

## 38XR-A

True RMS digital multimeter with optical PC interface for engineers designing and troubleshooting industrial automation and control systems.



- Frequency to 10 MHz, capacitance to 400  $\mu$ F, temperature to 2372  $^{\circ}$ F
- Duty cycle, dBm and 4 to 20 mA loop current test
- 1000 V/750 V dc/ac True RMS, ac + dc input
- 10 Amps ac/dc, fully safety fused
- Resistance to 40 M $\Omega$
- Continuity beeper
- Min/Max, Average, Relative, Peak, and Data Hold
- Bright blue backlight
- Auto power off to save battery life
- Separate door for easy battery and fuse access
- CAT IV 600 V, CAT III 1000 V, highest rating
- Magne-Grip™ Holster with magnetic hanging strap
- Three-year warranty

### 38XR-A Specifications (at 23 $^{\circ}$ C $\pm$ 5 $^{\circ}$ C, <75 % R.H. non-condensing)

<b>DC Voltage</b>	
Ranges	1000 mV, 10 V, 100 V, 1000 V
Accuracy	all ranges: $\pm$ (0.25 % rdg + 5 dgts)
Resolution	100 $\mu$ V
<b>AC Voltage (45 Hz to 2 kHz) True RMS</b>	
Ranges	1000 mV, 10 V, 100 V, 750 V
Accuracy	750 V range: 45 to 1 kHz: $\pm$ (2.0 % rdg + 10 dgts) All other ranges, 45 to 500 Hz: $\pm$ (1.2 % rdg + 10 dgts) All other ranges, 500 to 2 kHz: $\pm$ (2.0 % rdg + 10 dgts)
AC coupled True RMS specified from 5% to 100 % of range	
<b>AC + DC Voltage (45 Hz to 2 kHz)</b>	
Ranges	1000 mV, 10 V, 100 V, 750 V
Accuracy	750 V range: 45 to 1 kHz: $\pm$ (2.5 % rdg + 10 dgts) All other ranges, 45 to 500 Hz: $\pm$ (1.5 % rdg + 10 dgts) All other ranges, 500 to 2 kHz: $\pm$ (2.5 % rdg + 10 dgts)
Resolution	100 $\mu$ V
DC coupled True RMS specified from 5 % to 100 % of range	
<b>DC Current</b>	
Ranges	100 $\mu$ A, 1000 $\mu$ A, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 $\mu$ A range: $\pm$ (0.5 % rdg + 10 dgt) 1000 $\mu$ A to 400 mA ranges: $\pm$ (0.5 % rdg + 5 dgts) 10 A range: $\pm$ (1.5 % rdg + 10 dgt)
Resolution	0.01 $\mu$ A
<b>AC Current (True RMS) (AC + DC) (45 Hz – 1kHz)</b>	
Ranges	100 $\mu$ A, 1000 $\mu$ A, 10 mA, 100 mA, 400 mA, 10 A
Accuracy	100 $\mu$ A to 100 mA ranges: $\pm$ (1.5 % rdg + 20 dgts) 400 mA range: $\pm$ (2.0 % rdg + 10 dgts) 10 A range: $\pm$ (2.5 % rdg + 20 dgts)
Resolution	0.01 $\mu$ A
AC coupled True RMS specified from 5 % to 100 % of range	
AC + DC Accuracy	100 $\mu$ A to 400 mA ranges: $\pm$ (2.0 % rdg + 20 dgts) 10 A range: $\pm$ (3.0 % rdg + 20 dgts)
AC + DC: AC coupled True RMS specified from 10 % to 100 % of range	
<b>Resistance</b>	
Ranges	1000 $\Omega$ , 10 k $\Omega$ , 100 k $\Omega$ , 1000 k $\Omega$ , 10 M $\Omega$ , 40 M $\Omega$
Accuracy	1000 $\Omega$ to 1000 k $\Omega$ ranges: $\pm$ (0.5 % rdg + 8 dgts) 10 M $\Omega$ range: $\pm$ (1.0 % rdg + 10 dgts) 40 M $\Omega$ range: $\pm$ (2.0 % rdg + 10 dgts)
Resolution	100 m $\Omega$
<b>Capacitance</b>	
Ranges	40 nF, 400 nF, 4 $\mu$ F, 40 $\mu$ F, 400 $\mu$ F
Accuracy	40 nF, 400 $\mu$ F ranges: $\pm$ (3.0 % rdg + 10 dgts) 400 nF to 40 $\mu$ F ranges: $\pm$ (3.0 % rdg + 5 dgts)
Resolution	0.01 nF
<b>Temperature</b>	
Ranges	-20 $^{\circ}$ C to 1300 $^{\circ}$ C, -4 $^{\circ}$ F to 2372 $^{\circ}$ F
Accuracy	-20 $^{\circ}$ C to 10 $^{\circ}$ C: $\pm$ (2.0 % rdg + 4 $^{\circ}$ C) 10 $^{\circ}$ C to 200 $^{\circ}$ C: $\pm$ (1.0 % rdg + 3 $^{\circ}$ C) 200 $^{\circ}$ C to 1300 $^{\circ}$ C: $\pm$ (2.0 % rdg + 2 $^{\circ}$ C) -4 $^{\circ}$ F to 50 $^{\circ}$ F: $\pm$ (2.0 % rdg + 8 $^{\circ}$ F) 50 $^{\circ}$ F to 400 $^{\circ}$ F: $\pm$ (1.0 % rdg + 6 $^{\circ}$ F) 400 $^{\circ}$ F to 2372 $^{\circ}$ F: $\pm$ (2.0 % rdg + 4 $^{\circ}$ F)
Resolution	1 $^{\circ}$ C, 1 $^{\circ}$ F

