

pV magazine **spotlight**



GoodWe's residential hybrid A-ES inverter

Integrated with Tigo Rapid Shutdown

June 29, 2020

7pm – 7.45pm | CEST, Berlin

10am – 10.45am | PDT, Los Angeles

1pm – 1.45pm | EDT, New York

powered by
GoodWe



Bruce Ludemann
US Country Manager,
GoodWe



Zvi Alon
CEO, Tigo

pV magazine group



GoodWe and Tigo present A-ES Hybrid Solution for North America

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01

About GoodWe & Tigo



60+ Patents



2 R&D
Centers



200 R&D Staff
Approx.

- ❖ Founded in 2010
- ❖ Global Presence
- ❖ #1 in Storage Inverters (WoodMac)
- ❖ 12 GW installed
- ❖ Two R&D centers with 200+ employees
- ❖ An average of 20,000 inverters shipped per year
- ❖ Inverters from 0.7 to 136kW





GLOBAL PRESENCE

EMEA

Germany
Netherlands
Turkey
Poland

EMEA

UK
Italy
Portugal

APAC

China
South Korea
India
Australia

AMERICAS

United States
Brazil
Mexico



2015-2018



2020



2018



2017-2020



2018



World's No. 1

Storage Inverter Supplier

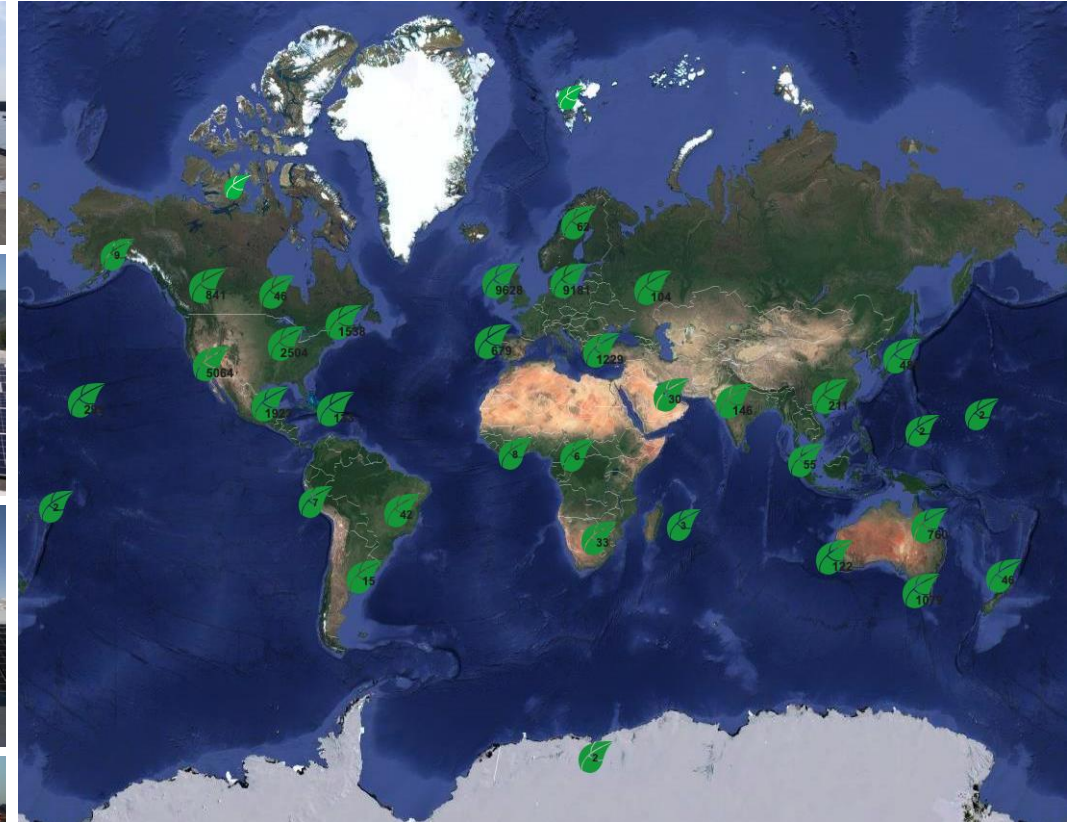


- 15% global market share 2019
- Comprehensive storage portfolio
- Single phase and Three Phase
- UL certified





