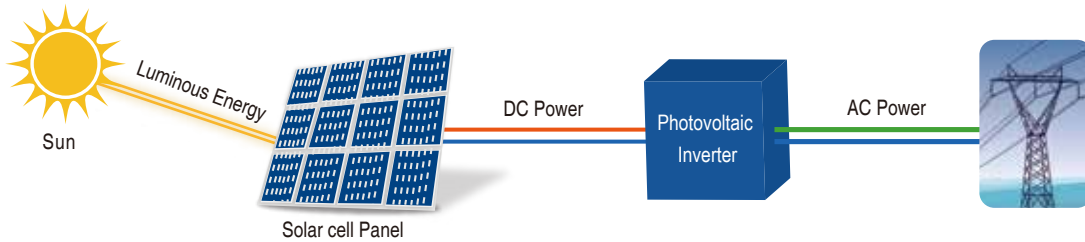


Solar/PV inverter solution



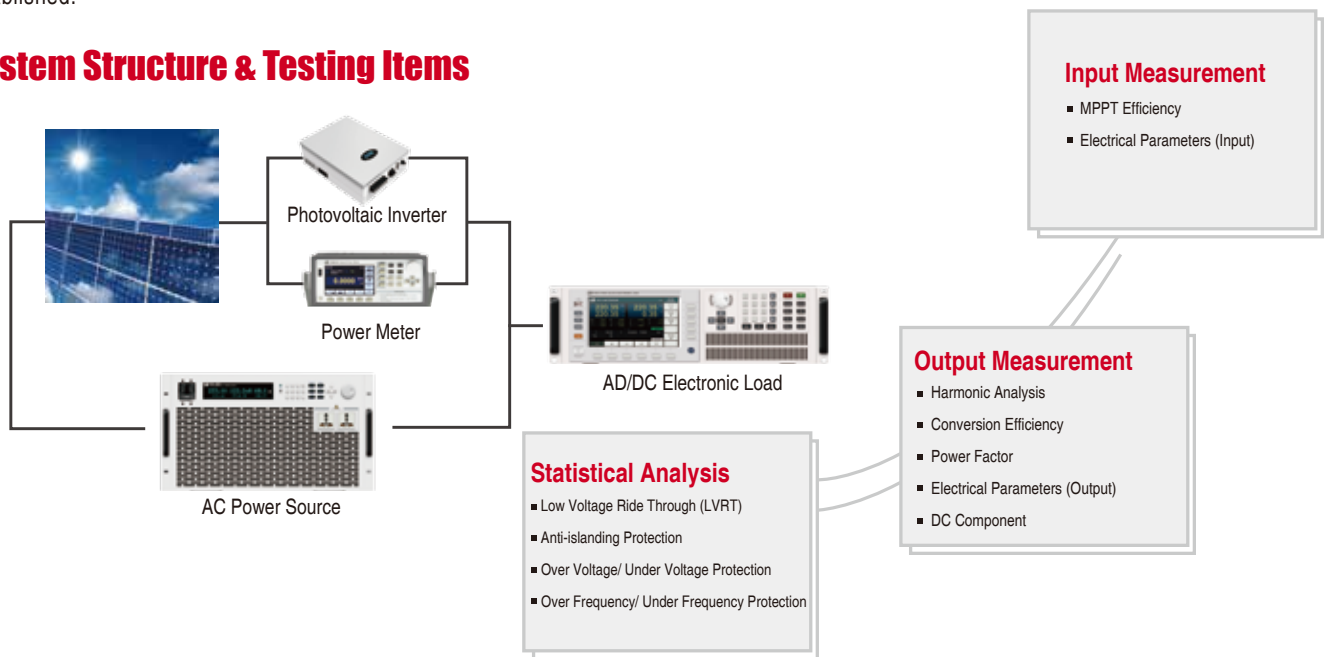
| Solar Photovoltaic Test



Photovoltaic (PV) Grid-Connected Inverter Test

DC power generated by solar panels convert to AC power by photovoltaic inverter, and connect to grid in parallel. In order to reduce the impact on the power network quality caused by photovoltaic inverter, relevant standards, such as IEEE1547, IEC61000-3-15, IEC62116 are established.

