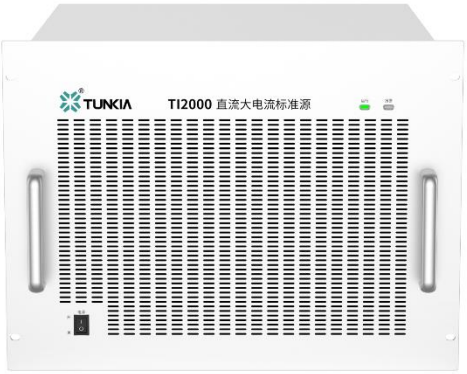
TI2000 DC High Current Standard Source

TI2000 (300A)



TI2000 (1kA)

1. Summary

TI2000 is a series of DC high current standard sources for industrial detection. It adopts a modular design and can be used as a single source or as a combination of multiple sources to adapt to application scenarios with different current specifications.

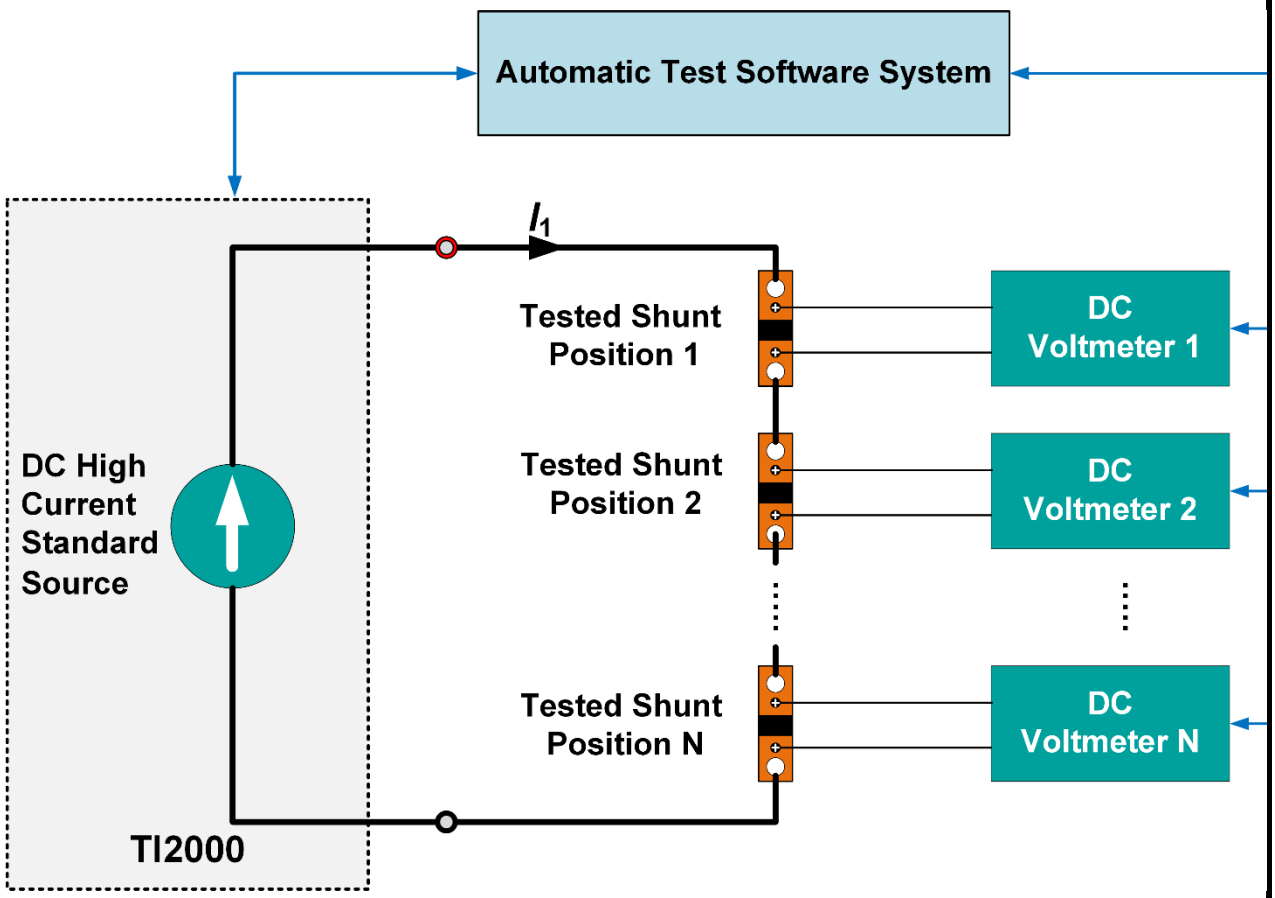
2. Features

- Multiple module sources are available: 300 A, 600 A, 1 kA.
- Single current range, no need for relay shifting, high reliability.
- Supports combined output of multiple module sources, up to 10 kA.
- Accuracy: class **0.02** or **0.05**.
- The typical value of short-term stability is better than 0.005%/h.
- The unipolar source can be connected to an external commutator (accessory) to achieve current commutation.
- Bipolar source (optional) generates positive and negative currents directly through the circuit.
- The maximum load voltage of constant current output reaches 3.5 V.
- The output ripple coefficient of constant current output is less than 0.5%.
- Communication interface: LAN, RS232.
- Large current rises and falls slowly, reducing current surges, and it can also rise and fall quickly according to needs;
- Optional DC voltmeter to build a DC shunt detection system.

- Optional sensor power supply and output tester are available to build a current sensor detection system.

