Other Products

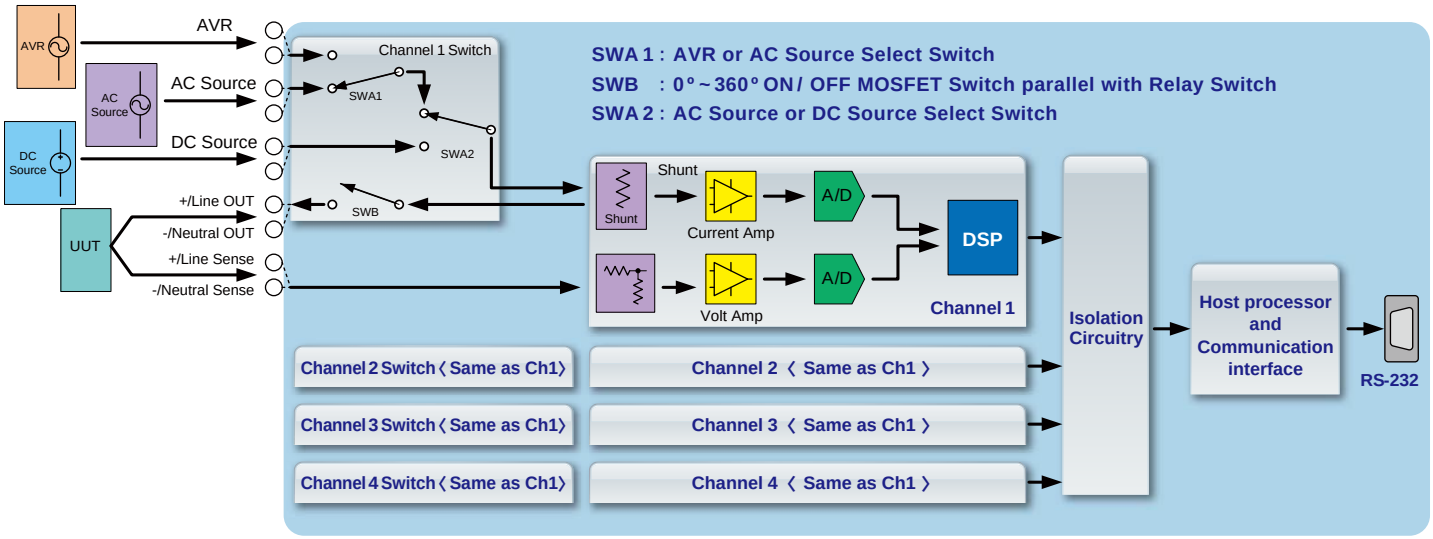
4015A AC / DC Digital Power Meter (1~4CH)

Features

- Suitable for ATE: 500V 20A, 10000W AC/DC Digital Power Meter。
- Voltage Range：15 / 30 / 50 / 150 / 300 / 500Vrms
- Current Range：0.02 / 0.05 / 0.2 / 0.5 / 2 / 5 / 10 / 20Arms、200Apeak（for Inrush）
- 0.1% high accuracy
- Measure AC / DC voltage, AC / DC current, AC / DC power, AC power factor, AC frequency, Inrush current and V/A Harmonic parameters.
- Measure voltage / current harmonics up to 50th order, and total harmonic distortion <Total Harmonic Distortion>.
- Frequency range DC、40~70Hz。
- Measuring module: 1 ~ 4CH, standard is 4 channels, option 1, 2, 3 Channel is available。
- The built-in internal low-pass filter (50KHz) can eliminate unnecessary high-frequency interference
- With AC, DC, AVR 3 sets of power input, through the control of choice of input power to achieve AC / DC or DC / DC test flexibility.
- With 0 ~ 360º 200Apeak output switch, can control the output on / off angle, you can accurately measure the Inrush current.

