PQC700i Series
Universal Power Quality Calibrator

PONOVO POWER CO., LTD.
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PQC700i Series Universal Power Quality Calibrator

PQC700i Series Universal Power Quality Calibrator is a three-phase integrated signal generation system with high precision, wide range and high stability. It can output a variety of voltage and current waveforms, mainly used to test the power quality monitoring terminal. It can test the voltage, current, frequency, harmonics, inter-harmonics, voltage flicker, voltage swell, voltage sag, voltage interruption, clock, three-phase unbalance, power quality detection method and multiple influence quantities.

PQC700i Series Universal Power Quality Calibrator has an output control communication interface, which is convenient for customers to carry out secondary development.

Model

Model	Precision	Max voltage output	Current output
PQC700i-05/480	0.05%	480V	10A(480V output)
PQC700i-02/480	0.02%	480V	10A(480V output)
PQC700i-05/240	0.05%	240V	10A(240V output)
PQC700i-02/240	0.02%	240V	10A(240V output)

Application

- R&D and production of various power quality analyzers and power quality online monitoring device manufacturers
- The third-party testing organization is used for the verification of power quality analyzers and power quality online monitoring devices

Specifications

Three-phase AC Voltage Output

Range	240V or 480V
Resolution	0.1mV@V<10V; 1mV@V≥10V
Stability	±0.01%/2min @V≥10V
THD	≤0.1%@V≥10V
Output load	>100mA
Output power	≥24VA or 48VA
Fundamental wave amplitude error	≤±(0.015%rd. + 0.005%Vrg.) for 02 model ≤±(0.04%rd. + 0.01%Vrg.) for 05 model
Modulation waveform	Sine
Modulation frequency	0.1Hz-40Hz

Three-phase AC Current Output

Range	10A
Resolution	0.1mA
Stability	±0.01%/2min @I≥0.5A
THD	≤0.1%@I≥0.5A
Max output load	0.4Ω
Max output power	40VA
Fundamental wave amplitude error	≤±(0.015%rd. + 0.005%Irg.) for 02 model ≤±(0.04%rd. + 0.01%Irg.) for 05 model
Modulation waveform	Sine
Modulation frequency	0.1Hz-40Hz

Fundamental Wave Power	
Active power stability	±0.02%/2min @I≥1A, V≥50V, Power factor≥0.5
Active power error	≤±0.05%rg. @I≥1A, V≥50V, Power factor≥0.5 rg.=Vrg.*Irg.
Fundamental Wave Phase	
Range	-180° ~ +180°
Resolution	0.01°
Error	≤±0.02° for 02 model @I≥1A, V≥50V ≤±0.05° for 05 model @I≥1A, V≥50V
Fundamental Wave Power Factor	
Error	≤±0.0005 for 02 model @I≥1A, V≥50V ≤±0.001 for 05 model @I≥1A, V≥50V
Fundamental Wave Frequency	
Range	40Hz – 65Hz
Resolution	0.001Hz
Error	≤±0.002Hz @I≥1A, V≥50V
Three-phase Voltage/Current Unbalance	
Three-phase voltage unbalance error	≤±0.05%@V≥50V
Three-phase current unbalance error	≤±0.2%@I≥1A
Harmonic	
Harmonic times	2-63, can superimpose and output 62 at the same time
Harmonic content	0-250%
Harmonic phase	-180° ~ +180°
Harmonic voltage amplitude error	≤±1.5%Vh@Vh≥1%Vn, Vn≥50V ≤±0.015%Vn@Vh<1%Vn, Vn≥50V Vn is fundamental voltage, Vh is harmonic voltage
Harmonic current amplitude error	≤±1.5%Ih@Ih≥3%In, In≥1A ≤±0.05%In@Ih<3%In, In≥1A In is fundamental current, Ih is harmonic current
Modulation waveform	Sine
Modulation frequency	0.1Hz-40Hz
Inter-harmonic	
Inter-harmonic times	0.01-62.9, can superimpose and output 62 at the same time
Inter-harmonic content	0-250%
Inter-harmonic phase	-180° ~ +180°
Inter-harmonic voltage amplitude error	≤±1.5%Vh@Vh≥1%Vn, Vn≥50V ≤±0.015%Vn@Vh<1%Vn, Vn≥50V Vn is fundamental voltage, Vh is inter-harmonic voltage, inter-harmonic order≥0.5
Inter-harmonic current amplitude error	≤±1.5%Ih@Ih≥3%In, In≥1A ≤±0.05%In@Ih<3%In, In≥1A In is fundamental current, Ih is inter-harmonic current, inter-harmonic order≥0.5
Modulation waveform	Sine
Modulation frequency	0.1Hz-40Hz

Voltage Flicker

Variation	0-60%
Modulation waveform	Square wave, rectangular wave, sine wave
Variation frequency range	0.008Hz-40Hz, 0.5Hz-40Hz
Pst error	≤±1% @ Pst≥1 (230V, square wave modulation)

Voltage Multiple Influence Quantities

Harmonic times	2-63, can superimpose and output 62 at the same time
Harmonic content	0-250%
Inter-harmonic times	0.01-62.9, can superimpose and output 62 at the same time
Inter-harmonic content	0-250%
Modulation waveform	square wave, rectangular wave (Fundamental wave, harmonic wave, inter-harmonic wave can choose whether to modulate)
Modulation frequency	0.008Hz-40Hz (Fundamental wave, harmonic wave, inter-harmonic wave can choose whether to modulate)
Fundamental wave, harmonic (62), inter-harmonic (62) and modulation wave can be superimposed and output at the same time	

Voltage Swell/Sag/Interruption

Transient Duration	1ms-120s
Transient Range	0-Vrg.
Number of transient sequences	1-30
Transient sequence starting phase	-180° ~ +180°, continuous change
Transient sequence output mode	Loop, no loop
Transient sequence clock	Access to IRIG-B time synchronization
Amplitude error	≤±(0.015%rd. + 0.005%Vrg.) for 02 model ≤±(0.04%rd. + 0.01%Vrg.) for 05 model

Clock Synchronization

Timecode format	IRIG-B(DC) code
Interface	TTL level, optical fiber

Environmental Conditions

Temperature	20℃±5℃
Relative humidity	45%~75%

Power Supply

Input	AC220V±10%
Frequency	50Hz

Size and Weight

Dimension(W×H×D)	450mm × 235mm× 560mm
Weight	37kg

Professional Solution Provider for The Power World

*Since 2001, **Ponovo Power** has been focusing on providing professional solutions to over 5000 clients in the fields of intelligent testing and power quality control in China and aboard.*

PONOVO POWER CO., LTD.
No.139 Jinghai Third Road, BDA, Beijing, China. 100176
Tel : +86 (10) 59089666
Fax: +86 (10) 59089999
www.ponovo.net
info@relaytest.com
support@relaytest.com