



ΣΥΝΔΕΣΜΟΣ
ΕΤΑΙΡΙΩΝ
ΦΩΤΟΒΟΛΤΑΪΚΩΝ

FusionSolar Residential & Small Commercial Smart PV Solution



Digital PV Solution for Upgraded Safety & Better Experience



Corporate Introduction & Smart PV Success Story So Far...

Continuously Creating Values for Customers Achieving Sustainable Business Growth



**Sustainable business growth with large operation
scale & diversified business groups**



170+

Countries and regions



61 in

Fortune Global 500



188,000

Employee
s



80,000+

R&D employees



14

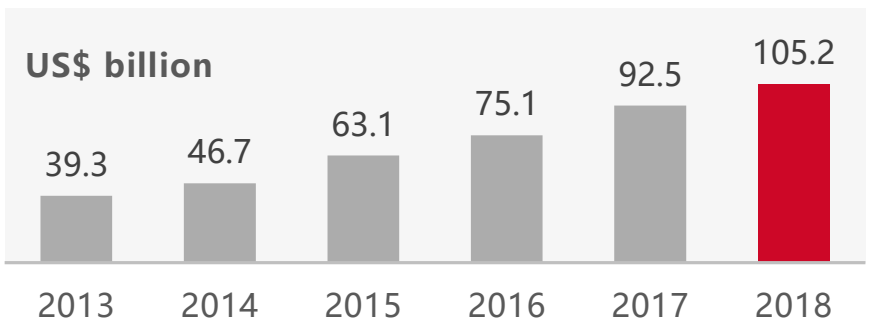
Research institutes/
labs/centers



68 in

Interbrand's Top 100
Best Global Brands

2018 Sales Revenue US\$105.2 Billion
YoY increased by **19.5%**



A Brand Admired and Trusted by Consumers with Global Brand Awareness Now 88%



HUAWEI P30
CO-ENGINEERED WITH 
Rewrite the Rules of Photography



HUAWEI Mate X
CO-ENGINEERED WITH 
Meet the unprecedented

206 million units

Smartphone shipments in 2018
(estimated, by December 31, 2018)

