

8. Technical Data

8.1. Specifications


Display	TFT-LCD-display with max display of 6000
Overload protection	on all ranges
Operating Temperature	0...40°C < 75 % RH
Storage Temperature	< 2000 m max.
Altitude	-10...+60°C < 80 % RH
Accuracy temperature	18...28°C

8.2. General Specifications

Enclosure	Double molded, waterproof
Shock (Drop Test)	6.5 feet (2 meters)
Diode Test	Test current of ca.1 mA (P3444 / 3445) / 1.5mA (P3443), open circuit voltage 3V (P3444 / 3445) / 2.7V (3443) typical
Continuity Check	Audible signal will sound if the resistance is less than 30 Ω
Temperature Sensor	Requires type K thermocouple
Input Impedance	>10MΩ ACV/DCV
ACV Bandwidth	40Hz ~ 400Hz
Overrange indication	“OL.” is displayed
Auto Power Off	approx 15 min
Polarity	Automatic (no indication for positive); Minus (-) sign for negative
Measurement Rate	3 times per second, nominal

8.2.1 Extended Specifications for P3444 / 3445

Input Impedance LowZ	~ 3 kΩ
AC Measurement	True RMS
ACV Bandwidth	40Hz to 1000Hz

AC True RMS or current (P3445 only)	The term stands for “Root-Mean-Square,” which represents the method of calculation of the voltage value. Average responding multimeters are calibrated to read correctly only on sine waves and they will read inaccurately on non-sine wave or distorted signals. True rms meters read accurately on either type of signal.
Low Battery Indication	“  ” is displayed if battery voltage drops below operating voltage
Battery	4 x 1,5V AAA battery
Fuse	mA, μ A ranges: 0.8A/1000V (6,3x32mm) ceramic fast blow A-range: 10A/1000V (10x32mm) ceramic fast blow
Safety	This meter is intended for origin of installation use and protected, against the users, by double insulation per EN61010-1 and IEC61010-1 2 nd Edition (2001) to Category IV 600V and Category III 1000V; Pollution Degree 2. The meter also meets UL 61010-1, 2 nd Edition (2004), CAN/CSA C22.2 No. 61010-1 2 nd Edition (2004), and UL 61010B-2-031, 1st Edition (2003)
Dimensions (W x H x D)	80 x 175 x 50 mm
Weight	400 g

8.3. Specifications

AC Voltage

Range	Resolution	P 3443	P 3444 / 3445
6 V	0,001V	± 1% + 5 dgt.	± 1% + 5 dgt.
60 V	0,01V	± 1.2% + 5 dgt.	
600 V	0,1V		
1000 V	1V	± 1.5% + 5 dgt.	± 1.2% + 5 dgt.
Bandbreite		40 ... 400Hz	40 ... 1000 Hz

Genauigkeit bei >5% des Messbereiches

Eingangsimpedanz: 10 MΩ

DC Voltage

Range	Resolution	P 3443	P 3444 / 3445
600 mV*	0,1 mV	± 1% + 8 dgt.	± 0.5% + 8 dgt.
6 V	0,001 V	± 1% + 3 dgt.	± 0.8% + 8 dgt.
60 V	0,01 V		
600 V	0,1 V		
1000 V	1 V	± 1.2% + 3 dgt.	± 1% + 3 dgt.

Input Impedance: 10 MΩ

*When using the relative mode (REL) to compensate for offsets.

DCV+ACV

Range	Resolution	P 3444 / 3445
6 V	0,001V	± 1% + 20 dgt.
60 V	0,01V	
600 V	0,1V	
1000 V	1V	± 1.5% + 5 dgt.
Bandwidth		40 ... 400 Hz

Accuracy at >5% of range

Input Impedance: 10 MΩ

Resistance Measurement

Range	Resolution	P 3443	P 3444 / 3445
600 Ω *	0,1 Ω	$\pm 1.5\%$ $+ 5$ dgt.	$\pm 1.5\%$ $+ 5$ dgt.
6 k Ω	0,001 k Ω		
60 k Ω	0,01 k Ω		
600 k Ω	0,1 k Ω		
6 M Ω	0,001 M Ω		
60 M Ω	0,01 M Ω	$\pm 2\%$ $+ 10$ dgt	$\pm 2\%$ $+ 10$ dgt.

Temp. Measurement

Range	Resolution	P 3443	P 3444 / 3445
-20°C ~ 780°C	0,1 °C	$\pm 3\%$ $+ 5^\circ\text{C}$	$\pm 1\%$ $+ 5^\circ\text{C}$
-4°C ~ 1400°F	0,1 °F	$\pm 3\%$ $+ 9^\circ\text{F}$	$\pm 1\%$ $+ 9^\circ\text{F}$

Capacitance

Range	Resolution	P 3443
40.00 nF	0,1 nF	$\pm 5\%$ $+ 35$ dgt.
400.0 nF	1 nF	
4.000 μF	0,001 μF	$\pm 3\%$ $+ 5$ dgt.
40.00 μF	0,01 μF	
400.0 μF	0,1 μF	
4000 μF	1 μF	$\pm 5\%$ $+ 5$ dgt.

Range	Resolution	P 3444 / 3445
60.00 nF	0,1 nF	$\pm 5\%$ $+ 35$ dgt.
600.0 nF	1 nF	
6.000 μF	0,001 μF	$\pm 3\%$ $+ 5$ dgt.
60.00 μF	0,01 μF	
600.0 μF	0,1 μF	
6000 μF	1 μF	$\pm 5\%$ $+ 5$ dgt.

Frequency

Range	Resolution	Accuracy
9.999 Hz	0,001 Hz	± 1,0% + 5 dgt.
99.99 Hz	0,01 Hz	
999.9 Hz	0,0001 kHz	
9.999 kHz	0,001 kHz	
Empfindlichkeit: > 8Vrms		

Duty Cycle - P 3444 / 3445

Range	Resolution	Accuracy
20 ... 80%	0.1 %	± 1,2% + 2 dgt.
> 8Vrms / Pulswidth: 0.1 ... 100mS / 5 Hz ... 1kHz		

Duty Cycle - P3443

Range	Resolution	Accuracy
1 ... 99%	0.1 %	± 1,2% + 2 dgt.

DC Current

Range	Resolution	P 3443	P 3444 / 3445
600 µA	0,1 µA	± 1,2% + 3 dgt.	± 1,2% + 3 dgt.
6000 µA	1 µA		
60 mA	0,01 mA		
600 mA	0,1 mA	± 1,5% + 3 St.	± 1,5% + 3 St.
10 A	0,01 A		

AC Current

Range	Resolution	P 3443	P 3444 / 3445
600 µA	0,1 µA	± 1.5% + 4 dgt.	± 1% + 3 dgt.
6000 µA	1 µA		
60 mA	0,01 mA		
600 mA	0,1 mA	± 2% + 5 dgt.	± 2% + 8 dgt.
10 A	0,01 A		
Bandwidth		40 ... 400Hz	40 ... 400Hz

Accuracy at >5% of range