

Current Power Calibration Solutions from Fluke



- Today Fluke offers a nearly perfect offering for Power Calibration applications
 - Single Phase Power Calibration Solutions
55XX Series
 - Single Phase Power Quality Calibration Solutions
5522A/610XA/B Series
 - Multi Phase Power Quality Calibration Solutions
61XXA/B Series

Current Power Calibration Solutions from Fluke



ECAL - Power & Energy Calibrators and Standards

Multi-phase	Single Phase		
<p>Fluke 6125/35/45A Fluke 6120/30/40B</p>	<p>Fluke 6105A Fluke 6100B Fluke 5522A</p>		
		<p style="text-align: center;">Technology</p> <ul style="list-style-type: none"> > High compliance single or multiphase, > traceable sine and non-sine stimulus > generates harmonic & interharmonic signals > simultaneous output of different signal types 	
<p>Master plus Auxiliary for up to four total phases</p>	<p>Single phase configuration</p>	<p style="text-align: center;">Workload</p> <ul style="list-style-type: none"> > Power measuring instruments > Energy/Revenue meters > Power protective relays > Harmonic correctors > Tests compliance to IEC 61000-4-30 	
	<p>Single phase Power Quality Option</p>		

Current Power Calibration Solutions from Fluke



- However we miss a proper multiphase solution for lower accuracy Tier 4/5 applications such as manufacturing test etc.
- Addressed today with DIY Systems based on
 - Relay Tester instrumentation or
 - Sources combined with Energy standards
 - Being good solutions as a whole but
 - Require internal resources to setup and maintain.
 - Cumbersome and not cost effective

What's the proper Solution?

Fluke 6003A: Three phases of precision voltage and current outputs to calibrate power and energy instrumentation

- Cost effective 3 ϕ calibrator for power and energy
 - Addressing lower accuracy applications in Manufacturing
 - Easy to setup and use for true poly phase testing
 - No need to “get by with series/parallel” single phase testing
 - Three independent phases in one box
 - Advanced PQ functionality not found in relay testers or DYI systems



What's the proper Solution?(cont'ed)

Fluke 6003A: Three phases of precision voltage and current outputs to calibrate power and energy instrumentation

- Traceable alternative to home grown systems or relay testers
 - No need to discipline with external transfer standard
 - No need to decipher cryptic stability specifications (e.g. using Relay Testers)
 - Straight forward maintenance vs home grown systems



6003A Product Features

- 0.037% Power Accuracy
(6100B is 0.02 %, 6105A is 0.007%)
- 280 VDC, 600 VAC per voltage channel
- 30 Amps per current channel;
Summing adapter box allows
combined current to 90A DC/AC
- Compatible with 5500A/COIL &
52120 3kA and 6kA Coils
 - Produces 2,250A and 4,500A with 52120A coils



6003A Product Features (cont'ed)

- Up to 63rd Harmonic to create waveforms to test the majority of power quality instrumentation
- DMM V-mA function to measure Power transducer outputs.
- Easy-to-use color GUI
- MET/CAL Supported
- Power Quality and Energy Options
- Dimension: 19" Standard Rack width, 9U High
- Weight: 59 kg (130 lb)

Workload for 6003A

- 1/3-phase power / revenue meters
- 1/3-phase power transducers
- Power Loggers / PQ Monitors such as Fluke 1735, 434
- 3-phase energy meters for distribution panels
- “Form S” ANSI Class 0.2 & 0.5 energy meters

• Some

W 0.1%



Where does the 6003A fit in Fluke's Power Calibration product line



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<p>Master plus Auxiliary for up to four total phases</p>	<p>Single phase configuration</p>		
<p>3 Phases Standard</p>	<p>Single phase Power Quality Option</p>	<p>Technology</p> <ul style="list-style-type: none"> > High compliance single or multiphase, > traceable sine and non-sine stimulus > generates harmonic & interharmonic signals > simultaneous output of different signal types <p>Workload</p> <ul style="list-style-type: none"> > Power measuring instruments > Energy/Revenue meters > Power protective relays > Harmonic correctors > Tests compliance to IEC 61000-4-30 	

Comparison to 5522A & 61xxA/B

	5522A	6003A	6100B	6105A
Channels	1 voltage, 1 current	3 voltage, 3 current	1 voltage, 1 current	
Voltage Outputs	33mV - 1020V	1V – 600V (280V DC)	1V – 1008V	
Current Outputs	3.3mA - 20.5A	8mA – 30A (90A 1 phase with adaptor) or 1mV – 5V	100mA – 21A (50A /80A options, 120A w 52120A) or 50mV – 10V	
Phase Accuracy	0.1°	0.01°	0.003°	0.0023°
Power Accuracy	800ppm	370 ppm	236 ppm	62 ppm
Power Quality	50 harmonics	63 harmonics	99 harmonics	99 harmonics
Energy	n.a.	One input, 1MHz	Six inputs, 5MHz	Six inputs, 5 MHz
Meter inputs	n.a.	25mA, 12V or Freq	-	