System Structure & Testing Items



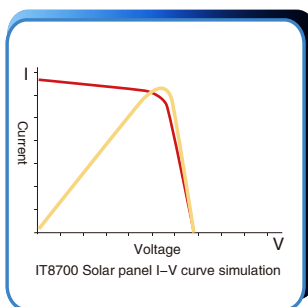
Recommended testing instruments

| Instrument | Function Required | Specification | Model |
|--------------------|---|---|-------------------------|
| AC power supply | <ol style="list-style-type: none"> 1. Simulate power grid voltage and frequency abnormality 2. Simulate power grid voltage fall to recovery procedure and operates the changes automatically. 3. Simulate the transient of power grid voltage loss to test anti-islanding time(< 2 s). 4. Isolating protection to protect inverter. | 750 VA-3000 VA | IT7300 Series IT7626 |
| Power Meter | Wider measurement bandwidth | 100 KHz Measuring Bandwidth | IT9121 |
| AC electronic load | <ol style="list-style-type: none"> 1. Simulate different frequency of power grid to test normal running of inverters. 2. Parameters test, such as Active power (P), reactive power (Q), power factor(PF) etc. | 420 V/20 A/1800 W 45 Hz-450 Hz | IT8615 |
| DC power supply | Solar cell I-V characteristic curve simulation | User programmed 16 I-V curves composed of 1024 points | IT6500C Series |

| Solar Cell Test

The change of ambient temperature, illumination intensity will affect the IV characteristics and conversion efficiency. With higher temperature, the I-V curve will change and filling factor will decrease, as well as conversion efficiency. With higher illumination intensity, the output power and conversion efficiency will increase. Therefore I-V curve of solar cell composed of multiple points should be depicted in a very short time to guarantee the reliability of the test result.

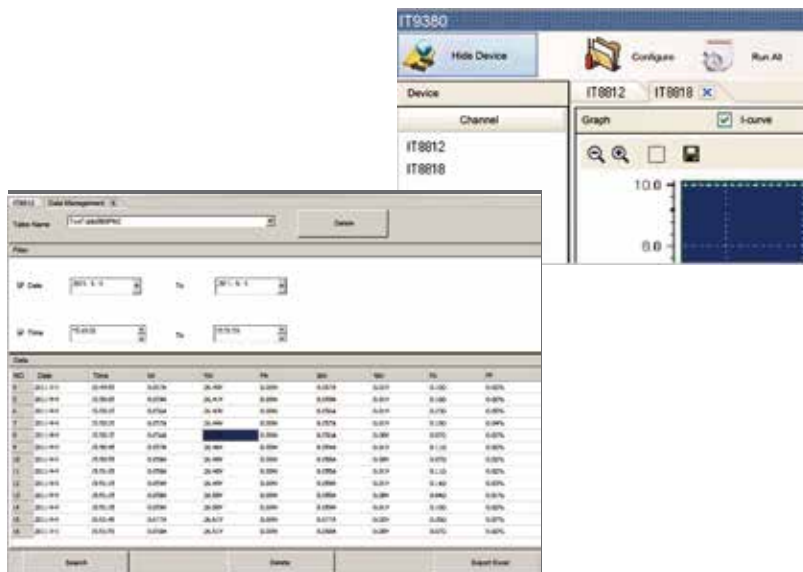
System Structure & Testing Items



- Test parameters**
- Short circuit current
 - Open circuit voltage
 - Maximum power
 - Voltage of maximum power
 - Current of maximum power
 - Resistance of maximum power
 - Filling factor

