

FST 3531 Power Quality Analyzer

Smart measurement and analysis
For 3-phase/3-wire system



FST 3531 is 3-phase 3 wire testing and analyzing devices for the quality of power grid. It provides multiple analyzing for electric harmonic, voltage/current/frequency, 3-phase unbalance, power and energy, data recording and so on.

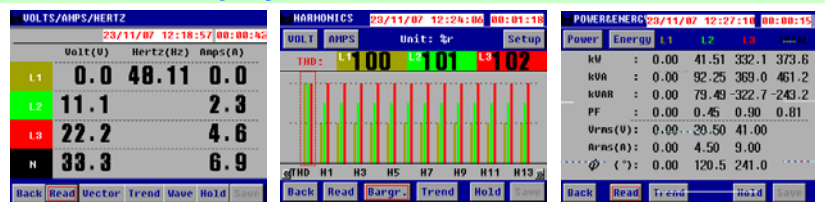
Why FST?

An Easy-to-use power quality tools is a "must-have" for any person who maintains or troubleshoots three phase power. FST three-phase power quality meters help you locate, predict, prevent and troubleshoot problems in power distribution systems. We offer a full range of trouble-shooters for the prevention and analyzing of the power quality problem. It is not only your problem solver, but also money saver.

Technical Parameter

- ◆ LCD: 5.7" 320 x 240 TFT touch screen
- ◆ Input Impedance: 1MΩ, 20pF
- ◆ Measurement Range: Vrms 10~700V
- ◆ Arms:5A, 10A, 100A, 1000A, 1500A and 3000A (with relative current clamps)
- ◆ Frequency: 40Hz~70Hz
- ◆ Harmonic Measurement: 0~50th
- ◆ Inrush Current: 2000A
- ◆ Peak Voltage: 1000V
- ◆ Internal Memory: 128MB
- ◆ Communication Port: USB
- ◆ N.W.(main unit): 1.6 kg (3.53lb)
- ◆ Battery: durable for 5 hours after full charge

Functional Displays



Volts/Amps/Hertz

Harmonics

Power/Energy



Unbalance

Test record

Oscilloscope

Typical Applications

- ◆ Trouble-elimination: fast measurement and display on screen for trouble-shooting
- ◆ Predictive maintenance: test to avoid power quality problem before malfunction happens

- ◆ Service function: measurement for power quality before users lead-in
- ◆ Long time analysis: recording function help find out unobvious and occasional malfunction
- ◆ Load analysis: check quality of electric system before adding loads
- ◆ Energy evaluation: evaluate energy consumption before installation of energy-saving facilities

Specification

Specifications	Range	Accuracy
Volt/Amp/Hertz	Volt: 10~700V (true rms) Amps: 0.5~3000A (true rms, with relevant current clamp) Hertz: 40~70Hz	Volts: $\pm 0.5\%$ Amps: $\pm 0.5\%$ Hertz: $\pm 0.01\text{Hz}$ <u>NOTE:</u> Take frequency of Phase A as total testing frequency.
Harmonic	Volts: total harmonic +1~50 th Amps: total harmonic +1~50 th	Volts: $\pm 0.1(\%r)$ Amps: $\pm 0.05 (A)$
Power testing	Active Power: 0.05~700KW Apparent Power: 0.05~700KVA Reactive Power: 0.05~700KVAR Power Factor: 0.00~1.00 Active Energy: 0.01~10000kWh Apparent Energy: 0.01~10000kVAh Reactive Energy: 0.01~10000kVARh Average Power Factor: 0.00~1.00	Active Power: indication $\pm 50W$ Apparent Power: indication $\pm 50VA$ Reactive Power: indication $\pm 50VAR$ Power Factor: indication ± 0.05 Active Energy: indication $\pm 0.05kWh$ Apparent Energy: indication $\pm 0.1 kVAh$ Reactive Energy: indication $\pm 0.1 kVARh$ Average Power Factor: indication ± 0.005
Unbalance	Fundamental Volts: 10~700V (true rms) True Amps: 0.5~1000A (True rms) Fundamental Hertz: 40~70Hz Phase Angle: 0~360° Unbalance: 0.0%~100%	Volts: $\pm 0.5\%$ Amps: $\pm 0.5\%$ Hertz: indication $\pm 0.01\text{Hz}$ Phase Angle: indication $\pm 0.3^\circ$ Volt unbalance: indication $\pm 0.2\%$ <u>NOTE:</u> Take frequency of Phase A as total testing frequency.
Data Recording	Recording for: 3 phase voltage, current, null current, voltage harmonic (THD and 1~50 harmonics), current harmonics (THD and 1~50 harmonics), unbalance, KW, PF, flicker and fluctuation	Time interval: 3s~30m adjustable Time duration: <960 hours
Scope	3-phase Volts, 4-wire Current, null volt and null current waveform	Max Hertz: 200KHz Min Hertz: 100Hz

Features

- ◆ Portable design and colorful touch screen
- ◆ High-performance Li-battery for long time power supply
- ◆ Could test 3-phase volt, null line volt, 3-phase current, null line current, etc.
- ◆ Up to 50 times harmonic testing with frequency spectrum graph
- ◆ Power testing: 3-phase apparent power, active power, reactive power, power factor, and 3-phase electric power.
- ◆ 3-phase unbalance testing with vivid chart
- ◆ Record at least 40 times of surge current
- ◆ Testing for wave motion, short-time flicker and long-time flicker
- ◆ Could have long-time record for basic (stable) power quality parameter. Recording time interval adjustable between 3 second and 30 minutes.
- ◆ Digital oscilloscope, checking waveform for voltage and current signal
- ◆ With FST DataView software for convenient analyzing of testing result

Accessories



FST 3531 includes standard accessories of 1 carrying case, 3 color-coded current clamps, 1 user manual, 4 alligators, 1 USB drive, 2 voltage probes, 1 FST dataview CD, 4 voltage testing leads and 1 power adaptor.

Construction



Color of voltage input will be customer specific and will be in accordance with voltage testing leads.

Current input is for connection with a one-into-four current testing lead.

USB port is convenient for data transfer to USB drive



Shoulder strap buckle is fastened with a strap, convenient for carrying during testing.

Tilt-out hook facilitates bench top or hanging operation, making it easy to view testing result.

Optional Current Clamps

FST offers complete range of current clamps (all with a one-into-three lead in FST 3531) for measurement applications up to 3000 Amps.



Order Information

FST has wide range of configurations to meet different customers' need of both 3 phase/3 wire

Configuration	Part No.
FST 3531 Kits	
FST 3531 with set of 3 color-coded CC-5A current clamp and testing leads	Con. #3531.5A
FST 3531 with set of 3 color-coded CC-10A current clamp and testing leads	Con. #3531.10A
FST 3531 with set of 3 color-coded CC-20A current clamp and testing leads	Con. #3531.20A
FST 3531 with set of 3 color-coded CC-100A current clamp and testing leads	Con. #3531.100A
FST 3531 with set of 3 color-coded CC-500A current clamp and testing leads	Con. #3531.500A
FST 3531 with set of 3 color-coded CC-800A current clamp and testing leads	Con. #3531.800A
FST 3531 with set of 3 color-coded AmFlex-1500A current clamp and testing leads	Con. #3531.1500A
FST 3531 with set of 3 color-coded AmFlex-3000A current clamp and testing leads	Con. #3531.3000A