TD4550 Portable Tester for Three-phase Energy Meter

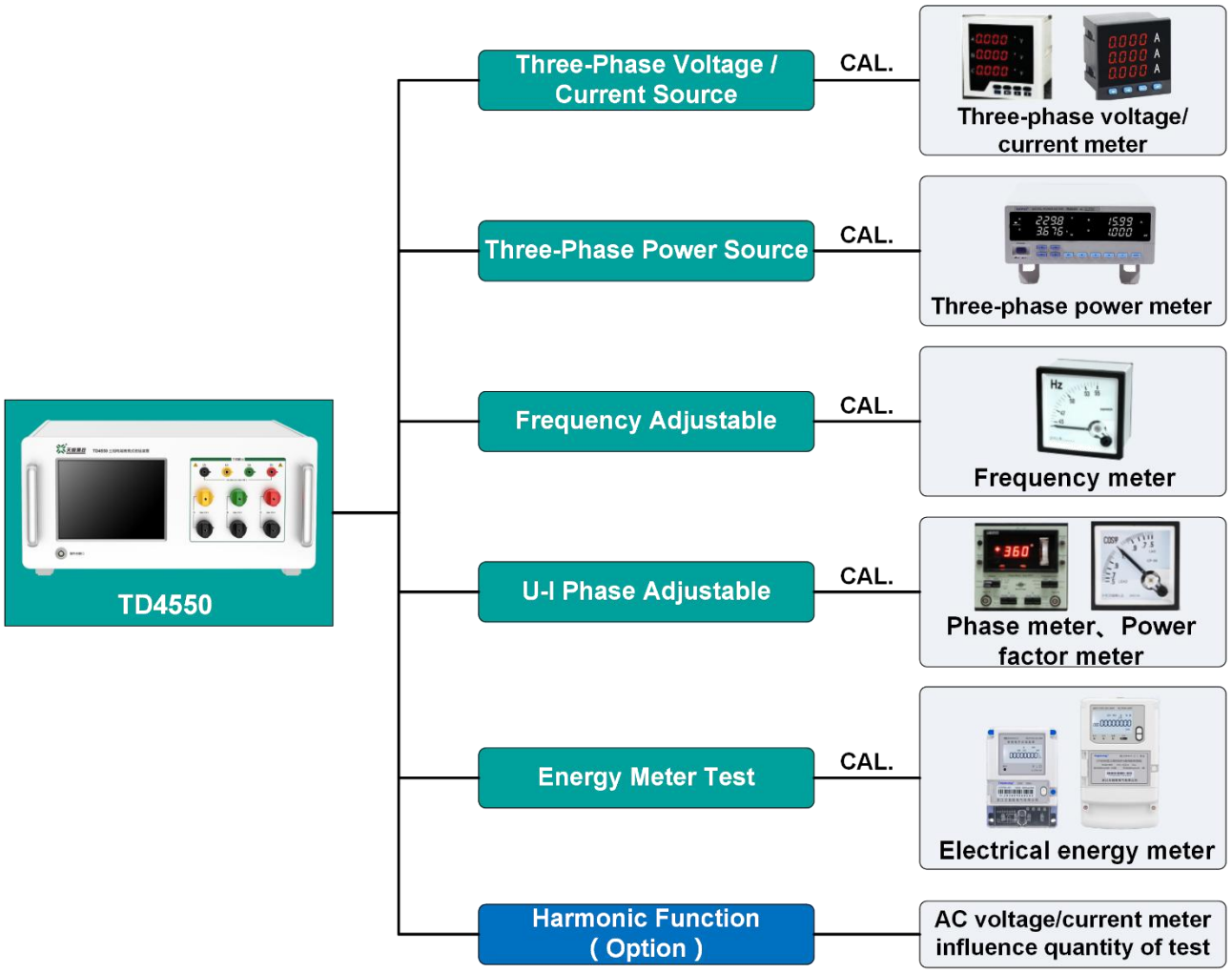
1. Summary

TD4550 is an intelligent and highly integrated test system for calibrating electrical apparatus. It is built-in 3PH standard source. It can complete intrinsic error test, constant test, standard deviation test, starting current test, test of no-load of electric energy meter.

