

⇒ Highlights

- Laboratory and on-site meter measurements
- Easy evaluation of meters under precise load conditions, using the built-in compact current and voltage source
- Testing of meters with closed I-P links
- Automatic operation with predefined load points without the need for an external computer
- Each source channel can be programmed with user defined harmonic content or standardized signal test shape
- Each source channel can be modulated with programmable Ripple control telegram
- Independent generation of single or three-phase loading conditions for testing, calibration and verification of meters
- Active, reactive and apparent energy measurement for 3 phase, 3 or 4-wire, systems with integrated error calculator and pulse output

⇒ Description

The **Portable Test Equipment** consists of an integrated three-phase current and voltage source and a three-phase electronic reference standard of accuracy class 0.05% or 0.02%.



Portable Test Equipment

⇒ Available Models

Model	Phases	Class	Max. Output Power (per phase)	
			Voltage	Current
PTE 2100A	1	0.05	30 VA	60 VA
PTE 2100E	1	0.02	30 VA	60 VA
PTE 2300A	3	0.05	30 VA	60 VA
PTE 2300E	3	0.02	30 VA	60 VA

⇒ Technical Specification

Power Source (built-in / specification per phase)		
Voltage		
Range		3 ... 300 V (phase to neutral)
Output Power		30 VA
Distortion Factor		< 0.3 %
Resolution		0.01 V
Stability		< 0.005 % (within 60 min period @ time base 150 s)
Current		
Range		1 mA ... 120 A
Output Power	120 A output	60 VA max @ 60-120 A / 1 V max @ 0-60 A
	12 A output	42 VA max @ 12 A / 5 V max
Distortion Factor		< 0.3 %
Resolution		min. 100 uA
Stability		< 0.005 % (within 60 min period @ time base 150 s)
Phase Angle		
Range		0 .. 360 °
Resolution		0.001 ° (45 ... 100 Hz)
Harmonics		
Fundamental Frequency Range		45 ... 70 Hz
Bandwidth		30 ... 2200 Hz
Phase Shift		0 ° ... 360 °
Max. Amplitude		50 % (2 nd ... 6 th harmonics) 15 % (7 th ... 31 st harmonics)
Ripple Control		
Frequency Range		100 ... 1600 Hz
Modulation		0 ... 15 %
Channels Selection		any combination of Voltage and Current channels

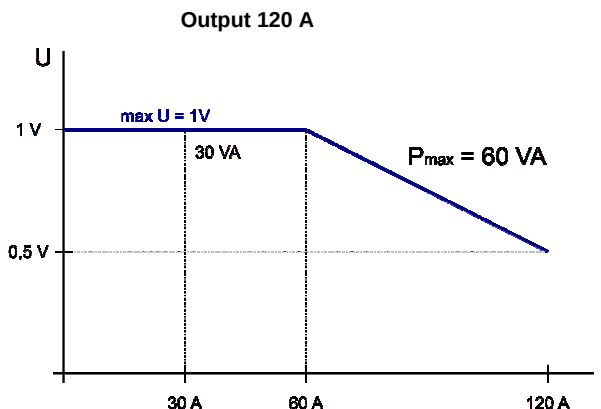
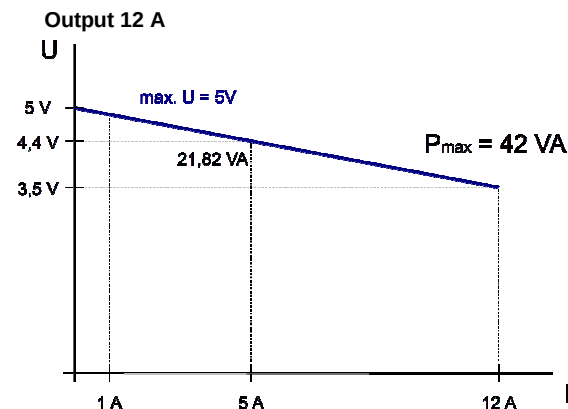
Reference Meter (built-in / specification per phase)		
Measurement Range		
Voltage	10 mV ... 300 V (phase to neutral)	
Current	1 mA ... 120 A	
Power Factor	-1.000 ... +1.000 (with 0.001 step)	
Measurement Accuracy	PTE 2x00E	PTE 2x00A
Voltage ^{*1}	0.015 %	0.035 %
Current ^{*2}	0.015 %	0.035 %
Power ^{*1 *2 *3}	0.02 %	0.05 %
Frequency	40 Hz ... 70 Hz	
Phase Angle	0.02 °	
Temperature Coefficient	0.0025 (0°C ... +40°C)	
	0.0040 (-10°C ... +50°C)	

^{*1} in range: 30 V ... 300 V

^{*2} in range: 30 mA ... 120 A

^{*3} related to apparent power

⇒ Current Output Limit Values



General Specifications	
Operat. Temperature	-10 ... +50 °C
Storage Temperature	-20 ... +60 °C
Operating Humidity	≤ 85% at Ta ≤ 21°C ≤ 95% at Ta ≤ 25°C 30 days / year spread
Power Consumption	approx. 340 VA
Power Supply	100 VAC ... 240 VAC
Degree of Protection	IP-67 (closed case)
Safety Requirements	Isolation protection: EN 61010-1:2001 Measurement category: 300 V CAT III, 600 V CAT II
Dimensions (W x D x H)	470 x 370 x 180 mm (device)
Weight (approx.)	16.5 kg (device) / 5 kg (accessories)

Impulse Output	
Type	LED or 5 V
Impulses Assigned to	Active, Reactive, Apparent Energy or programmable constant frequency
Meter Constant	programmable
Max. Imp. Frequency	70 kHz

Impulse Input	
Suitable for	- Optical Sensor OPTS 2100 - Snap Switch - Impulse SO

Standard Accessories	
- Optical Sensor OPTS 2100, Fixing Clamp OPFC 1000 - Optical Sensor Cable WSSC 2000 - Power Supply Cord, Spare Fuses - Current Cables, USB Cable - Voltage Cables with Standard Voltage Clips - Software for PC (Installation USB key) - Printed User's Guide, Calibration Certificate	

Optional Accessories	
- Current Transducer CT 2x20x - Current Clamps CC 2x12B, CC 3x24C, CC4x12B - Flexible Current Probe FCP 3x21 - Voltage Transducer VT 2x50x - Special Voltage Clips, Spike Volt. Clips, Omega Volt. Clips - Snap Switch WSSS 3000, RS232 cable, Impulse SO cable - Optical Communication Head OPTH 1200 - Portable Printer with communication cable	