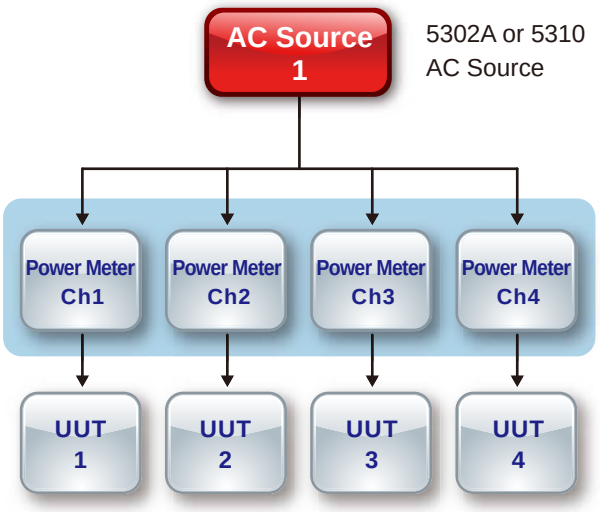
Descriptions

- 4015A Digital Power Meter is designed to measure the power line parameters of AC / DC and DC / DC power supply. It is suitable for AC / DC Adapter, Charger, Quick Charger, LED Driver and DC / DC Converter. It is also suitable for uninterruptible power supply UPS, Regulators AVR, Inverter, batteries, AC / DC power supply / components ... and other applications.
- 4015A digital power meter has three input source selection switch internally, according to the test needs to program that one of <AC Source, DC Source and AVR> as input of the power meter.
- Each channel of 4015A digital power meter has a 200Apeak power MOSFET switch parallel relay switch as the output switch, it can adjustable output on / off and AC any angle, used to test the Inrush current and Hold up time.
- 4015A digital power meter contains 1 ~ 4 channels digital power meters, each power meter has a group of high-speed 16-Bits A / D Converter, sampling the voltage and current signals respectively. After the conversion, the data is calculated by a high-speed DSP processor. After calculation is completed, the data is transmitted to the host processor and read the relevant information through the RS-232 interface.
- The 4015A has a built-in 4-channel stand alone AC Source / AVR selector switch and output a 200Apeak, 0 ~ 360º ON / OFF high-speed switch that turns on the power to be tested one by one and accurately measures Inrush currents up to 200Apeak.