2. Features

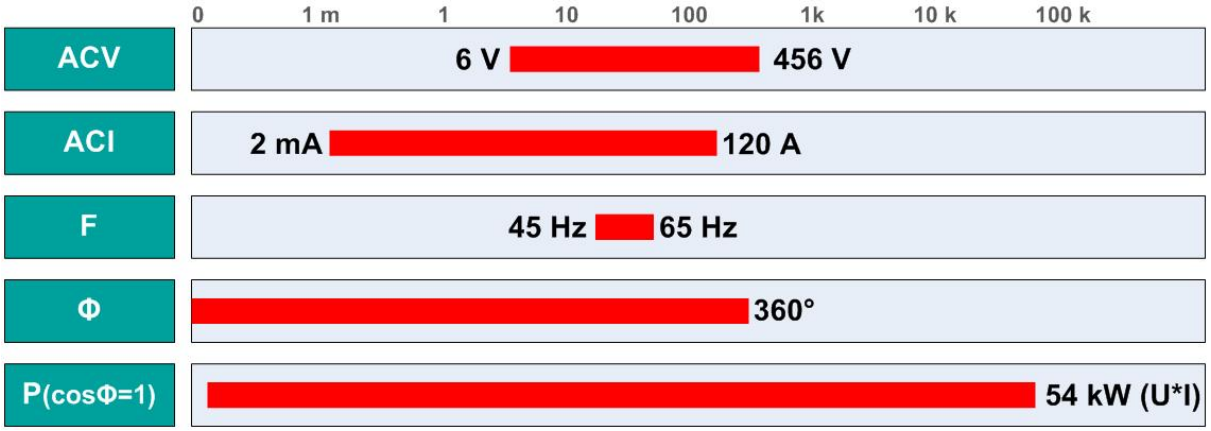
- Accuracy：class 0.02, 0.05, 0.1
- 3PH ACV output：6 V～456 V
- 3PH ACI output：2 mA ~ 110 A
- Multiple output mode, support three-phase or single adjust
- U-I phase：0°～360°, accuracy 0.01°
- Energy meter test function
- LCD touch screen
- 2^{nd}~21^{st} harmonic output（option）
- Test software（option）