Top 3

Global smartphone shipments

Source: IDC, 2018Q4

14.6%

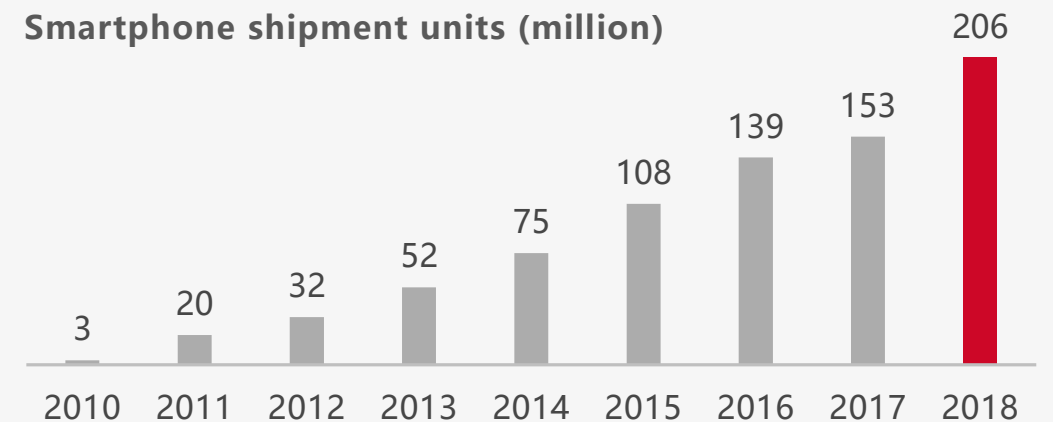
Global smartphone market share

88%

Increasing global brand awareness

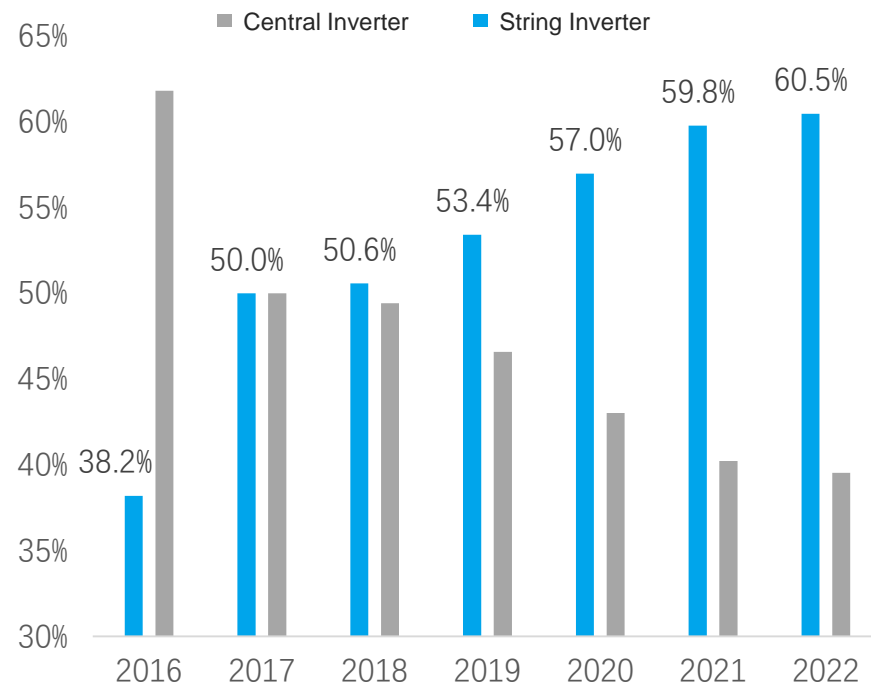
Source: IPSOS

Smartphone shipment units (million)



Enlarging the Lead – with 100GW+ Global Shipments

String Inverter, Became Mainstream in the Market



**Source: 3rd Party Consulting Agency*

No. 1 Global Inverter Market Share in Four Years
Since 2015 with accumulated 90GW+ shipments



INTERSOLAR AWARD Winner of 2019

INTERSOLAR AWARD Winner of 2019



INTERSOLAR AWARD

Each year, the solar award honors technological innovations and groundbreaking solutions around the topic of the AWARD category Photovoltaics.

The most significant developments and pioneering solutions in the solar industry will be awarded every year.

HUAWEI - The most innovative PV inverter of 2019

INTERSOLAR AWARD judges were impressed by the combination of so many useful high-end features integrated into one system:

- ✓ Compact design and low weight (17kg for 3-10KTL, 25kg for 12-20KTL)
- ✓ Industry-leading Efficiency (98.6% for 3-10KTL, 98.65% for 12-20KTL)
- ✓ AI Powered Feature:
 - 1) AFCI to secure solar investment
 - 2) Smart module performance health check for trouble-free operation



<https://www.thesmartere-award.com/en/hall-of-fame/hall-of-fame#c172622>

Huawei Residential & Commercial Smart PV Solution



Smart PV Optimizer
SUN2000-450W-P



Monitoring Portal
FusionSolar Cloud & APP



Smart Power Sensor
DTSU666-H 250A/50mA



Smart Dongle
Smart Dongle-4G/WLAN-FE



Smart PV Inverter
SUN2000-3-10KTL-M0
SUN2000-3-10KTL-M1



Energy Storage
* Compatible Solution
Available 2020 H2



Smart PV Inverter
SUN2000-12-20KTL-M0
SUN2000-12-20KTL-M2



Monitoring Portal
FusionSolar Cloud & APP



Smart PV Optimizer
SUN2000-375W-P



Smart Dongle
Smart Dongle-4G/WLAN-FE



Smart Power Sensor
DTSU666-H 250A/50mA

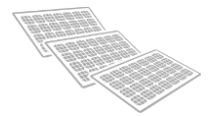
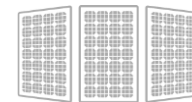


Smart Logger
Smartlogger1000A



Easier Design with Optimizer

Modules affected by shading,
multiple orientations
can be connected in one string