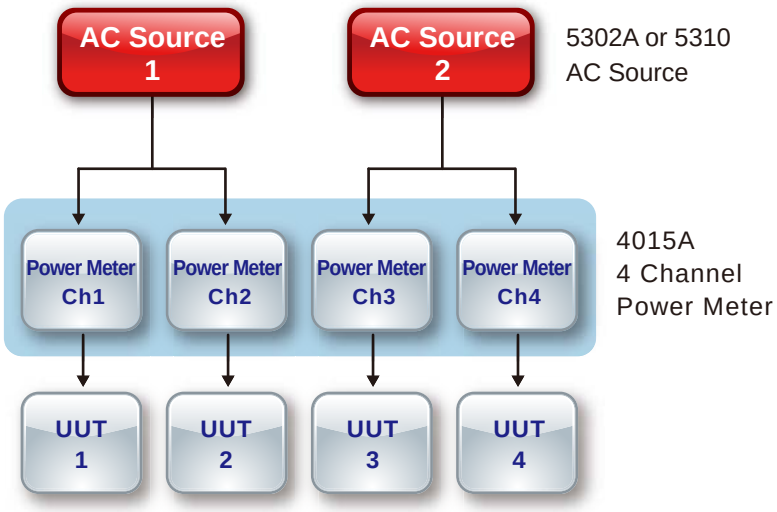


4015A Structure diagram

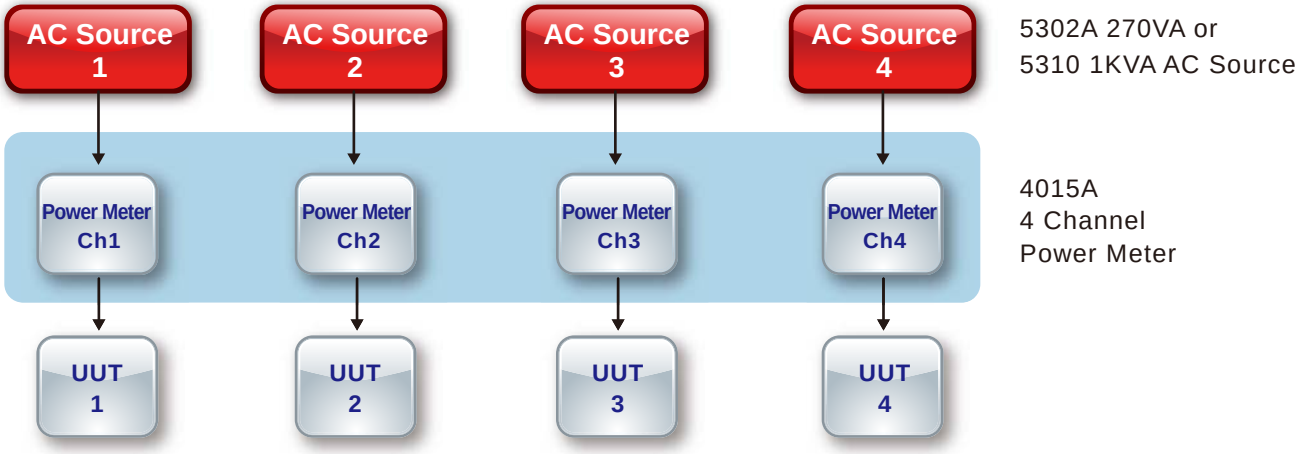
- 4015A digital power meter can be used with Prodigit 6010 ATE for Charger / Adapter and LED driver where current harmonics measurement is required. It can use with 5302A 270VA AC Source or 5310 1KVA AC Source and 5303 3KVA AVR for AC voltage, current, power parameters measurement that measured with the DC Load and then further measure the test unit's efficiency and get the related information.
- For AC / DC power supplies with output power within 30W, needs 4 units to be tested simultaneously, only one 5302A or 5310 AC Source is needed, if the output power> 30W but less than 60W, you can choose 2 units 5302A or 1 unit 5310 1KVA AC Source. 6010 ATE architecture is very flexible, it can use one 4015A 4 Channel Power Meter with 1 unit AC Source to test 4 units test unit power supply, and allow to use 2 units AC power supply or 4 units AC power supply, as shown below ...



