

⇒ 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 with integrated error calculator and pulse output
- Capable to test the ratio and burden of CT/PT

⇒ Description

The **Portable Test Equipment** consists of an integrated current and voltage source and electronic reference standard of accuracy class 0.05% or 0.02%. Device is available in three-phase version PTE 2300 or single phase version PTE 2100.



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

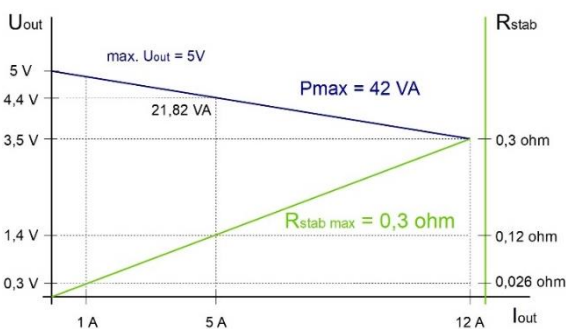
Power Source (built-in / specification per phase)	
Voltage	
Range	3 ... 300 V (phase to neutral)
Output Power	30 VA
Accuracy	0.015 % (PTE 2x00E), 0.035 % (PTE 2x00A)
Distortion Factor	< 0.3 %
Resolution	0.01 V
Stability	< 0.005 % (within 60 min period @ time base 150 s)
Current	
Range	1 mA ... 120 A
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
Accuracy *1	0.015 % (PTE 2x00E), 0.035 % (PTE 2x00A)
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 ... 40 th 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	30 V ... 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	0.015 %	0.035 %
Current *1	0.015 %	0.035 %
Power *1*2	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)	

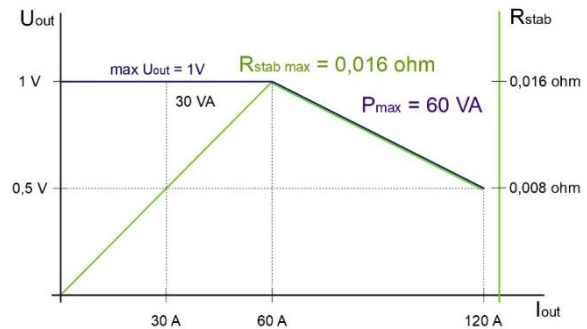
*1 in range 1 mA ... 30 mA related to 30 mA
*2 related to apparent power

⇒ Current Output Limit Values

Output 12 A



Output 120 A



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. 550 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 IV, 600 V CAT III
Dimensions (W x D x H)	470 x 370 x 180 mm (device)
Weight (approx.)	17 kg (device) / 5 kg (accessories) – PTE 2300
	12 kg (device) / 3 kg (accessories) – PTE 2100

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	<ul style="list-style-type: none"> Optical Sensor OPTS 2100 Snap Switch Impulse SO

Standard Accessories	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Software Package ELMA for full control of PTE (SPE 1001) Current Transducer CT 3x20x Current Clamps CC 2x12B, CC 3x24C, CC4x30C Flexible Current Probe FCP 3x21x /WS Voltage Transducer VT 2x60x 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 	