- ❖ Founded in 2007
- ❖ HQ in Silicon Valley, CA
- ❖ Deployed globally in 7 continents
- ❖ #1 in rapid shutdown
- ❖ 3M+ rapid shutdown units shipped
- ❖ Leader in MLPE



Global fleet including the harshest environments on Earth

- Atacama Desert, Chile (Mars Rover test site)
- Antarctica, Princess Elizabeth Station

02

A-ES Hybrid Inverter – North America



A-ES Series

5-9.6kW Single-phase Hybrid High Voltage
up to 4 MPPT

A-ES is a hybrid inverter for newly installed PV + battery energy storage systems. It is designed to boost self-consumption in areas with high electricity prices and low FiTs. It can supply power to critical loads when the grid is compromised.

UPS-Level Switching

Automatic Switch Time < 10ms

GoodWe's UPS switching activates automatically in 10ms, powering your home's most important appliances without causing any damage. When operating in backup function, the inverter provides 20% peak output overloading.



4 MPPT & 50% DC Input Oversizing

The perfect solution to feed solar power to large residential properties, covering all the corners of the rooftop and maximizing total solar generation. With 50% DC input oversizing capability, the A-ES series is driven to its full capacity by extra reflections added to the back of bifacial panels, designed to increase power output even under low solar radiation.



Smart Meter Integrated

A GoodWe smart meter is integrated in the BOS. Two CTs are attached in the inverter box, greatly reducing cost and complexity of installation, saving both time and money.

A large, multi-story house with a combination of stone and light-colored siding. The house has a complex roofline with multiple gables and dormers. A section of the roof on the right side is covered with dark solar panels. The front entrance features a red double door with a decorative glass pattern, set within a stone archway. The yard in front is landscaped with a green lawn, several manicured bushes, and a stone walkway leading to the front steps. The sky is blue with some light clouds.

Tigo-Integrated Rapid Shutdown

The A-ES inverter is embedded with Tigo RSS Transmitter to enable rapid shutdown function in a plug and play package.

Tigo's offering: TS4-F family of MLPE



Flexible MLPE: multiple offerings at different price points based on customer needs

- ❖ Works with any PV Module
- ❖ Optimizes out-of-the-box
- ❖ Highest reliability
- ❖ Delivers increased ROI for PV systems

Increase ROI and reduce cost

Select any function from the different TS4 covers

TS4-M
(Monitoring)



Fleet management and
Warranty tracking

TS4-F
(Fire Safety)



Module-level Rapid
Shutdown

TS4-S
(Safety)