6010 ATE with 1 units AC Source and 1 units 4015A Power Meter



6010 ATE with 2 units AC Source and 1 units 4015A Power Meter



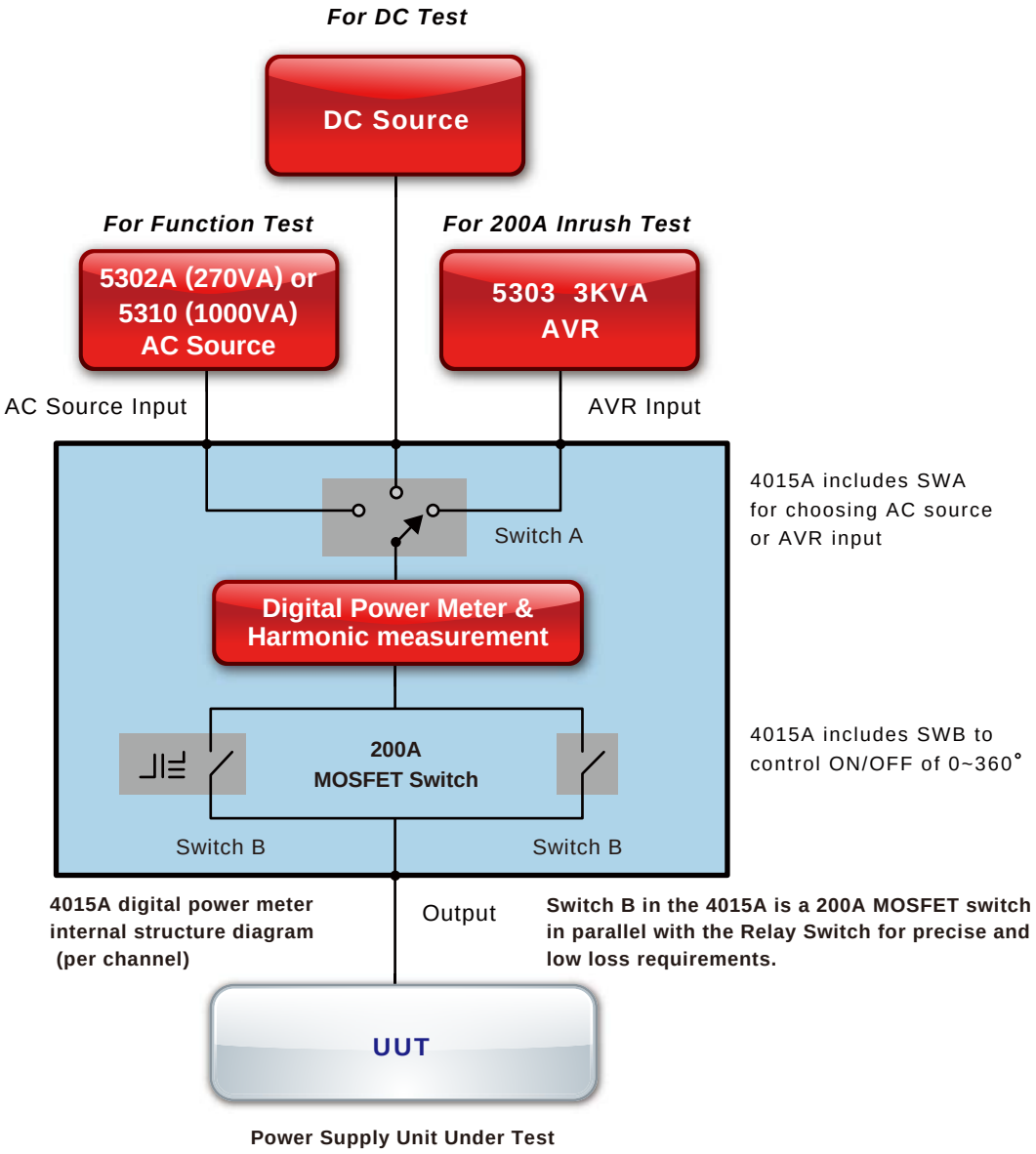
6010 ATE with 4 units AC Source and 1 units 4015A Power Meter

- The 4015A digital power meter performs Inrush Current measurements can be implemented with 5302A/5310 ACSource and 5303 3KVA AVR. The 5303 3KVA AVR provides up to 200Apeak of instantaneous current, the 4015A digital power meter selects the input source to 5303 3KVA AVR when the Inrush Current test is in progress. The built-in output switch controls ON or OFF can be any voltage phase angle, then the Inrush Current can be measured by the 4015A Power Meter.
- **4015A digital power meter is the best Inrush Current test solution.**
  Inrush Current of Prodigit 6010 ATE adopts time distributed switch design, 5303 3KVA AVR Supply 230V / 264V / 277V, also can customized Inrush Current test power supply of other voltage value, can supply high current of 200Apeak.

The 4015A Power Meter has a built-in 4 channel time distributed Inrush Current high-speed switch capable of powering up four of the 99093 dual test fixture power supplies to be tested individually and accurately testing Inrush Current up to 200A.

Through the ingenious arrangement of the 5303 AVR and the 4015A Power Meter, the 6010 ATE can measure and accurately measure Inrush Current up to 200Apeak, and simultaneously test the Inrush Current for the four power supplies under test. The 6010 ATE requires only a typical ATE 25% AC power capacity compare to other ATE system, In addition to testing Inrush Current more accurate, but also save you the expensive, bulky, 400% more specifications AC power.