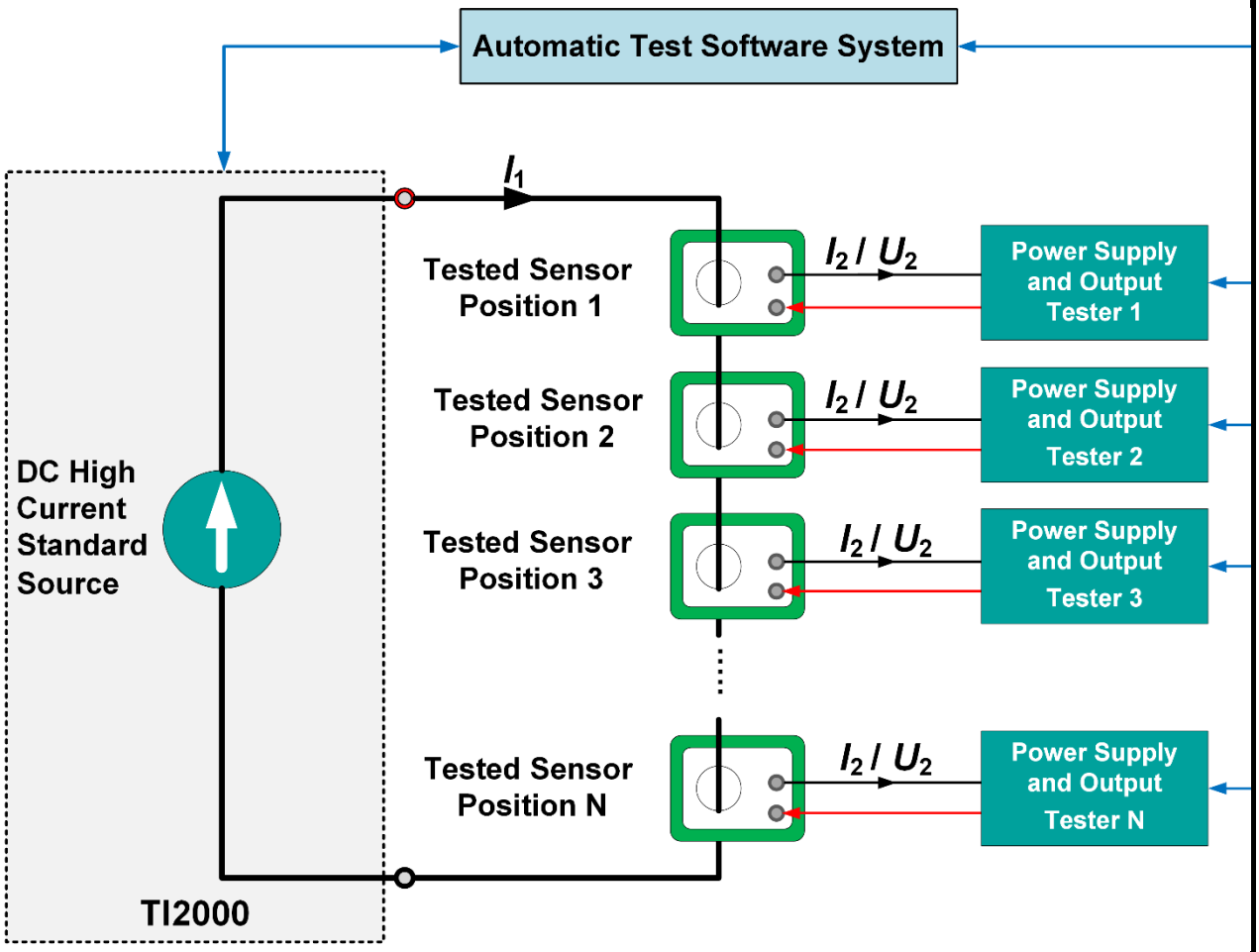
3. Applications

☆ Calibration of DC shunt



- Supports calibration and testing of DC shunts using the standard source method (an external voltmeter is required).
- The maximum load voltage is 3.5 V, which is suitable for testing multiple shunts at the same time in the production line. (Note: The number of simultaneous connections is related to the load size of the shunt being inspected.)
- Support docking with the user's automatic test system (or customized software) to achieve automatic testing.
- Support the following test: basic error test, error consistency test, error stability test, measurement repeatability test, shunt thermal balance test, overload test, etc.

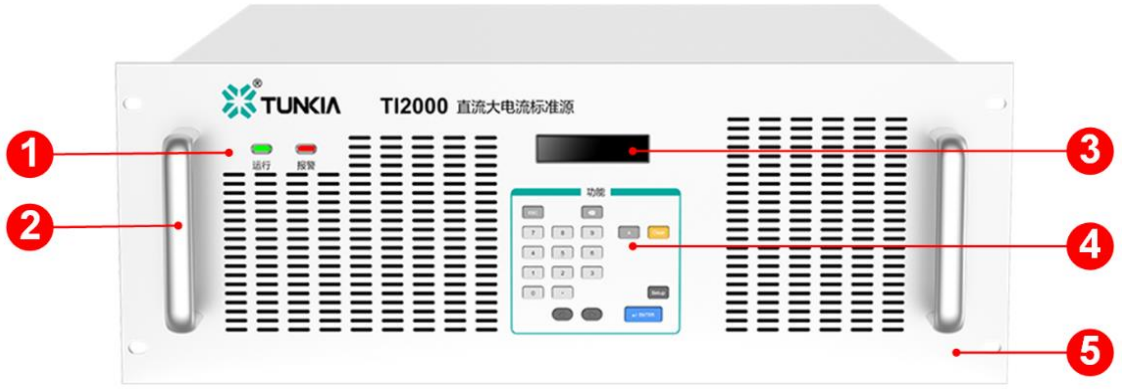
☆ Calibration of Current Sensor