Rapid Shutdown and
Monitoring

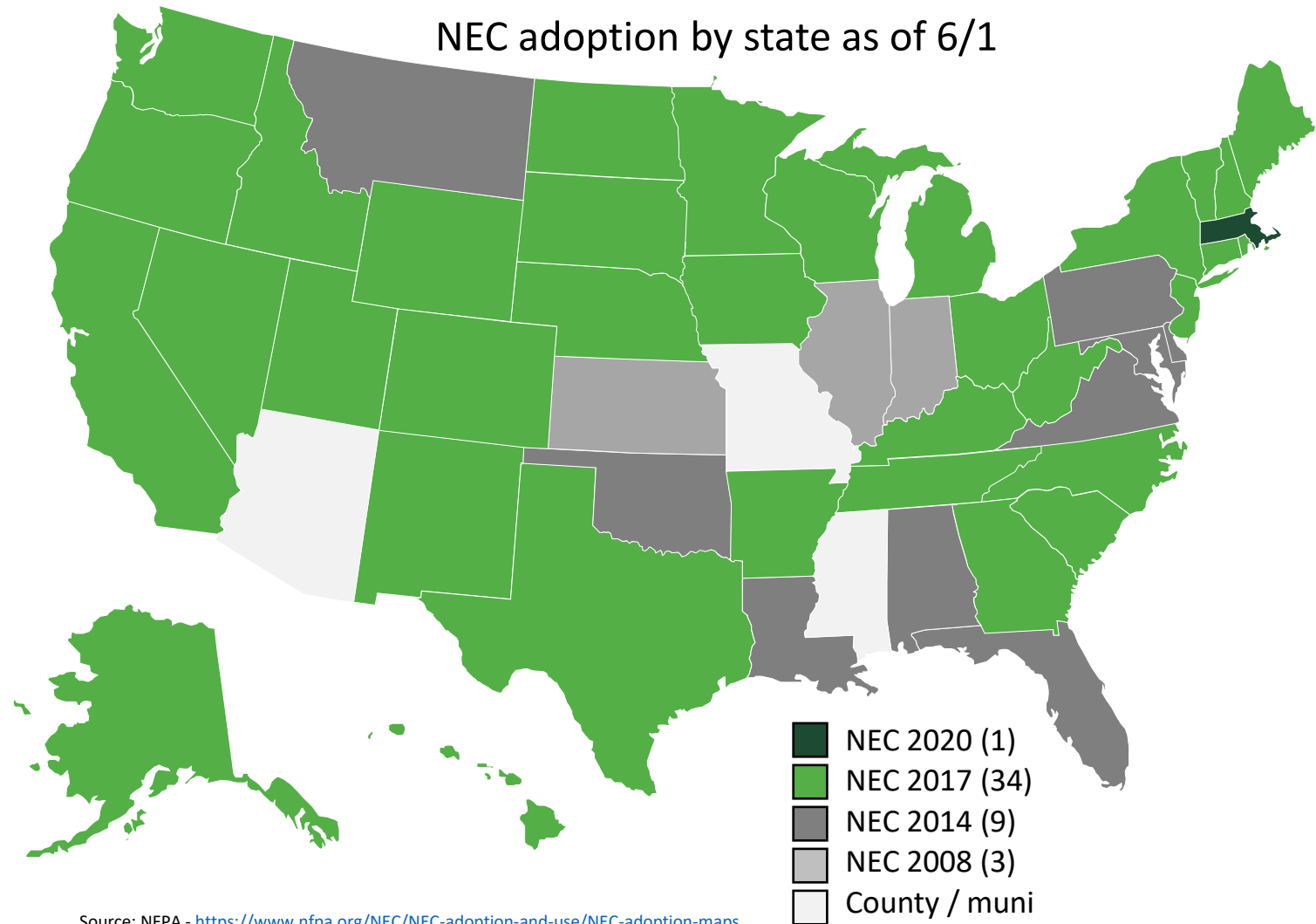
TS4-O
(Optimization)



Increase yield with Shade
and Mismatch

Rapid shutdown - mandatory

- ❖ NEC 2017+ is in 35 states (and growing)
- ❖ Requires module-level shutdown for rooftop PV
- ❖ Once activated:
 - Shutdown within 30 seconds
 - <80 volts
 - <1ft from the array



Source: NFPA - <https://www.nfpa.org/NEC/NEC-adoption-and-use/NEC-adoption-maps>

Tigo's offering: TS4-F family of MLPE

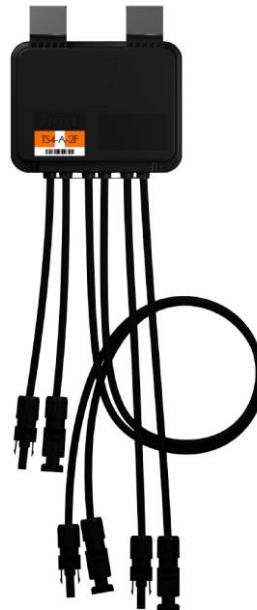
TS4-F
(Integrated)



TS4-A-F
(Add on)