Specifically, it is sufficient to use one 5302A 270VA or 5310 1KVA power supply for an AC / DC power supply within 30W output (Note: The AC / DC power supply efficiency is 70%, the power factor PF is 0.7, so the 30W output AC / DC power supply its input power is about 60VA), the total AC input power of 4 units AC / DC power supplies is 240VA. When testing Inrush Current, the input of AC / DC power is switched by Switch A the output of 5303 3KVA AVR, and then 4 unit AC / DC power supply connect to each Channel of 4015A's Switch B, the Inrush Current test is one by one at different time division, so the 5303 AVR only needs to provide 200Apeak that can be provided without up to 800Apeak = 200Apeak x 4 instantaneous current (other ATE system), and finally the Inrush current test is completed, the 6010 ATE switches the input of the AC / DC power supply to the 5302A AC Source via Switch A. This is a significant optimization of the 6010 ATE for AC Source, therefore,the 6010 ATE does not require a particularly large AC power supply, but it still can accurately measure the Inrush's method.



6010 ATE Inrush Current Test Report

Display Report Channel => 1 ☐ System Auto detect Start key

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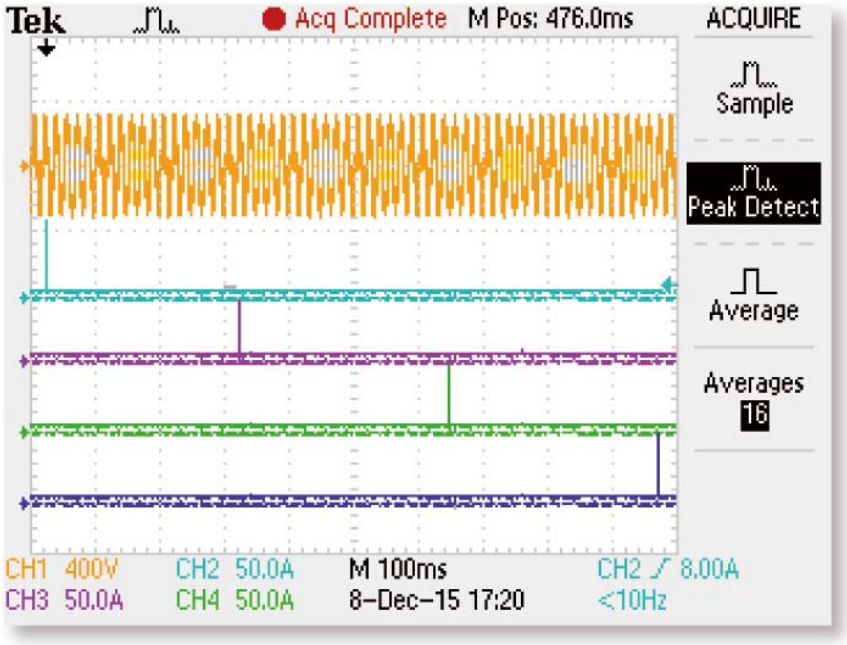
STEP.1  : Inrush Current Test (230V50Hz Max Load)
  Vin  (V) = 230.0
  Fin (Hz) = 50.0
  Angle    = 90.0