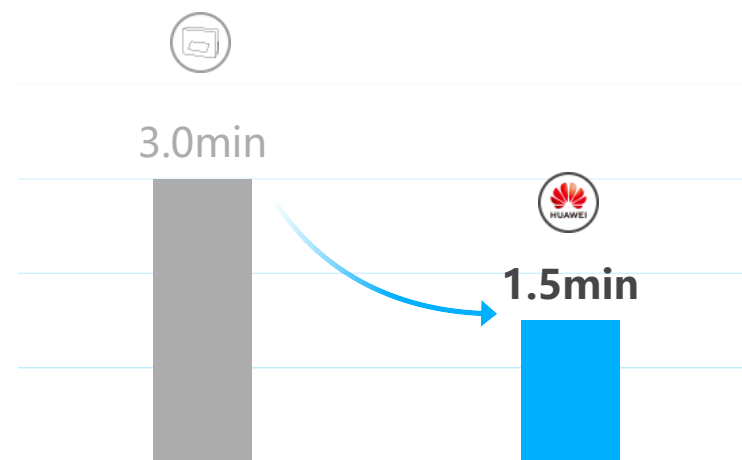


If any shading, install optimizers



<1.5min

Optimizer Pairing through Cutting Edge Chipset Performance



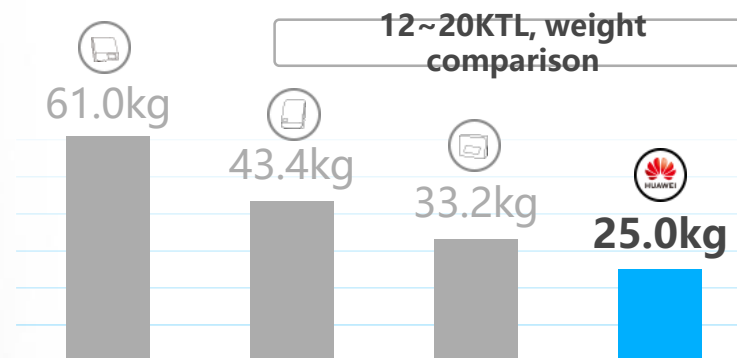
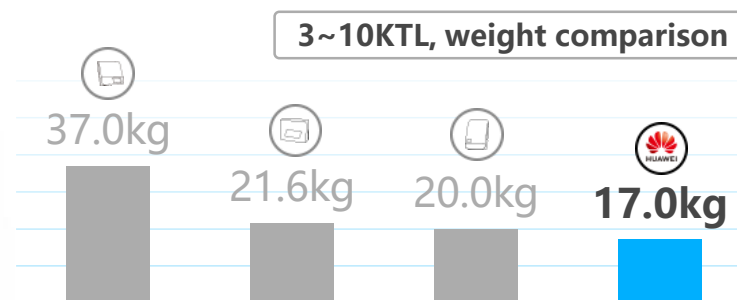
Note: 20kw system @ 1.5m
5kw system @ 30s



<25kg

Extreme low Weight for One Person Easy Installation

Thanks to Advanced Digital Control Algorithm that Contributes to Smaller Size of Magnetics and Cooling Components



Screw-less

Innovative AC and Comm.
Port for Easier Connection



Free of uncovering for better protection and higher reliability



Screw-less wiring
and directly bolt-in in only 10s



Standardized wiring to eliminate mis-operation, safe & reliable



10 Inverters

Can be Connected by
1 Smart Dongle



1 smart dongle connects up to 10 inverters,
fits all scenarios



Simple USB interface for directly plug in,
fits outdoor application



2
min

2min faults locating through remote one-click scanning, no need onsite inspection