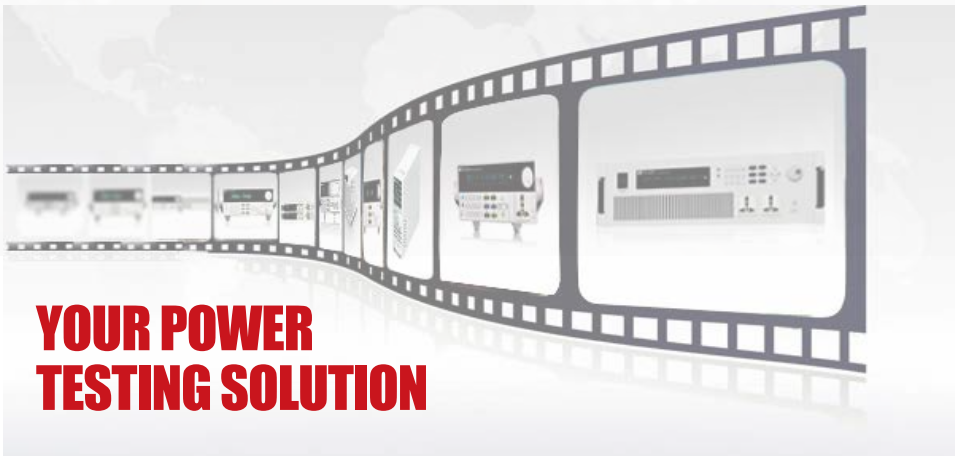
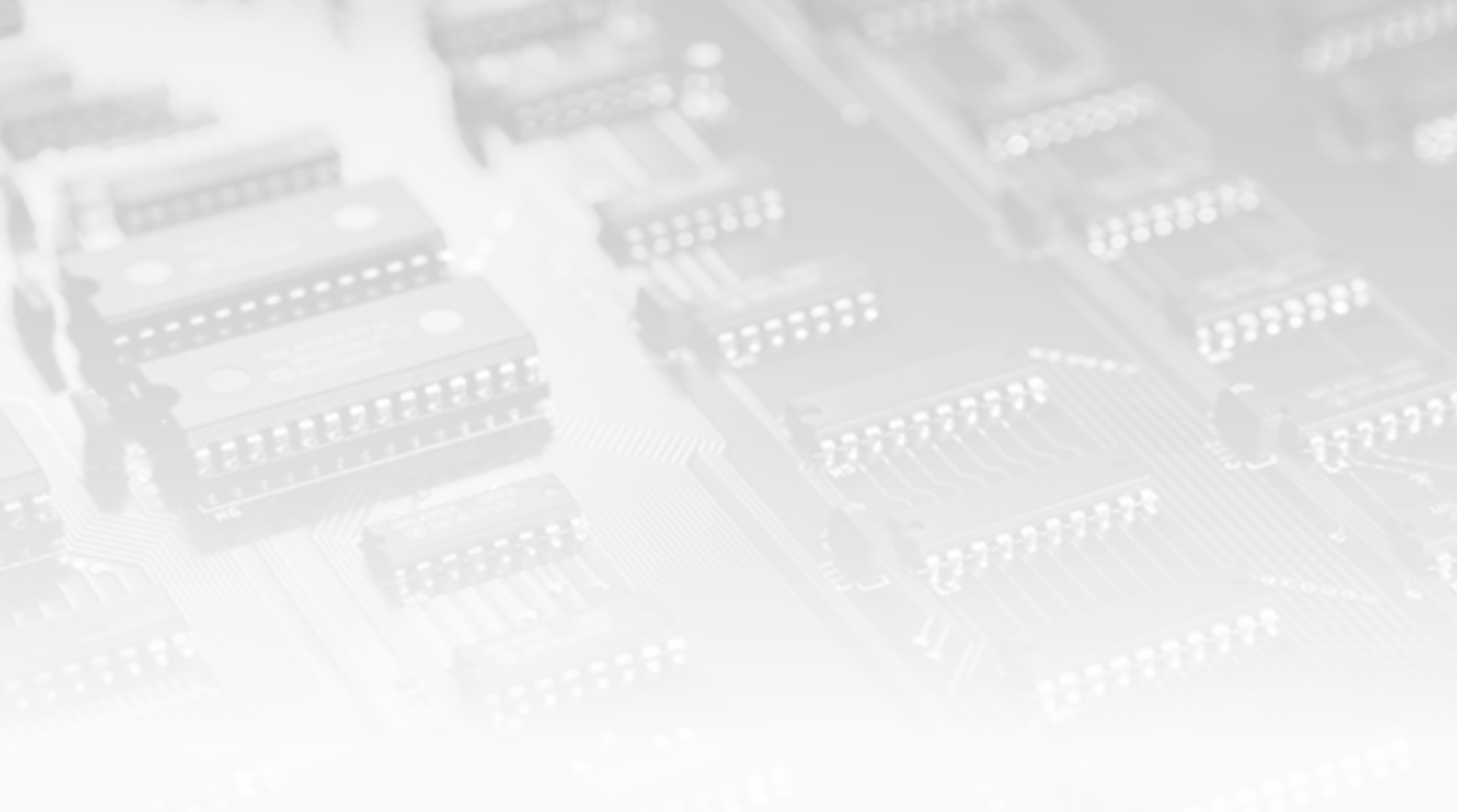
IT9380 Test Software

ITECH IT9380 solar cell test software can depict I-V curve automatically, support single/multiple tests, which support setting the test time interval and time period. The software automatically scans the voltage and current with the time interval within the preset time. IT9380 software supports multi-channel testing, and the controlling interface of each channel can be switched freely. The test data can be exported and saved as Excel format.



Recommended testing instruments

| Instrument | Function Required | Specification | Model |
|--------------------|--|---------------------|----------------------|
| DC Electronic Load | 1.High Speed Voltage/Current Measurement 2. High Accuracy and High Resolution | Single channel test | IT8800/IT8900 Series |
| | | Multi-channel test | IT8700 |



This information is subject to change without notice. For more information, please contact ITECH.

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