# 38XR-A

True RMS digital multimeter with optical PC interface for engineers designing and troubleshooting industrial automation and control systems.

## 38XR-A Specifications (at 23 °C ± 5 °C, <75 % R.H. non-condensing) cont.

Frequency	
Ranges	100 Hz, 1000 Hz, 10 kHz, 100 kHz, 1000 kHz, 10 MHz
Accuracy	all ranges: ± (0.1% rdg + 5 dgts)
Resolution	0.01 Hz
Duty Cycle	
Ranges	0 to 90 %
Accuracy	5 V logic: ± (2.0% rdg + 10 dgts)
Resolution	0.01 %
Frequency Range	0 % to 10 %: 40 Hz to 990 Hz 10 % to 90 %: 40 Hz to 20 kHz
4 - 20 mA DC Current Test	
Range	0 - 100 %
Accuracy	± (0.5 % + 5 dgts)
Resolution	0.01 %
dBm	
Ranges	-13 dBm to + 50 dBm
Accuracy	45 Hz to 5 kHz: ± (0.7 dB + 8 dgts) 5 kHz to 10 kHz: ± (2.5 dB + 8 dgts)
Resolution	0.01 dBm
Continuity	
Audible Indication	< 40 Ω
Diode Test	
Test Current	0.5 mA (approximate)
Open Circuit Volts	3.0 V dc typical
Peak	
AC Volts Accuracy	100 V, 750 V ranges: ± (3.0 + 200 dgts) 1000 mV, 10 V ranges: unspecified
AC Current	± (3.0 + 200 dgts)
Overload Protection	
AC/DC Voltage	1000 V dc or 750 V ac rms
AC/DC Current	μA/mA input: F0.5 A /1000 V fast-blow ceramic 6.3 x 32 mm 10A input: F10 A /1000V fast-blow ceramic 10 x 38 mm



## General Specifications

**Autorangeing; Display:** 4-3/4 digit LCD, 10,000 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:** 150 hrs typical (alkaline) frequent use of backlight will decrease battery life; **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; **Temperature Coefficient:** 0.1 x (specified accuracy) per °C (0 °C to 18 °C, 28 °C to 45 °C); **Altitude:** 2000 m) 6562 ft; **Dimensions:** 7.8" x 3.55" x 2.4" (196 x 96 x 60 mm); **Weight (without holster, including battery):** 1 lb (400 gr)

### Included Accessories

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

### Features

Input lead warning; analog bar graph; Data Hold; Min/Max; Average; Relative; Peak; auto power off after 30 minutes typical; low battery indication; backlight; overrange indication; three-year warranty

### Optional Accessories

VC221A Padded Vinyl Carry Case, DL248C Deluxe Test Lead Kit, DC207B Heavy Duty Case, HV231-10 High Voltage Probe, TP254 High Temperature Probe; P/N 38-SW RS232 Cable and Software



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