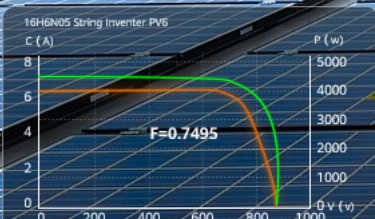
10
min

10min diagnosis report auto generation for a typical 100kw system

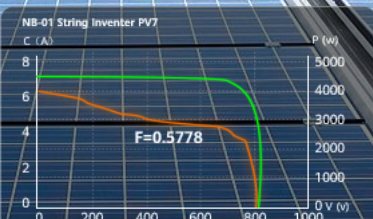
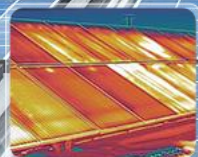
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Accurately diagnosis of 14 types of module faults, TUV verified

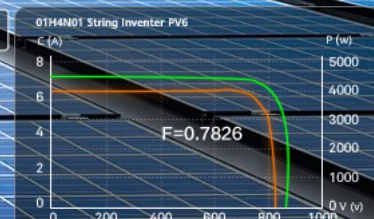
Hot Spot



PID Degradation



Shorted diode fault



Easier O&M through Periodical PV Module Health Check

*Applicable for inverter only (without optimizers)

Conventional offline diagnosis

Onsite diagnosis by experts in **1day**

10% sample scanning

Manual data analysis & Report Writing

Huawei online diagnosis

Online diagnosis in **2min**

100% string scanning

Auto diagnosis report generated in **10min**

VS

Module-level Voltage Shutdown, Touch Safe

*Full optimizer required



Optimizer is off during installation and maintenance with 0v output



Max 80v within solar array boundary when turning off inverter, meeting US NEC 2017 standard



Electric Arcing Is Threatening the Safety of PV System & Underlying Buildings

What is it?

- electrical breakdown of air that produces an prolonged electrical discharge

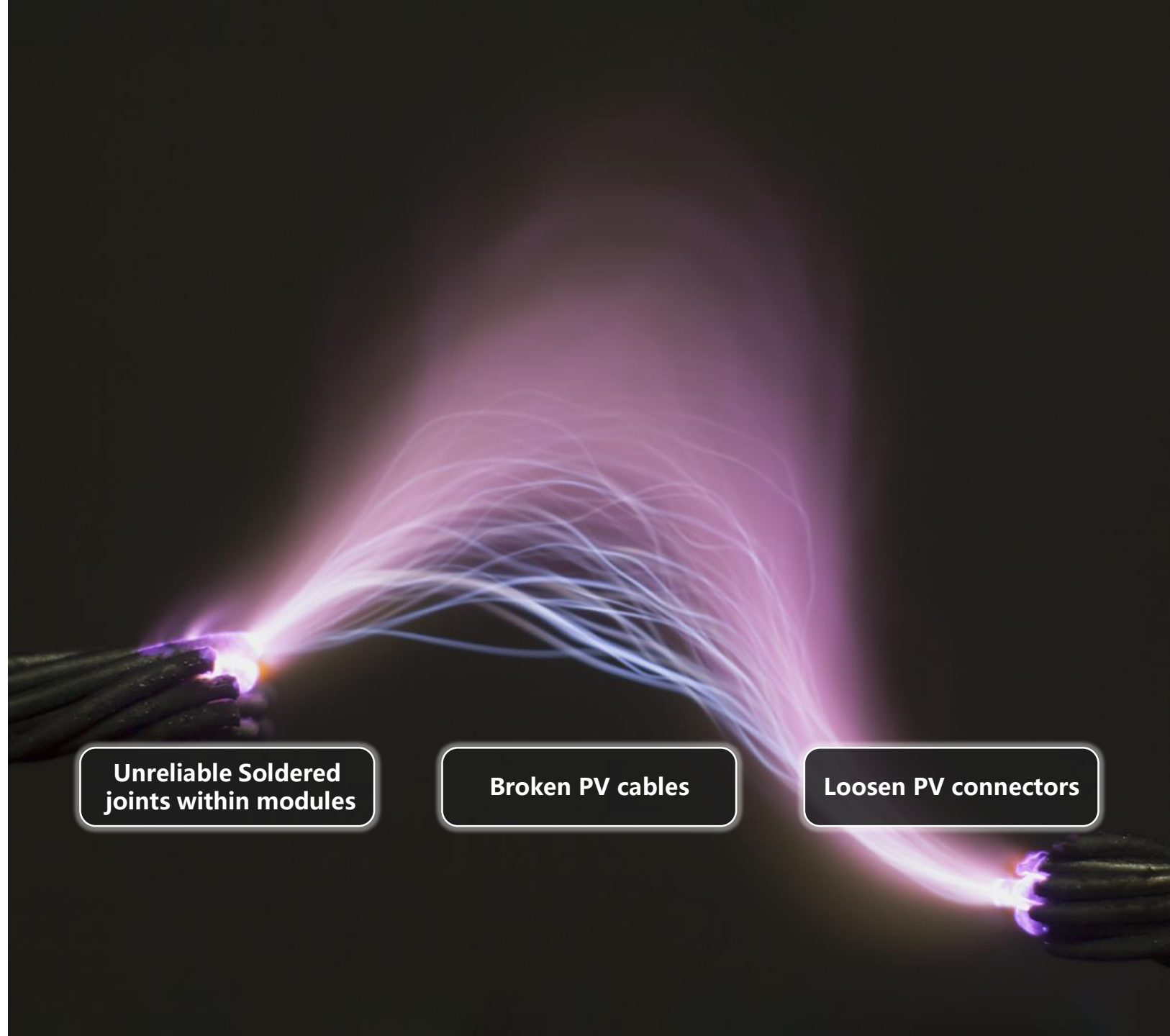
What is the harm?



