

MPPT Solar charge controller with DC load output

iTracer-ND series



iTracer-ND is an intelligent, efficient, high-speed solar charge controller with advanced Maximum Power Point Tracking (MPPT) algorithm, which can harvest the maximum power from the solar array to charge battery. It can be applied in the off-grid PV systems up to 3KW, and increase the efficiency up to 30% .

The die-cast aluminum design ensure higher heat dissipation performance. Electronic protections prevent damage as operating error. RS485 Port/Modbus protocol improve extensive communication ability, and programmable parameter make the controllers working with different battery types.



Models:

IT4415ND, 45A, 12/24/36/48V auto work

IT6415ND, 60A, 12/24/36/48V auto work

Features:

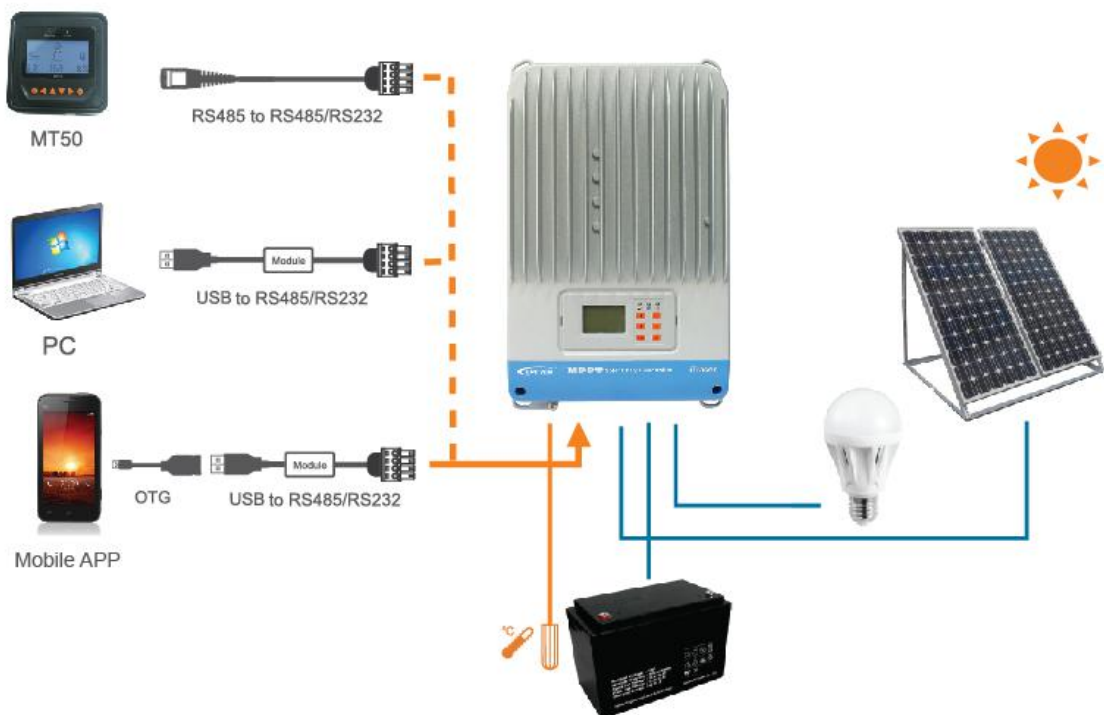
- Advanced Maximum Power Point Tracking (MPPT) technology
- High tracking efficiency $\geq 99.5\%$
- Peak conversion efficiency of 98% and full load efficiency of 97%
- Ultra-fast tracking speed
- Multiphase synchronous rectification technology (MSRT), ensuring high conversion efficiency even with weak power charging
- Accurately tracking and recognizing MPP among multiple wave crest
- Reliable automatic PV current limiting function
- Wide MPP operating voltage range
- High-speed dual-core processor architecture, improving system response speed, optimizing system performance

- Die-cast aluminum design, ensuring excellent heat dissipation
- Concise human-computer interactive interface, dynamically displaying system operating data and working status.
- Multiple load control modes: Manual Control, Light ON/OFF, Light on+timer and Time Control.
- Battery type selection: Sealed, Gel, Flooded and User(programmable)
- Battery temperature compensation
- Built-in running data and event logging
- RS485 port with industrial standard MODBUS open architecture
- Real-time data monitoring and parameters setting with MT50, APP or PC software
- Widely used in solar telecom base station, solar home system, solar power station, etc.
- Support firmware upgrade.









Electronic protections:

- PV over current protection
- PV reverse polarity protection
- Battery over discharge protection
- Battery overheating protection
- Load short circuit protection
- PV short circuit protection
- Battery over voltage protection
- Battery reverse polarity protection
- Load overload protection
- Controller overheating protection



Accessories:

Option		Standard			
					
MT50 Remote meter with 2m communication cable	OTG-12CM OTG cable (12cm)	Remote temp. sensor RTS300R10K5.08A (3m)	PC communication cable CC-USB-RS485-150U-3.81 (1.5m)	Connector (for battery voltage sampling)	Software

PC software:



Mobile APP:



* Free download from website for PC software and APP.