- The standard source method is used to calibrate and measure the current sensor.
- It is also suitable for the simultaneous detection of multiple current sensors in production lines. (Note: The number of simultaneous access is related to the load size of the sensor being inspected).
- Support docking with the user's automated test system (or customized software) to achieve automatic testing.
- Supported detection items include: basic accuracy error, zero output error, full-scale output error, linearity error, return difference, repeatability error, zero drift, thermal zero drift (with temperature control box), thermal sensitivity drift (with temperature control box), overload capacity, power influence, the rate of change of load (with load box), etc.

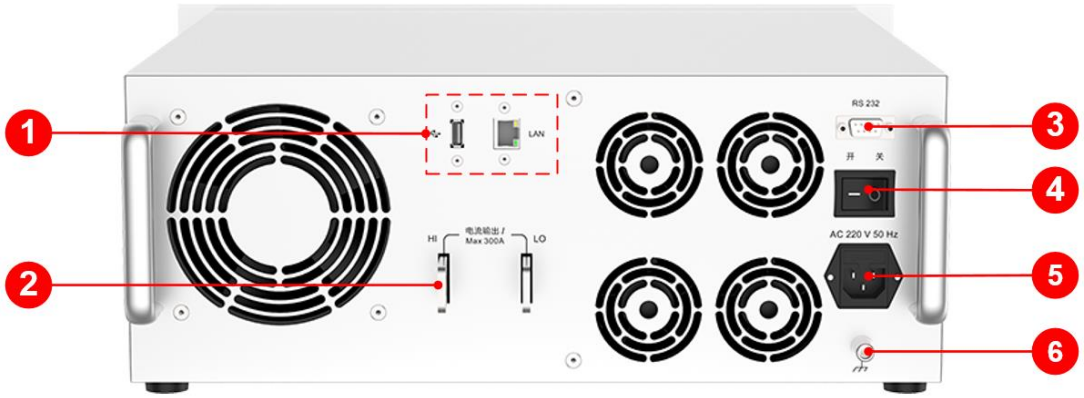
4. Appearance

☆ Front Panel (300A)