Can reach temperature of over 3000°C & easily start a fire



Pose significant risk to firefighters under high DC voltage & current

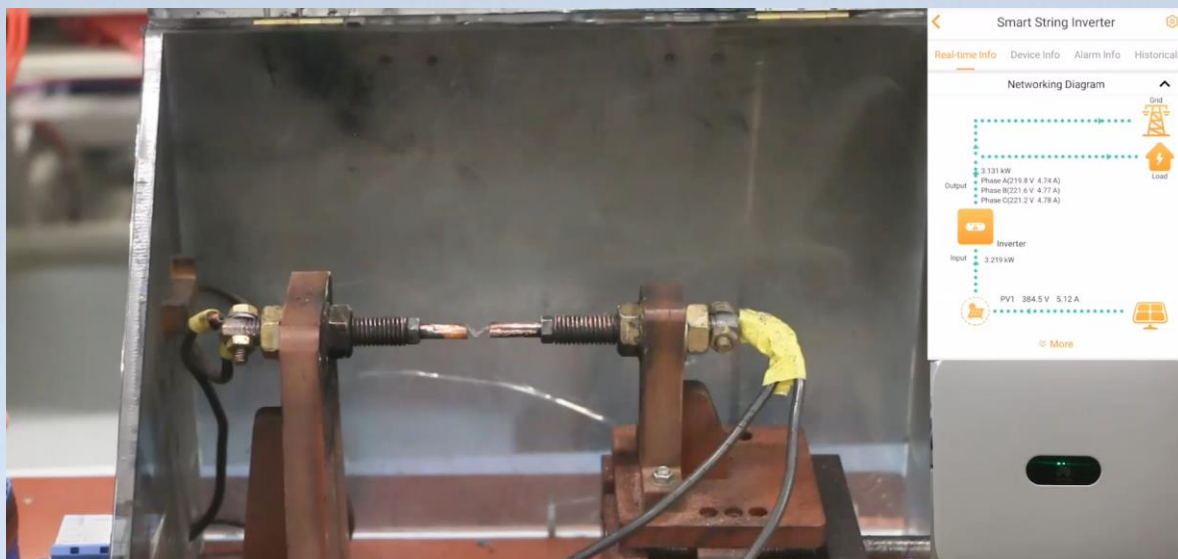


Unreliable Soldered joints within modules

Broken PV cables

Loosen PV connectors

☐ AFCI disabled, arcing continuously posing fire risks



VS

☒ AFCI function enabled, arcing extinguished in < 2sec

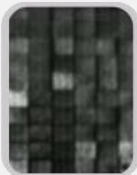


PV Arcing with/without AFCI Comparison

Built-in PID Recovery for Better Module Performance

Modules will occur PID effects under hot & humid environment, which will greatly reduce module output performance. (Singapore case: 25% power loss in 18 months)