Technical specifications

 RoHS CE FC  

Model	IT4415ND	IT6415ND
Nominal system voltage	12/24/36/48VDC auto work	
Rated charge current	45A	60A
Rated discharge current	45A	60A
Max. PV open circuit voltage	150V (at minimum operating environment temperature) 138V (at 25°C environment temperature)	
Battery input voltage range	8~68V	
Rated PV input power	600W (12V)	800W (12V)
	1200W (24V)	1600W (24V)
	1800W (36V)	2400W (36V)
	2400W (48V)	3200W (48V)
Equalize charging voltage*	Sealed: 14.6V, Flooded: 14.8V, User: 9~17V	
Boost charging voltage*	Gel: 14.2V, Sealed: 14.4V, Flooded: 14.6V, User: 9~17V	
Float charging voltage*	Gel /Sealed /Flooded: 13.8V, User: 9~17V	
Low voltage reconnect voltage*	Gel /Sealed /Flooded: 12.6V, User: 9~17V	
Low voltage disconnect voltage*	Gel /Sealed /Flooded: 11.1V, User: 9~17V	
Self-consumption	1.4~2.6W	
Temperature compensation coefficient	-3mV/°C/2V	
Grounding	Common negative	

* Technical data for 12V system at 25°C, twice in 24V system, triple in 36V system and quadruple in 48V system.

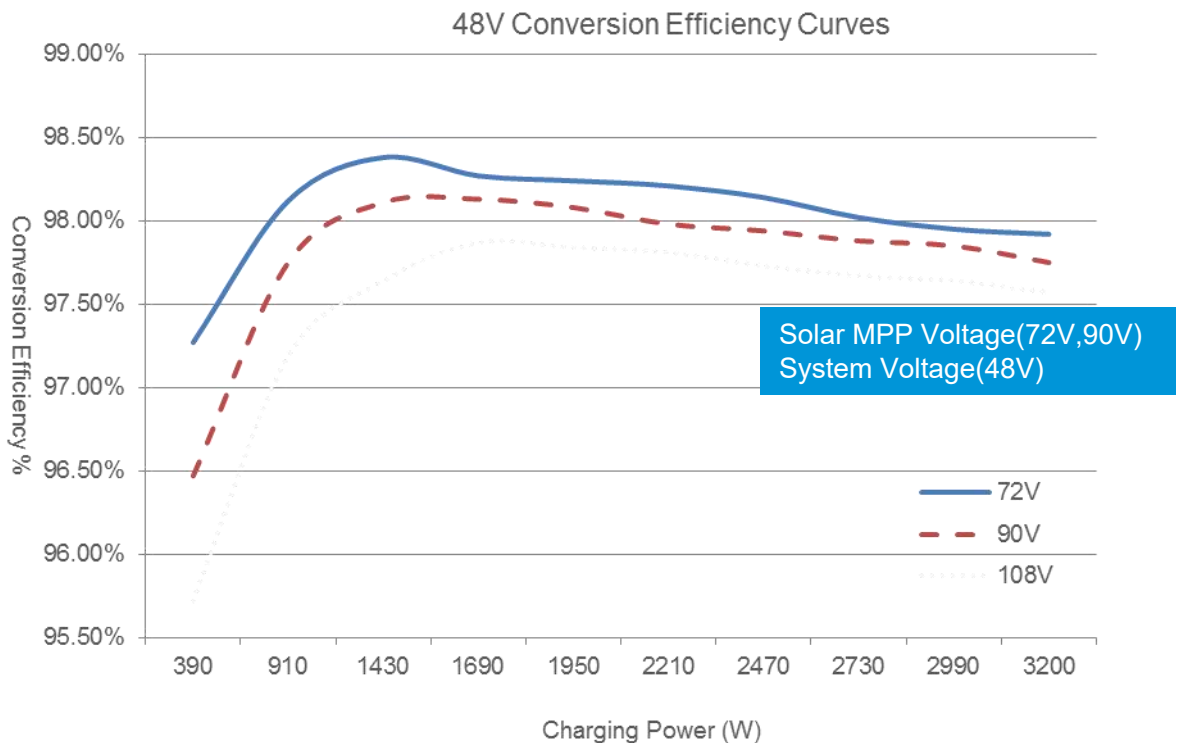
* Programmable voltage value by PC, MT50 and APP.

Mechanical	IT4415ND	IT6415ND
Overall dimension	382x231x107mm	440x231x110mm
Terminal	2AWG(35mm ²)	2AWG(35mm ²)
Net weight	4.6kg	5.9kg
Enclosure	IP20	

Environmental	
LCD temperature range	-20°C ~ +70°C
Working environment temperature	-25°C ~ +45°C
Relative humidity	≤95% (N.C.)

Conversion Efficiency Curves:

Illumination Intensity: 1000W/m² Temperature: 25°C
Test model: IT6415ND



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