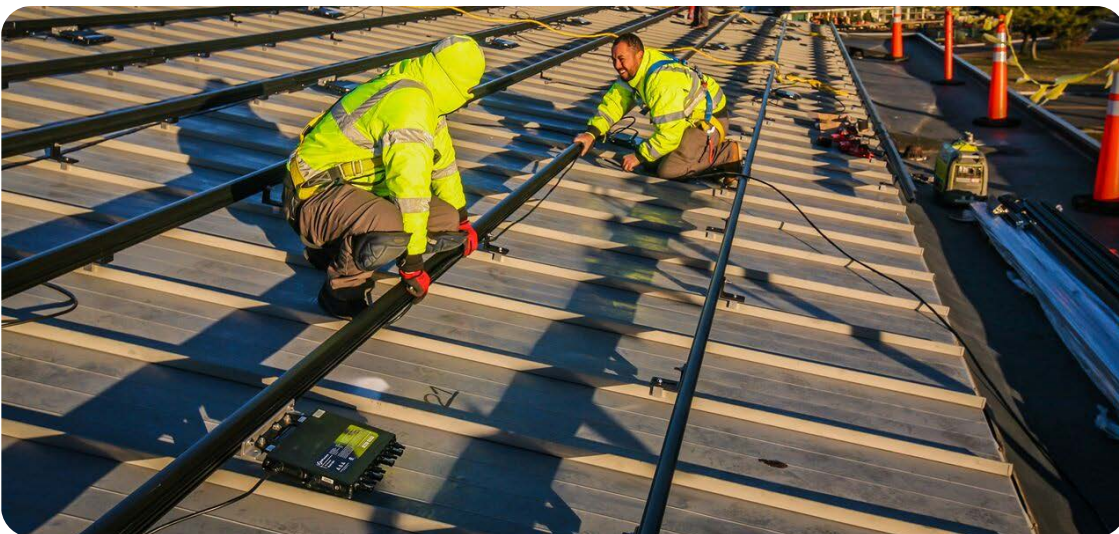


## Project Overview

<b>Location</b>	Toms River, New Jersey, US
<b>Date</b>	01/2019
<b>Size</b>	108kW
<b>Microinverters</b>	90 x QS1
<b>Modules</b>	CSun 360W

## Summary

APsystems microinverters have been installed across 33 Wawa gas stations in New Jersey to date for more than 3MW. The program plans the equipment of 200 gas stations overall.





# | 122KW, CHEESE FACTORY | CANADA



## Project Overview

<b>Location</b>	Red Deer, Alberta, Canada
<b>Date</b>	2016
<b>Size</b>	122kW
<b>Module</b>	Canadian Solar 265W CX6P-265P
<b>Microinverters</b>	115 x YC1000

## Summary

Canadian cheese maker Sylvan Star's gouda has a secret ingredient: the sun. The Red Deer, Alberta's plant is powered by a massive solar array featuring APsystems YC1000 true 3-phase microinverters. The 460-module, 122kW array was commissioned in 2016 and now powers the processing of popular and award-winning cheeses for the daily operation.



# | 128KW, NATURAL MINERAL WATER BUILDING | CHINA



## Project Overview

<b>Location</b>	Tianjing, China
<b>Size</b>	128kW
<b>No. of Module</b>	484
<b>Model of Module</b>	265W
<b>Model of Inverter</b>	Sungrow/60kW
<b>No. of APsmart RSD devices</b>	484
<b>EPC</b>	Siemens Ltd, China

## Summary

This project is located on the rooftop of Tianjin Nestle Natural Mineral Water Company's. Warehouses usually have strict fire safety requirements, thus the owner decided to retrofit the station with APsmart rapid shutdown devices to enhance the safety of the PV station. In total, 484 APsmart Rapid Shutdown Devices are used in this project.



# 198KW, PETROCHEMICAL BUILDING | CHINA



## Project Overview

<b>Location</b>	Binzhou, Shandong
<b>Size</b>	198.4kW
<b>No. of Module</b>	640
<b>Model of Module</b>	Suntech/310W
<b>Model of Inverter</b>	SMA/50kW
<b>No. of APsmart RSD devices</b>	640
<b>EPC</b>	Siemens Ltd, China

## Summary

The Shandong Jingbo is a big factory which belongs to the oil industry. Safety has been a major concern and in order to prevent any risk of high DC voltage when emergency occurs, 640 APsmart Rapid Shutdown Devices have been installed on this site.

## | 201KW, CARPORT | CHINA



### Project Overview

<b>Location</b>	Jiangsu, China
<b>Size</b>	201kW
<b>No. of Module</b>	648
<b>Model of Module</b>	310W
<b>No. of APsmart RSD devices</b>	648

### Summary

This project is located in Jiangsu Province, Suzhou City where yearly irradiation reaches close to 1300 kWh/ sqm. The 201kW solar carport is equipped by 648 APsmart Rapid Shutdown Devices to ensure maximum safety on this site.



