

# 33XR

Manual ranging digital multimeter with temperature and capacitance for field service technicians.



- Frequency to 40 MHz, temperature to 1832 °F, capacitance to 4000 µF
- Input warning tone when test leads are in wrong jack
- 1000 V/750 V dc/ac
- 10 Amps ac/dc, fully safety fused
- Resistance to 4 MΩ
- Continuity beeper
- Min/Max, Relative, Peak and Data Hold
- Auto power off to save battery life
- Separate door for easy battery and fuse access
- Magne-Grip™ Holster with magnetic hanging strap
- CAT III 600 V, CAT II 1000 V rated
- UL (cULus) listed
- One-year warranty

## 33XR Specifications (at 23 °C ± 5 °C, <75 % R.H. non-condensing)

<b>DC Voltage</b>	
Ranges	400 mV, 4 V, 40 V, 400 V, 1000 V
Accuracy	all ranges: ± (0.7 % rdg + 1 dgt)
Resolution	100 µV
Input Impedance	10 MΩ
<b>AC Voltage (45 Hz to 500 Hz)</b>	
Ranges	400 mV, 4 V, 40 V, 400 V, 750 V
Accuracy	4 V Range, 200 Hz to 500 Hz: ± (2.0 % rdg + 4 dgts) All other ranges: ± (1.5 % rdg + 4 dgts)
Resolution	100 µV
Input Impedance	10 MΩ
<b>DC Current</b>	
Ranges	400 µA, 4 mA, 40 mA, 300 mA, 10 A
Accuracy	400 µA to 300 mA ranges: ± (1.0 % rdg + 1 dgt) 10 A range: ± (2.0 % rdg + 3 dgts)
Resolution	0.1 µA
Voltage Burden	400 µA range: 1 mV/µA 4 mA range: 100 mV/1 mA 40 mA range: 12 mV/1 mA 300 mA range: 4 mV/1 mA 10 A range: 100 mV/1 A
<b>AC Current (45 Hz to 500 Hz)</b>	
Ranges	400 µA, 4 mA, 40 mA, 300 mA, 10 A
Accuracy	400 µA to 300 mA ranges: ± (1.5 % rdg + 4 dgts) 10 A range: ± (2.5 % rdg + 4 dgts)
Resolution	0.1 µA
Voltage Burden	See DC Current
<b>Resistance</b>	
Ranges	400 Ω, 40 kΩ, 4 MΩ
Accuracy	400 Ω and 40 kΩ ranges: ± (1.0 % rdg + 4 dgts) 4 MΩ range: ± (1.2 % rdg + 4 dgts)
Resolution	100 mΩ
Open Circuit Voltage	400 Ω range: 3.0 V dc All other ranges: 0.5 V dc typical
<b>Capacitance</b>	
Ranges	4 µF, 40 µF, 400 µF, 4000 µF
Accuracy	4 µF range: ± (5.0 % rdg + 10 dgts) 40 µF, 400 µF ranges: ± (5.0 % rdg + 5 dgts) 4000 µF range: ± (5.0 % rdg + 15 dgts)
Resolution	0.1 µF
Test Voltage	< 3.0 V
Test Frequency	10 Hz
Input Protection	µA/mA input: 0.315 A/1000 V fast blow ceramic fuse 6.3 x 32 mm
<b>Temperature</b>	
Ranges	-20 °C to 1000 °C, -4 °F to 1832 °F
Accuracy	-20 °C to 10 °C: ± (2.0 % rdg + 4 °C ) 10 °C to 200 °C: ± (1.0 % rdg + 3 °C ) 200 °C to 1000 °C: ± (3.0 % rdg + 2 °C ) -4 °F to 50 °F: ± (2.0 % rdg + 8 °F) 50 °F to 400 °F: ± (1.0 % rdg + 6 °F) 400 °F to 1832 °F: ± (3.0 % rdg + 4 °F)
Resolution	1 °C, 1 °F

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Manual ranging digital multimeter with temperature and capacitance for field service technicians.

Digital Multimeter

## 33XR Specifications (at 23 °C ± 5 °C, <75 % R.H. non-condensing)

Frequency (autoranging)	
Ranges	4 kHz, 40 kHz, 400 kHz, 4 MHz, 40 MHz
Accuracy	all ranges: ± (0.1 % rdg + 3 dgts)
Resolution	1 Hz
Sensitivity	10 Hz to 4 MHz: > 1.5 V ac rms 4 MHz to 40 MHz: > 2 V ac rms, < 5 V ac rms
Min Pulse Width	> 25 ns
Duty Cycle Limits	> 30 % and < 70 %
Continuity	
Audible Indication	< 35 Ω
Response Time	100 ms
Diode Test	
Test Current	1.0 mA (approximate)
Accuracy	± (1.5 % rdg + 3 dgts)
Resolution	1 mV
Open Circuit Volts	3.0 V dc typical
Peak Hold	
AC Volts Accuracy	40 V to 750 V: ± (3.0 % rdg + 60 dgts)
AC Current Accuracy	± (3.0 % rdg + 60 dgts)
Response Time	> 1 ms
Overload Protection	
AC/DC Voltage	400 mV range: 1000 V dc or 750 V ac rms 15 sec All other ranges: 1000 V dc or 750 V ac rms
AC/DC Current	uA/mA input: 0.315 A /1000 V fast-blow ceramic (6.3 x 32 mm) 10 A input: 10 A /1000 V fast-blow ceramic (10 x 38 mm) (10 A for 4 minutes maximum followed by a 12 minute cooling period)
Resistance	1000 V dc or 750 V ac rms
Continuity	1000 V dc or 750 V ac rms
Diode Test	1000 V dc or 750 V ac rms
Capacitance	0.315 A /1000 V fast-blow ceramic (6.3 x 32 mm)
Temperature	1000 V dc or 750 V ac rms
Frequency	1000 V dc or 750 V ac rms



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## General Specifications

**Manual Ranging; Display:** 3-3/4 digit LCD, 3999 counts with 41-segment analog bar graph; **Display Update Rate:** 2/sec, nominal; **Power Battery:** 9 V NEDA 1604, JIS 006P, IEC 6F22; **Battery Life:** 300 hrs typical (alkaline); **Operating Temperature:** 0 °C to 45 °C at < 70 % R.H.; **Storage Temperature:** -20 °C to 60 °C, 0 to 80 % R.H. with battery removed from meter; **Dimensions:** 7.7" x 3.5" x 2.3" (196 x 92 x 60 mm); **Weight (without holster, including battery):** 0.9 lb (400 gr):

### Included Accessories

Test leads with threaded alligator clips (TL36), 9 V battery (installed), Magne-Grip™ Holster with magnetic hanging strap (H2-XR), temperature adapter (XR-TA), Type K thermocouple probe (TP255), spare fuse, operators manual

### Features

Input lead warning; analog bar graph; Peak Hold; Data Hold; Min/Max; Relative; auto power off after 30minutes typical; low battery indication; overrange indication; easy access fuse and battery door; one-year warranty

### Optional Accessories

VC221A Padded Vinyl Carry Case, DL248C Deluxe Test Lead Kit, DC205B Heavy Duty Case, HV231-10 High Voltage Probe, TP254 High Temperature Probe

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