3. Application



4. Characteristics

☆ Wide Output

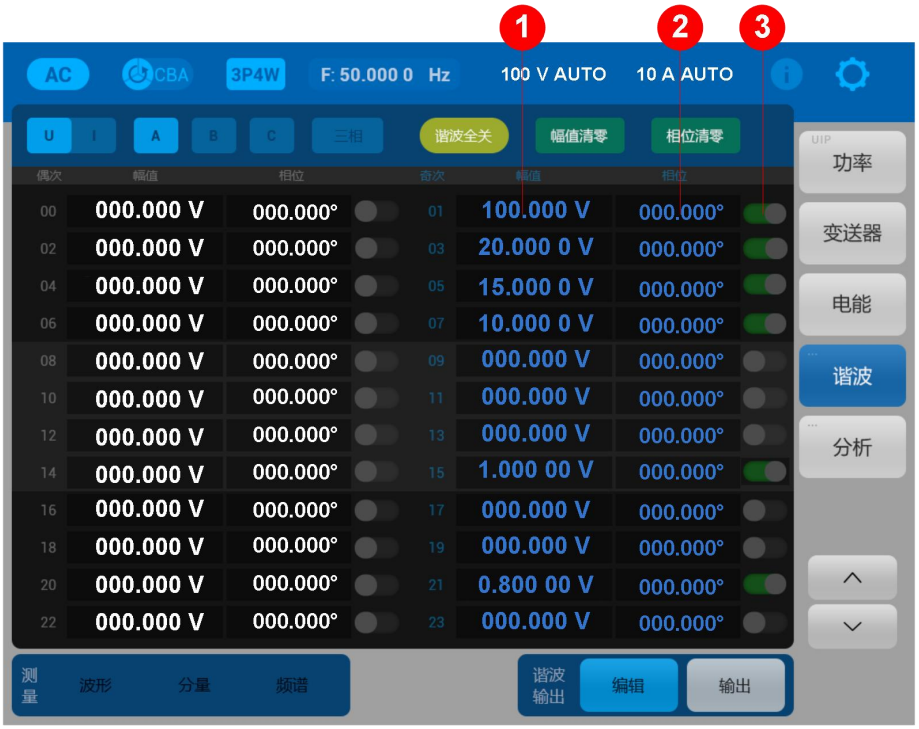


- It can meet most single-phase / three-phase meters.

☆ Convenient Operation

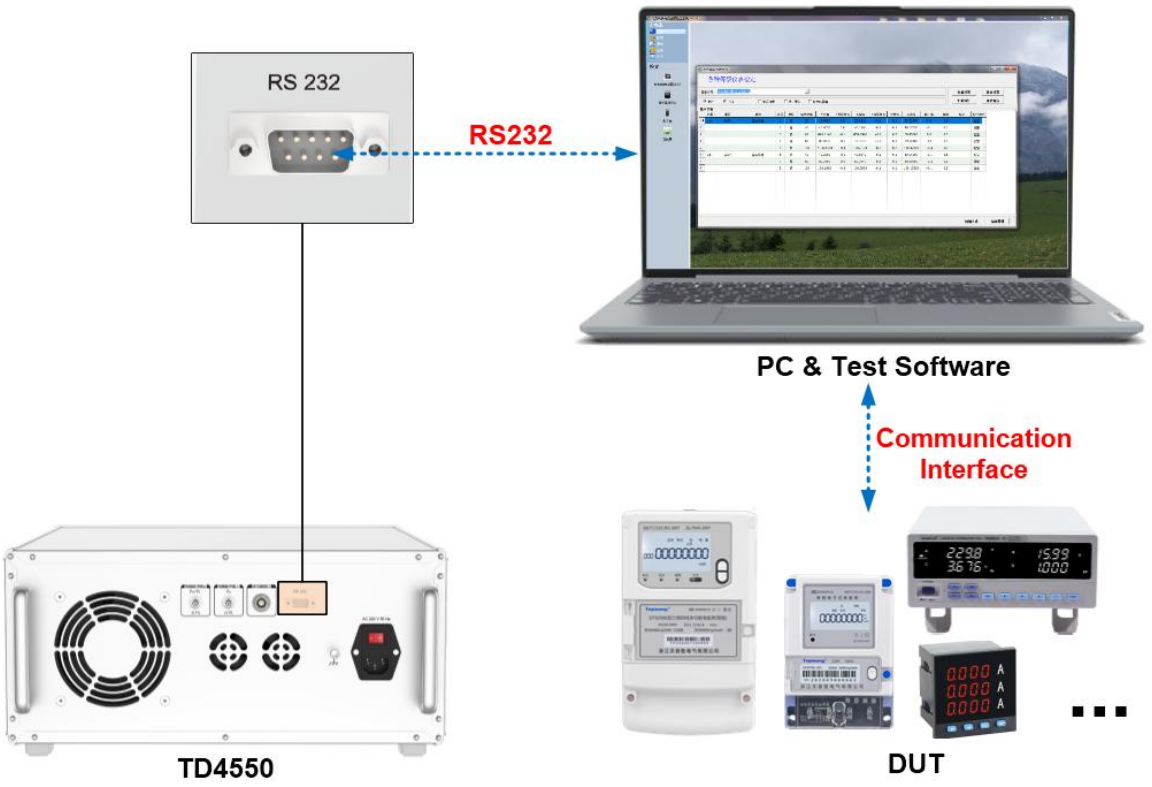
- Color LCD touch-screen.
- Support connect operation keypad with physical keys.