S/N	Function
1	**Indicator light:** includes operation indicator light and alarm indicator light, which prompts the user about the operating status of the device;
2	**Portable handle:** facilitates the transportation of the instrument and improves the applicability of the instrument;
3	**High-definition display window:** displays the current output status of the device to facilitate users to observe the working status.
4	**Button operation panel:** A variety of value input/adjustment modes greatly improve the operational convenience of the instrument;
5	**Standardized cabinet interface:** supports installation of instruments into cabinets for systematic integration;

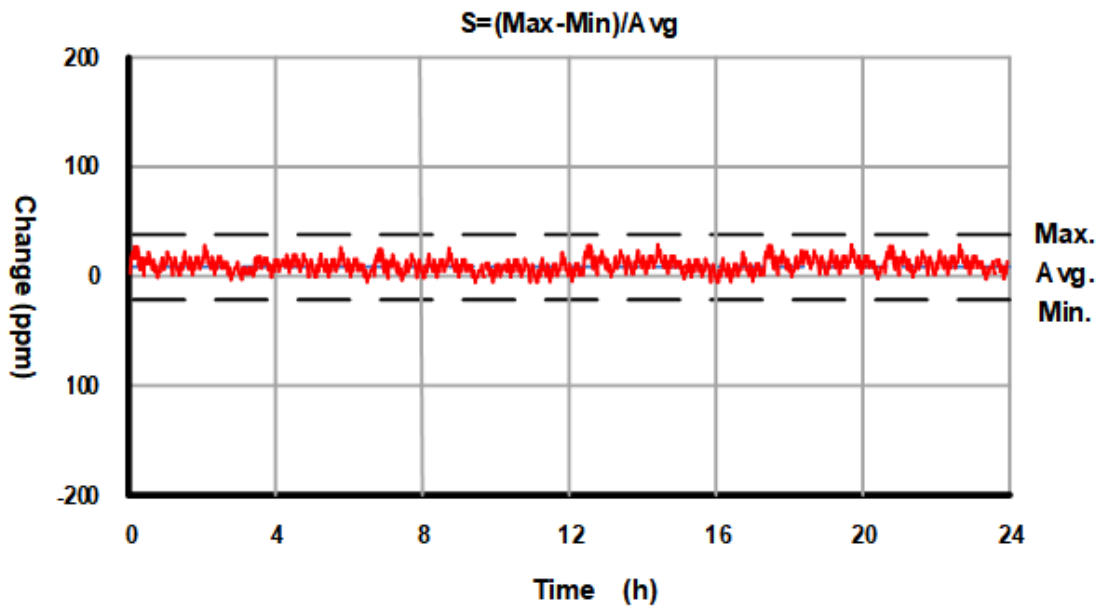
☆ Rear Panel (300A)



S/N	Function
1	**Communication interface 1:** LAN interface, convenient for setting up a fully automatic test system;
2	**DC current output terminal:** supports up to 300 A DC current output;
3	**Communication interface 2:** RS232 interface, convenient for setting up a fully automatic test system;
4	**Power switch:** The power switch of the device;
5	**Power interface:** AC 220 V power input interface with 10 A fuse;
6	**Chassis ground:** Before using the equipment, ensure that the chassis ground is reliably grounded;