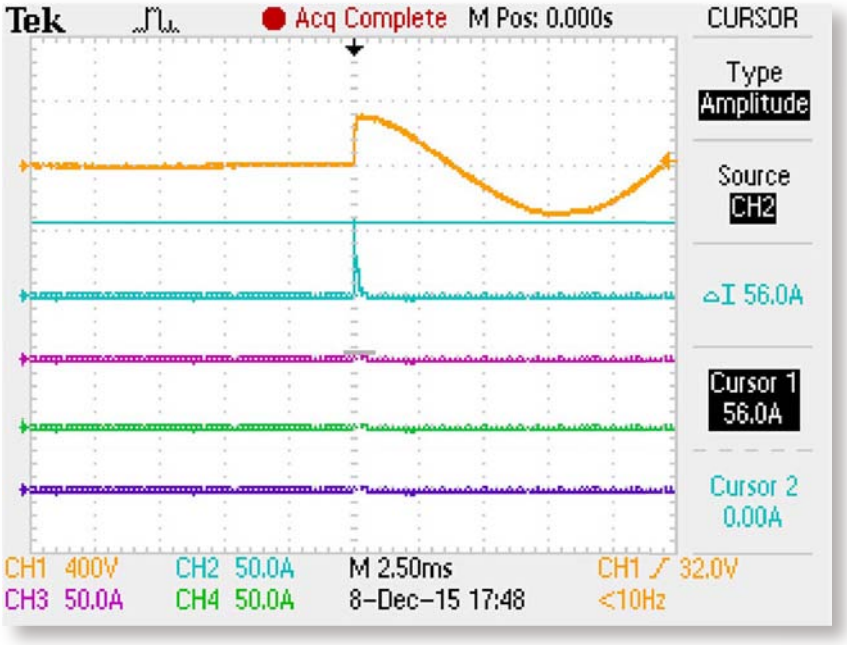
   Io(A)
  -------
   1.00
  InrushMax  InrushMin  Inrush+(A)  Inrush-(A)
  ---------  ---------  ----------  ----------
    100.0       0.0         55.84       0.00
================================================================================
```

1. 5303AVR
   AC voltage
   (Switch A 選擇 AVR Input)
2. Channel 1 inrush current
3. Channel 2 inrush current
4. Channel 4 inrush current
5. Channel 4 inrush current
   (Simulation)



This is the waveform of 4 units UUT power supplies are divided into channels 1~channel 4 on the 6010 ATE to test the Inrush current one by one.

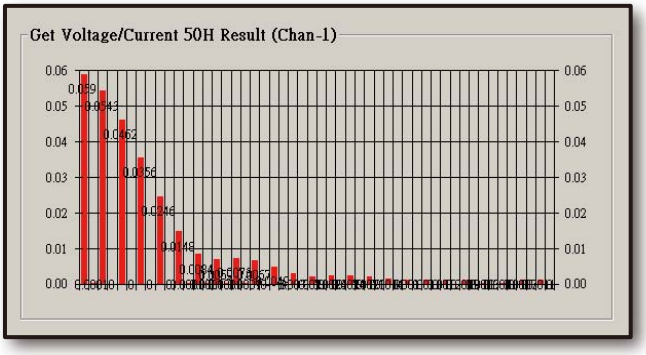
1. Ch1 Output
   AC voltage
   (Switch B OFF→ON 90度開機)
2. Channel 1 inrush current
3. Channel 2 inrush current
4. Channel 3 inrush current
5. Channel 4 inrush current
   (Simulation)



4015A power meter channel 1 :
The waveform of inrush current measured by Switch B when the power waveform is turned on at 90°

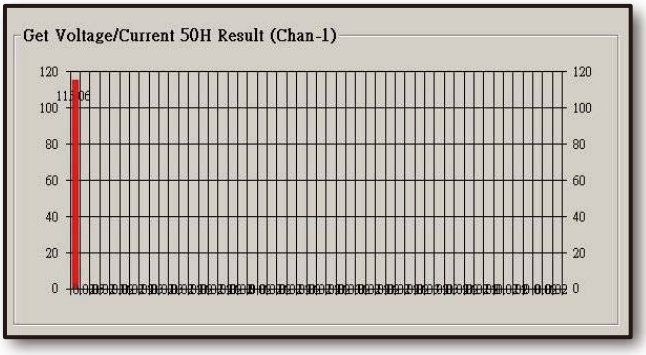
THD measurements：

The 4015A Power Meter in the 6010 ATE has built-in 4 power meters that measure 4 sets of Inrush Current AC / DC and can simultaneously test 4 sets of AC / DC or DC / DC V / A / W / PF, V / A 50 order harmonics, 4015A voltage 6 ranges, can measure 500VAC or DC current 8 ranges plus Inrush 200A total 9 ranges, the power measurement from 0.3W ~ 10000W total 48 ranges, the minimum measured 0.01mW, 6010 ATE effectively supports Energy Star and Standby Power measurements.

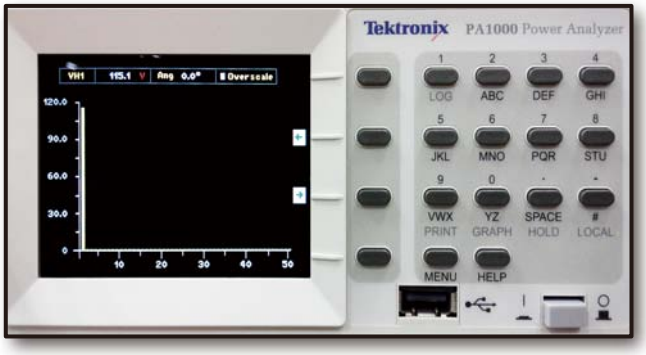


Charger current harmonic chart of 4015A

Charger current harmonic chart by PA1000 Power Analyzer



AC voltage harmonic chart of 4015A



AC Voltage harmonic chart by PA1000 Power Analyzer

Standby Power Measurements：