☆ Harmonics Function（Option）



S/N	Function declaration
1	Set amplitude of harmonic.
2	Set phase of harmonic（fundamental wave）。
3	Choose 2nd～21st harmonics channel output.
4	Oscilloscope function, user can observe voltage and current waves.
5	Display frequency spectrum of harmonic by histogram.(fundament wave is 100%)

☆ Testing Software（Option）



- RS232 communication interface，software customizable.

5. Specifications

5.1 Three-Phase Voltage / Current Output

Voltage Range	Stability (%/min)			Accuracy ±(ppm of reading + ppm of range) [1]			Max Burden (mA)
	Class 0.1	Class 0.05	Class 0.02	Class 0.1	Class 0.05	Class 0.02	
57.7 V	0.02	0.01	0.005	600+400	300+200	120+80	500
100 V	0.02	0.01	0.005	600+400	300+200	120+80	300
220 V	0.02	0.01	0.005	600+400	300+200	120+80	130
380 V	0.02	0.01	0.005	600+400	300+200	120+80	80
Note [1] : (ppm = parts per million) (e.g.， 10ppm = 0.001%).							

Current Range	Stability (%/min)			Accuracy ±(ppm of reading + ppm of range) [1]			Max Burden (V)
	Class 0.1	Class 0.05	Class 0.02	Class 0.1	Class 0.05	Class 0.02	
20 mA	0.02	0.01	0.005	600+400	300+200	120+80	24
50 mA	0.02	0.01	0.005	600+400	300+200	120+80	24
100 mA	0.02	0.01	0.005	600+400	300+200	120+80	24
200 mA	0.02	0.01	0.005	600+400	300+200	120+80	24
500 mA	0.02	0.01	0.005	600+400	300+200	120+80	24
1 A	0.02	0.01	0.005	600+400	300+200	120+80	24
2 A	0.02	0.01	0.005	600+400	300+200	120+80	6
5 A	0.02	0.01	0.005	600+400	300+200	120+80	6
10 A	0.02	0.01	0.005	600+400	300+200	120+80	2
20 A	0.02	0.01	0.005	600+400	300+200	120+80	2
50 A	0.02	0.01	0.005	600+400	300+200	120+80	0.6
100 A	0.02	0.01	0.005	600+400	300+200	120+80	0.6

- Three-phase voltage output：6 V～456 V, Three-phase current output：2 mA～120 A
- Degree of distortion：<0.5%
- Degree of symmetry：voltage <0.2%, current <0.5%, phase <0.5°
- Voltage short circuit, current open-circuit and overload protection

5.2 Frequency / Phase / Harmonic

Frequency	Range：45 Hz～65Hz； Adjustment fineness：0.001 Hz； **Accuracy**：±0.05 Hz (class 0.1), ±0.02 Hz (class 0.05), ±0.01 Hz(class 0.02)
Phase	Range：0.000 0°～359.999 9°； Adjustment fineness：0.001°； **Accuracy**：±0.05° (class 0.1), ±0.02° (class 0.05), ±0.01°(class 0.02)
Harmonic	2^{nd}～21^{st} harmonic； Amplitude 0～25% adjustable； Phase 0～359.99°adjustable