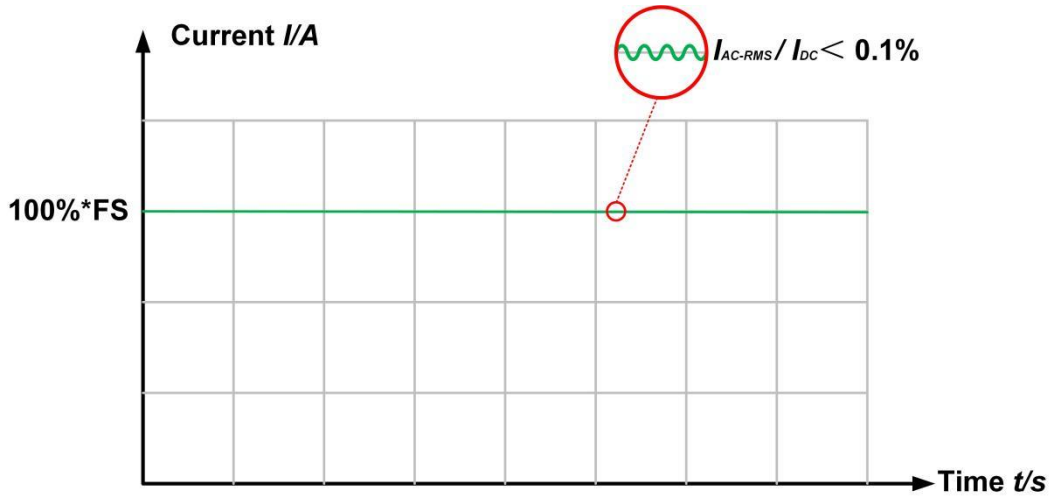
5. Characteristics

☆ High Stability



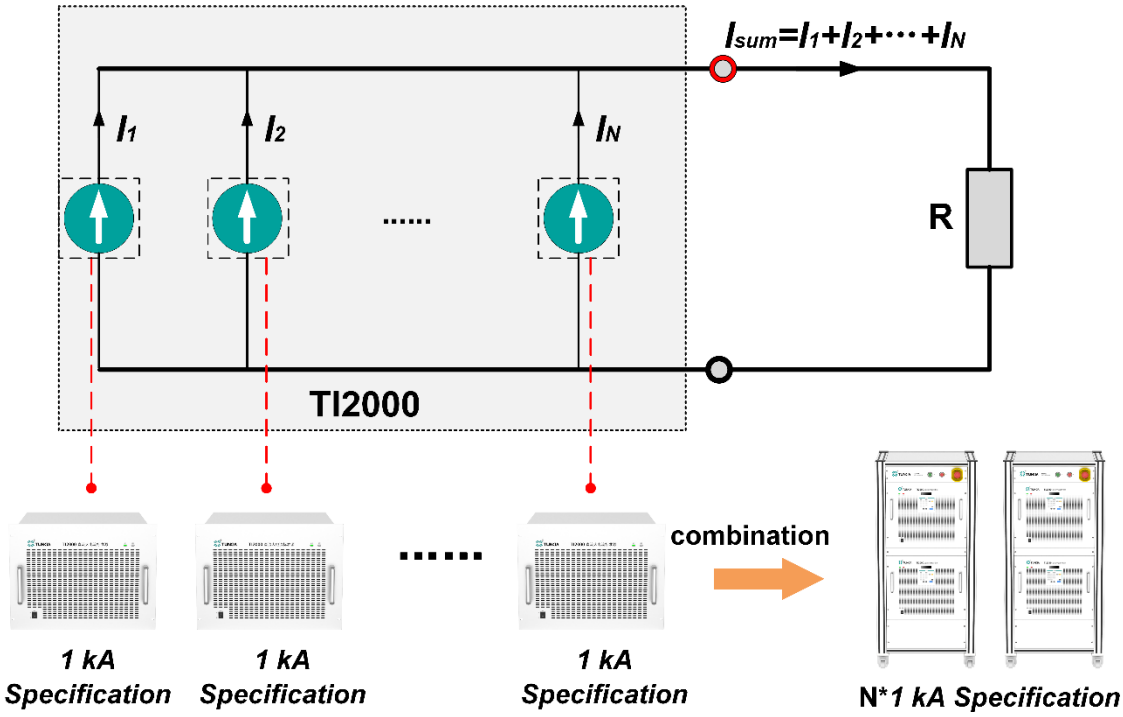
- Typical values of 24-hour stability: 0.005% (class 0.02), 0.01% (class 0.05).
- It can effectively ensure good repeatability and consistency in batch testing of industrial products.

☆ Low Ripple Content



- The current ripple content of TI2000 is less than 0.5%, which can effectively reduce noise interference and ensure the accuracy of test results;
- At the same time, avoid surge voltage or current caused by strong ripples to ensure safe operation of the equipment.