# | 315KW, ARCHITECTURAL BUILDING | FRANCE



## Project Overview

<b>Location</b>	Parc des ateliers, La grande halle, Arles, France
<b>Date</b>	05/2019
<b>Size</b>	315kW
<b>Microinverters</b>	264 x YC1000
<b>Module</b>	Solarwatt 300W

## Testimonial

« This microinverter system leads us to limit all the risks that we had and all the potential impacts inside the big hall, This was the solution that unlocked the whole principle. »

**Jerome Maubé, Technical Director, MYAMO**

# | 318KW, UNIVERSITY | SWITZERLAND



## Project Overview

<b>Location</b>	Lausanne, Switzerland
<b>Date</b>	05/2018
<b>Size</b>	318 across 2 buildings (190k   128k)
<b>Microinverters</b>	YC1000
<b>Module</b>	Qcell's Qpower G5 270

## Testimonial

« The two main reasons for choosing the APsystems YC1000 microinverter were, on the one hand, the aesthetics of the buildings that had to be preserved vis-à-vis the university's neighborhood and on the other hand, there was restricted available space in the buildings, so the microinverter was the obvious solution for the owner »

**Robert Plass, Sales Manager TRITEC AG.**



# | 340KW OFFICE ROOFTOP | CHINA



## Project Overview

<b>Location</b>	Chaoyang District, Beijing
<b>Size</b>	340.18kW
<b>No. of Module</b>	836
<b>Model of Module</b>	Suntech/310W
<b>Model of Inverter</b>	SMA/50kW
<b>No. of APsmart RSD devices</b>	836
<b>EPC</b>	Siemens Ltd, China

## Summary

**SIEMENS Asia Pacific Office** 340kW Rooftop PV Station is located in Chaoyang District, Beijing. The project uses the 310W Suntech PV modules and 50KW SMA string inverters. APsmart Rapid Shutdown Devices are installed on five rooftops of the buildings. A total of 836 rapid shutdown devices are installed to ensure the safety of the PV system.



# | 400KW, BIFACIAL PV PLANT | NETHERLANDS



## Project Overview

<b>Location</b>	Vaassen, Netherlands
<b>Date</b>	05/2017
<b>Size</b>	400kW
<b>Microinverters</b>	YC1000
<b>Module</b>	Yingli Panda n-type bifacial





# LARGE COMMERCIAL

# | 429KW, FORT WASHINGTON COUNTRY CLUB | USA



## Project Overview

<b>Location</b>	Fresno, Calif.
<b>Size</b>	429kW
<b>Modules</b>	SunEdison 320W
<b>No. of modules</b>	1760
<b>Microinverters</b>	429 x YC1000 true 3-phase





# 614KW, SIEMENS MIDDLE VOLTAGE SWITCHGEAR BUILDING | CHINA



## Project Overview

<b>Location</b>	Wuxi, Jiangsu
<b>Size</b>	613.8kW
<b>No. of Module</b>	1980
<b>Model of Module</b>	Suntech/310W
<b>Model of Inverter</b>	SMA/50kW
<b>No. of APsmart RSD devices</b>	1980
<b>EPC</b>	Siemens Ltd, China

## Summary

Siemens 614kW PV rooftop installation is located in Wuxi, Jiangsu. The project uses the 310W Suntech PV modules and 50KW SMA string inverters. The APsmart Rapid shutdown device offers built-in safety, reliable technology, and is an ideal rapid shutdown solution. 1980 rapid shutdown devices are installed in this project.



# | 673KW, MANUFACTURING PRICE PLANT | USA



## Project Overview

<b>Location</b>	Trafford, Pennsylvania, US
<b>Date</b>	SunEdison 320W
<b>Size</b>	673kW
<b>Microinverters</b>	748 x YC1000 true 3-phase
<b>Modules</b>	2245 x Neo Solar 360W





## | 722KW, GROUND MOUNT | TURKEY



### Project Overview

<b>Location</b>	Mardin, Turkey
<b>Date</b>	04/2017
<b>Size</b>	722kW
<b>Microinverters</b>	722 x YC1000



# 1.5MW SIEMENS SWITCHGEAR ROOFTOP | CHINA



## Project Overview

<b>Location</b>	Minhang District, Shanghai
<b>Size</b>	1567.5kW
<b>No. of Module</b>	5140
<b>Model of Module</b>	Suntech/305W
<b>No. of Inverter</b>	26
<b>Model of Inverter</b>	SMA/50kW
<b>No. of APsmart RSD devices</b>	5140
<b>EPC</b>	Siemens Ltd, China

## Summary

This project is located on the rooftop of Siemens Switchgear Co., Ltd. Shanghai, Minhang District. 5140 APsmart rapid shutdown devices are used in this project to realize the rapid shutdown function. In case of an emergency, the connection between each module can be cut off remotely or manually via the rapid shutdown devices, thus eliminating the high DC voltage in the solar array, to reduce the risk of accidents and improve the safety of the PV system.



## | 3.6MW, COMMERCIAL COMPLEX | CHINA



### Project Overview

Location	Tiantong
Date	09/2013
Size	3,6MW
Microinverter	YC500
No. of Microinverters	7200



# POWERFUL INNOVATION



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