5.3 Power / Energy Output

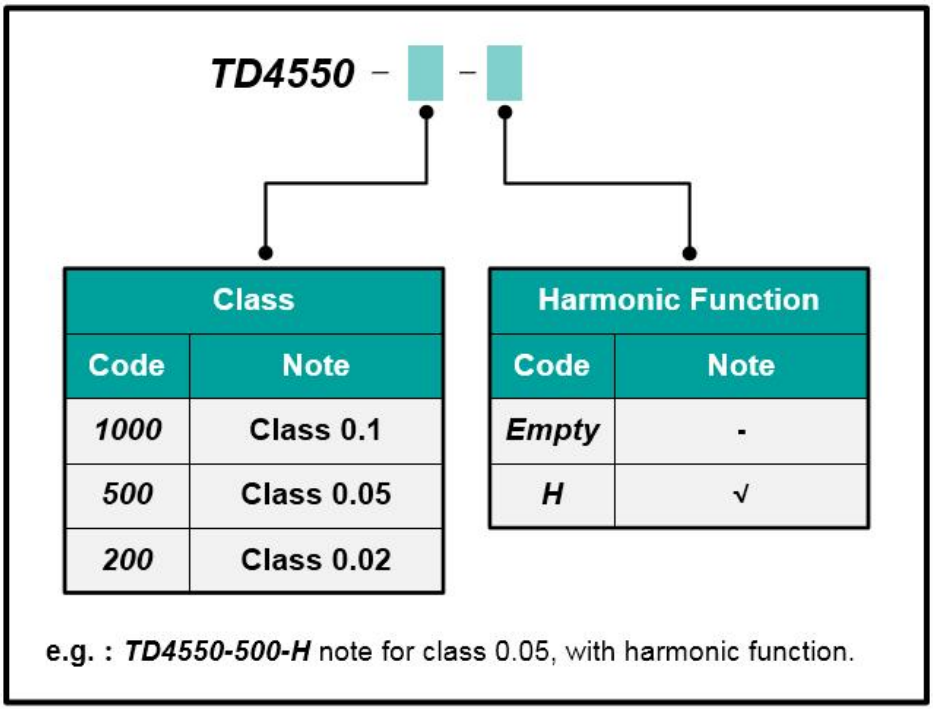
Type	Current range	Class 0.1	Class 0.05	Class 0.02
Output power stability (% / 2min)	50 mA≤I≤120 A	0.05	0.02	0.01
	2 mA≤I< 50 mA	0.05	0.03	0.02
Active power /energy |cosΦ| ≥0.5	50 mA≤I≤120 A	±0.1%*reading	±0.05%*reading	±0.02%*reading
	2 mA≤I< 50 mA	±0.2%*FS③	±0.1%*FS	±0.05%*FS
Reactive power /energy |sinΦ| ≥0.5	50 mA≤I≤120 A	±0.2%*FS	±0.1%*FS	±0.05%*FS
	2 mA≤I< 50 mA	±0.5%*FS	±0.2%*FS	±0.1%*FS
Power factor	50 mA≤I≤120 A	±0.1%	±0.05%	±0.02%
	2 mA≤I< 50 mA	±0.2%	±0.1%	±0.05%
Note [2] :FS= voltage range ×current range				

- Power/energy measure range：combination of voltage range and current range
- Power factor measure range：-1.000 00…0.000 00…1.000 00
- Energy pulse output：High frequency full range is 60 kHz, Low frequency full range is 6 Hz
- Energy pulse input：Frequency ≤ 150 kHz, pulse level：：0…3.3 V…24 V
- Energy error display：auto，resolution as 0.0001%

6. General Specifications

Power Supply	AC (220 ± 22) V，(50 ± 2) Hz
Temperature Performance	Working temperature：0°C~45°C; Storage temperature：-20°C~70°C
Humidity Performance	Working humidity：< 80% @ 30°C，< 70% @ 40°C，< 40% @ 50°C Storage humidity：(20%~80%) R·H，non-condensing
Interface	RS232

7. Ordering Information



Class	
Code	**Note**
1000	Class 0.1
500	Class 0.05
200	Class 0.02

Harmonic Function	
Code	**Note**
Empty	-
H	√

e.g. : ***TD4550-500-H*** note for class 0.05, with harmonic function.