☆ Module Source Combination Output

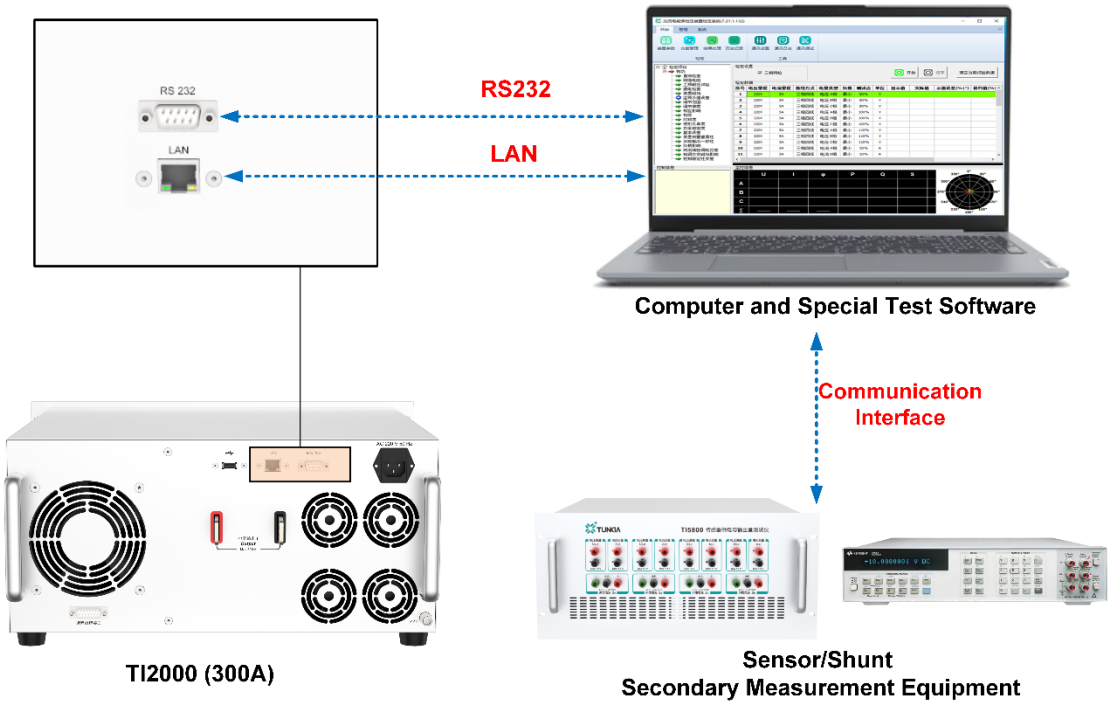


- TI2000 supports the combination of multiple module sources for DC high current output, up

to 10 kA;

- Equipped with a control module to adjust multiple source outputs, improve the current sharing coefficient, and ensure stability and accuracy under large current output.

☆ Multi-type Digital Communication Interface



- LAN, RS232 interfaces.
- Note: Customized software are available.

6. Specifications

Device Rating		Class 0.02	Class 0.05
Range	300 A	300 A	
	600 A	600 A	
	1 kA	1 kA	
Output Range		(1% ~ 100%)*RG	
Current Commutation		Unipolar supports external commutator, bipolar is a functional option	
Maximum Load Voltage		3.5 V	
24 Hours Stability		0.005%	0.01%
Measurement Uncertainty (k=2) ppm*RD①+ppm*RG②		120 + 80	300 + 200
Ripple Coefficient		≤ 0.5%	≤ 0.5%
Settling Time		≤1 s	
Circuit Protection		Open circuit protection, overload protection, overheat protection	
Note		① RD is the reading value, ② RG is the range value	

7. General Specifications

Power Supply	300 A	Single phase, AC 220 V ± 22 V，50 Hz ± 2 Hz
	600 A	Single phase, AC 220 V ± 22 V，50 Hz ± 2 Hz
	N*1 kA	Three-phase five-wire system, AC 380 V ± 38 V，50 Hz ± 2 Hz
Working Environment		0°C ~ 50°C，(20% ~ 85%) R·H, non-condensing
Storage Environment		-20°C ~ 70°C，<85% R·H, non-condensing
Communication Interface		LAN、RS232

8. Ordering Information

TI2000 - ☐ ☐ ☐

Accuracy	
Code	*Note*
200	Class 0.02
500	Class 0.05

Maximum Current Range	
Code	*Note*
300 A	*300 A*
600 A	*600 A*
⋮	⋮
*N*1kA*	*N*1 kA*

Current Output Polarity	
Code	*Note*
Empty	Unipolar
B	Bipolar

E.g. *TI2000-200-10 kA-B* means that the device has an accuracy of Class 0.02 and a maximum current range of 10kA and supports bipolar output.