For AC / DC, DC / DC low power standby power measurement needs, 4015A Digital Power Meter Provides Energy Measurements solution to Measure Standby Power accurately using Integrated Power, Integrated Time, and Average Power Measurements Consumption.

Power Meter

MODEL：4015A				
No. of Input Channel		4		
ACV meter (Vrms)	Range	15V / 0.001V 150V / 0.01V	30V / 0.001V 300V / 0.01V	50V / 0.01V 500V / 0.1V
	Accuracy	±0.1% of (Reading + Range)		
ACA meter (Arms)	Range	20mA / 0.001mA 50mA / 0.001mA 200mA / 0.01mA	500mA / 0.01mA 2A / 0.1mA 5A / 0.1mA	10A / 1mA 20A / 1mA 200A peak / 0.01A
	Accuracy	±0.1% of (Reading + Range)		
		±2% of (Reading + Range, for Inrush)		
ACW meter	Range	0.3W / 0.01mW 0.75W / 0.1mW 3W / 0.1mW 7.5W / 1mW 30W / 1mW 75W / 1mW 150W / 10mW 300W / 10mW	0.6W / 0.01mW 1.5W / 0.1mW 6W / 0.1mW 15W / 1mW 60W / 1mW 150W / 10mW 300W / 10mW 600W / 10mW	1W / 0.1mW 2.5W / 0.1mW 10W / 1mW 25W / 1mW 100W / 10mW 250W / 10mW 500W / 10mW 1000W / 0.1W
		3W / 0.1mW 7.5W / 1mW 30W / 1mW 75W / 10mW 300W / 10mW 750W / 10mW 1500W / 0.1W 3000W / 0.1W	6W / 0.1mW 15W / 1mW 60W / 1mW 150W / 10mW 600W / 10mW 1500W / 0.1W 3000W / 0.1W 6000W / 0.1W	10W / 1mW 25W / 1mW 100W / 10mW 250W / 10mW 1000W / 0.1W 2500W / 0.1W 5000W / 0.1W 10000W / 1W
	Accuracy	±0.1% of (Reading + Range)		
DCV	Range	Same as ACV		
	Accuracy	Same as ACV		
DCA	Range	Same as ACA		
	Accuracy	Same as ACA		
DCW	Range	Same as ACW		
	Accuracy	Same as ACW		
PF meter	Range	±0.001~1.000 / 0.001		
	Accuracy	1% of (Reading + Range, Corresponds to V and A)		
Frequency meter	Range	40~70 / 0.1Hz		
	Accuracy	± 0.1 Hz		
V/A Harmonic	Number	1~50 th / Same as ACV, ACA meter		
	Accuracy	±0.5% of (Reading + Range)		
V/A THD	Range	0%~255% / 0.001%		
	Accuracy	±0.5% of (Reading + Range)		
Inrush Delay/Period		0~100ms		
Low Pass Filter(V&A)		50KHz		
Interface		RS-232		

Select Switch Current：20A Max.

ON/OFF Switch Current：20A Max.〈200Apeak Max.〉

Inrush Current：200Apeak Max.

Order Information

- **4015A** AC / DC Digital Power Meter（1~4CH）