TS4-A-2F
(just launched)



RSS transmitter



Benefits

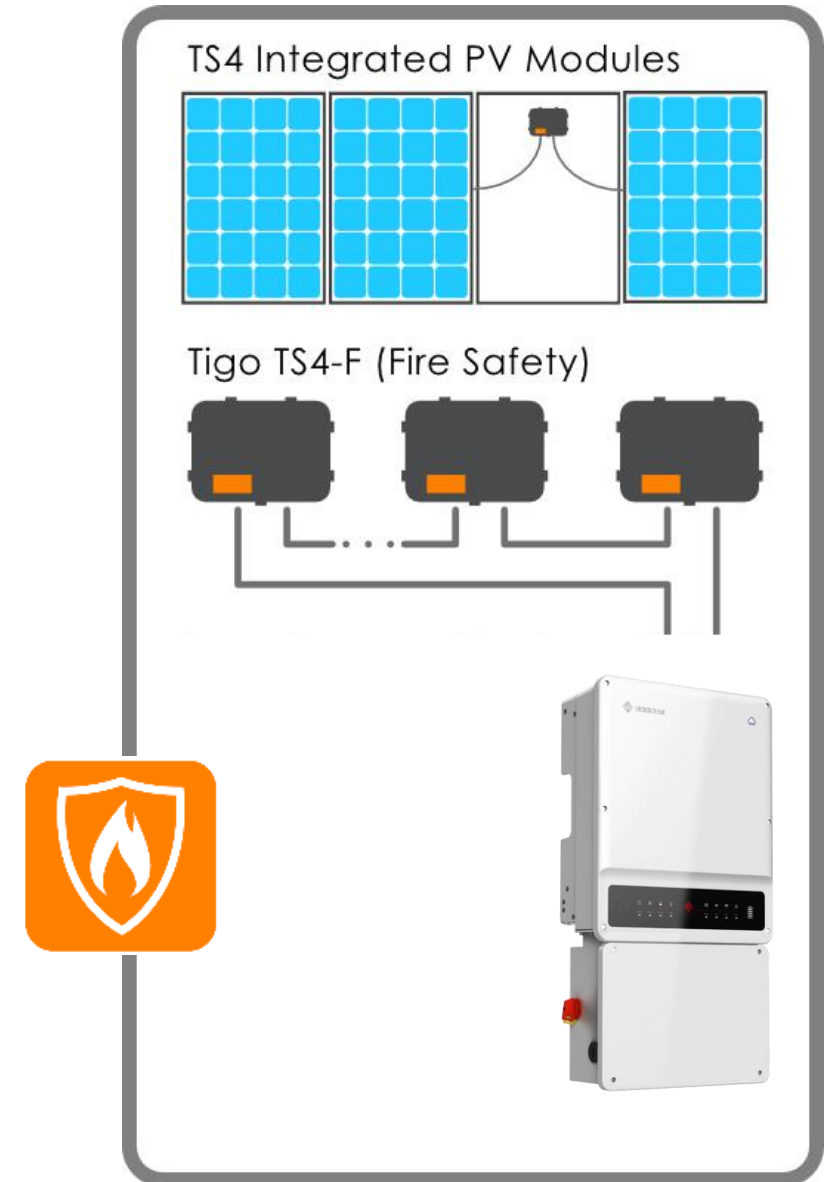
- ❖ Plug and play installation
- ❖ Proven technology – over 3M in the field
- ❖ Reliable performance
- ❖ NEC compliant
- ❖ Certified with any inverter

Tigo & GoodWe integration

Hybrid inverter + rapid shutdown in one package

- ❖ RSS Transmitter integrated
- ❖ Simplified installation
- ❖ No commissioning – works out of the box

Brought to you by the 2 leaders



Building on a global partnership



- ❖ Tigo & Goodwe have brought multiple integrated solutions to global PV markets
- ❖ Expanding on the relationship to deliver innovative PV solutions to customers in the US
- ❖ For more info, visit tigoenergy.com

Social Media





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THANK YOU