Case Study: Huawei
PID recovery
invert-
er increases power
yield by max. 1.59%
in 6 months



Without PID Recovery



With PID Recovery

China Carport Roof Comparison Project, J Brand 265W module

Month	Without PID Recovery (kWh)	With PID Recovery (kWh)	Energy Yield Difference
201706	3595	3600	0.12%
201707	3677	3688	0.31%
201708	3893	3929	0.93%
201709	3765	3802	0.98%
201710	4120	4183	1.54%
201711	1398	1420	1.59%

70%

Built-in PID recovery reduces up to 70% module output loss



Recover at night with power consumption at 10w



Support auto recovering as set in APP

Battery Ready, Future Proof



Lower upfront cost, paying for a string inverter cost to be battery ready



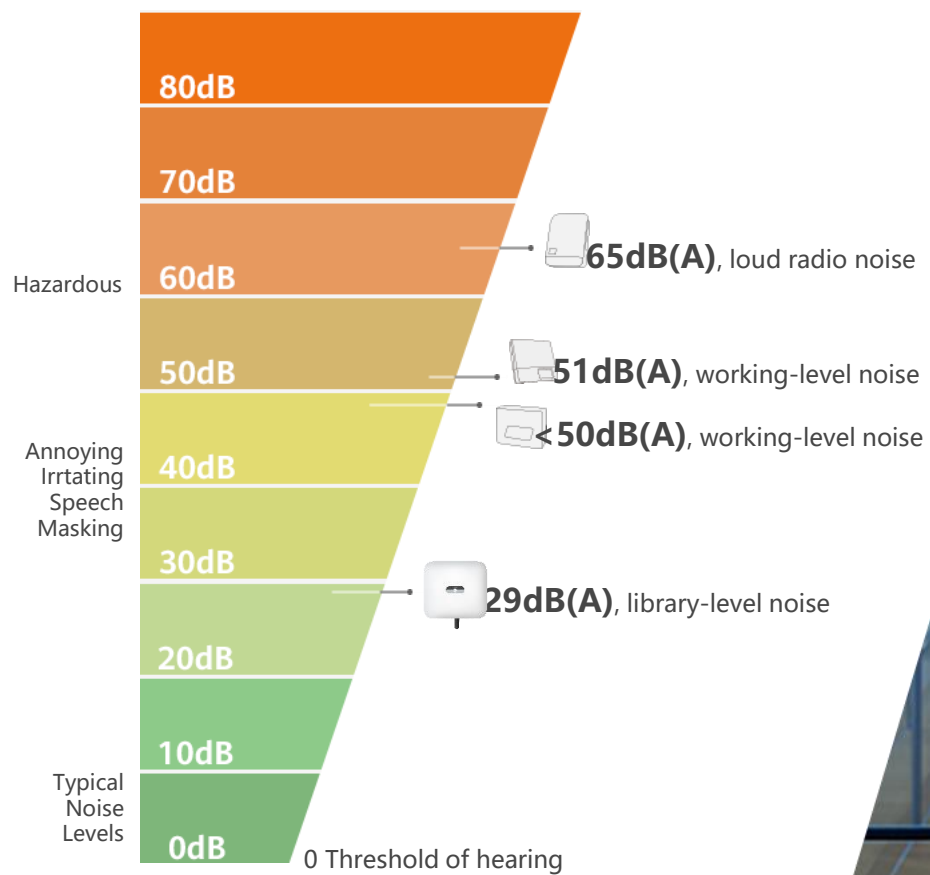
Integrated battery interface for future quick battery connection without extra device and retrofit cost



* Battery interface only available on SUN2000-3~10KTL-M0 & SUN2000-3~10KTL-M1

29dB

Library-level Noise for a Peaceful Environment



Natural cooling for a quiet environment particularly in school and hospital



Thank you.

把数字世界带入每个人、每个家庭、
每个组织，构建万物互联的智能世界。

Bring digital to every person, home, and
organization for a fully connected,
intelligent world.

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