

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.

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 shapes
- 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 three phase, 3 or 4-wire, systems with integrated error calculator and pulse output
- Capable to test the ratio and burden of CT/PT

Technical data

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 μ A
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

^{*1} in range 1 mA ... 30 mA related to 30 mA



General Specifications

Oper. 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	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

Reference Meter (built-in/specification per phase)

Measurement Range

Voltage	30 V ... 300 V (phase to neutral)
Current	10 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	0,015%	0,035 %
Power (related to apparent power)	0,02 %	0,05 %
Frequency	40 Hz ... 70 Hz	
Phase Angle	0,02°	
Temp. Coefficient Range	0,0025 (0°C ... +40°C); 0,0040 (-10°C ... +50°C)	

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
- Voltage Cables PTEVS 2x60, Voltage Clips VC 2x60
- Current Cables PTECS 1x12
- USB Cable CCU 1000, Power Supply Cord, Spare Fuses
- Software for PC (Installation USB key) PTESW 1000
- Printed User's Guide PTEUG 1000
- Calibration Certificate PTECC 1000

Optional Accessories

- Software Package ELMA for full control of PTE (SPE 1001)
- Current Transducer CT 3x20E or CT 3x20A
- Current Clamps CC 2x12B /16
- Flexible Current Probe FCP 3x21D /WS
- Voltage Transducer VT 2x60E or VT 2x60A
- Voltage Clips (various types) VC 2x00, VC 2x20, VC 2x30
- Snap Switch WSSS 3000, Impulse S0 cable OPTI 2000
- RS232 cable CCR 1000
- Portable Printer PP 2000
- Optical Communication Head OPTH 1200

Available Models

Model	Phases	Class	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

Current Output Limit Values

