

MODEL GX900 – GRAPHICAL DMM

MODEL GX930 – DMM / DIGITAL OSCILLOSCOPE



INTRODUCTION

Thank you for selecting the Extech Model GX900 True RMS Digital Multimeter or GX930 True RMS Digital Multimeter with Digital Oscilloscope. These devices are shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Extech Instruments is an ISO-9001 certified company.

Please visit the Extech Instruments website (**www.extech.com**) for the latest versions of Manuals, Software, Product updates, and other current information.

GX900 - KEY FEATURES

- The GX900 measures AC/DC Voltage/Current (including remote Clamp current), Resistance, Capacitance, Frequency (electrical and electronic), RPM, Duty Cycle, dBm/dBV, Diode, Continuity, and Temperature
- The GX930 DMM measures AC/DC Voltage/Current (including remote Clamp current), Resistance, Capacitance, Frequency (electrical and electronic), Diode, Continuity, and Temperature
- Built-in datalogger and trend features store measurement data with convenient recall functionality
- Maximum reading (MAX) and Minimum Reading (MIN) memory features
- Reading HOLD feature for freezing displayed information (with Auto Hold)
- Intuitive TFT color LCD display and convenient keypad push-button control
- On-screen HELP utility for user hints and application information
- Quick A/D conversion sample rates with low pass AC filtering
- Internal real-time calendar clock for time stamping
- Industrial strength meter housing

GX930 - KEY FEATURES

- Measures AC/DC Voltage/Current, Resistance, Capacitance, Frequency (electrical and electronic), Duty Cycle, Diode, Insulation, Continuity, and Thermocouple Temperature
- New design, compact size/portable
- TFT color LCD with clear and stable waveform display
- Real time sample rate: 500 50M samples/second
- Internal memory storage: 3000 data points
- Trigger function: Rising edge, Falling edge
- Automatic search utility
- 10 sets of waveform storage/output; waveform data can be transmitted via Bluetooth
- USB PC interface
- Cursor based operation
- Multi-screen display for channel waveform and FFT waveform
- Simple Menu navigation
- On-screen Help utility
- Includes 1:1 probe with adaptor and battery charger

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INTERNATIONAL SAFETY SYMBOLS



This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.



This symbol, adjacent to a terminal, indicates that, under normal use, hazardous voltages may be present



Double insulation



This symbol advises the user that the terminals so marked must not be connected to a circuit point at which the voltage with respect to earth ground exceeds (for this specific instrument) 1000VAC or VDC

- **WARNING** This symbol indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury.
- **CAUTION** This symbol indicates a potentially hazardous situation, which if not avoided, could result in damage to the instrument.

IEC1010 OVERVOLTAGE INSTALLATION CATEGORIES

OVERVOLTAGE CATEGORY I

Equipment of OVERVOLTAGE CATEGORY I is equipment for connection to circuits in which measures are taken to limit the transient over-voltages to an appropriate low level. Examples include protected electronic circuits.

OVERVOLTAGE CATEGORY II

Equipment of OVERVOLTAGE CATEGORY II is energy-consuming equipment to be supplied from the fixed installation. Examples include household, office, and laboratory appliances.

OVERVOLTAGE CATEGORY III

Equipment of OVERVOLTAGE CATEGORY III is equipment in fixed installations.

Note – Examples include switches in the fixed installation and some equipment for industrial use with permanent connection to the fixed installation.

OVERVOLTAGE CATEGORY IV

Equipment of OVERVOLTAGE CATEGORY IV is for use at the origin of the installation. Examples include electricity meters and primary over-current protection equipment.

CAUTIONS

- Improper use of this meter can cause damage, shock, injury or death. Read and understand this user manual before operating the meter.
- Always remove the test leads before replacing the battery or fuses.
- Inspect the condition of the test leads and the meter itself for any damage before operating the meter.
- Use great care when making measurements if the voltages are greater than 25VAC rms or 35VDC. These voltages are considered a shock hazard.
- Warning! This is a class A equipment. This equipment can cause interference in residential areas; in these cases the operator may be required to take steps to avoid or minimize the interference.
- Always discharge capacitors and remove power from the device under test before performing Diode, Resistance, or Continuity tests.
- Voltage checks on electrical outlets can be difficult and misleading because of the uncertainty of connection to the recessed electrical contacts. Other means should be used to ensure that the terminals are not "live".
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- This device is not a toy and must not reach children's hands. It contains hazardous objects as well as small parts that the children could swallow.
- Do not leave batteries and packing material unattended; they can be dangerous in the hands of children.
- In the event that the device is going to be unused for an extended period of time, remove the batteries.
- Expired or damaged batteries can cause cauterization on contact with the skin. Always, therefore, use suitable gloves in such cases.
- Ensure that the batteries are not short-circuited. Never incinerate batteries.

SAFETY INSTRUCTIONS - INPUT PROTECTION LIMITS

This meter has been designed for safe use, but must be operated with caution. The rules listed in this safety section must be carefully followed for safe operation.

1. NEVER apply voltage or current to the meter that exceeds the specified maximum:

Input Protection Limits			
Function	Maximum Input		
V DC or V AC	1000V DC/AC rms		
mA AC/DC	800mA 1000V fast acting fuse		
A AC/DC	10A 1000V fast acting fuse (20A for 30 seconds max every 15 minutes)		
Frequency, Resistance, Capacitance, Duty Cycle, Diode Test, Continuity	1000VDC/AC rms		
Temperature	1000VDC/AC rms		

2. USE EXTREME CAUTION when working with high voltages.

3. **DO NOT** measure voltage if the voltage on the "COM" input jack exceeds 1000V above earth ground.

4. **NEVER** connect the meter leads across a voltage source while the function switch is in the current, resistance, or diode mode. Doing so can damage the meter.

5. **ALWAYS** discharge filter capacitors in power supplies and disconnect the power when making resistance or diode tests.

6. **ALWAYS** turn off the power and disconnect the test leads before opening the covers to replace the fuse or batteries.

7. **NEVER** operate the meter unless the back cover and the battery and fuse covers are in place and fastened securely.

8. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

FCC COMPLIANCE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

- 1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- 2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
- 3. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmission.

WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

INDUSTRY CANADA (IC) COMPLIANCE

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

IC Radiation Exposure Statement

- 1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- 2. This equipment complies with RSS 102 RF radiation exposure limits set forth for an uncontrolled environment.
- 3. To maintain compliance with RSS 102 RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmission.

Extech Instruments DIGITAL MULTIMETER INSTRUCTIONS

DESCRIPTIONS

METER DESCRIPTION

- 1. LCD display
- 2. Sub-function keys F1, F2, F3, and F4
- 3. Data HOLD button
- 4. MAX-MIN memory button
- 5. Rotary Primary Function Select Switch
- 6. Input jack for Amperes (A)
- 7. Input jack mA, uA (milli- & micro-Amperes)
- 8. Input jack (COM) negative
- 9. Input jack (positive) for all functions
- 10. Display Backlight control
- 11. Information button
- 12. Navigation arrow keys and OK confirmation button

Note: Battery compartment and tilt stand are located on the rear of the instrument

INPUT TERMINAL DESCRIPTION

All functions, excepting current, use the V and COM input terminals. Separate terminals are provided for current above 500mA and for current below 500mA.

104	Input for 0 A to 10.00 A current (20VA overload for
10A	30 seconds on, 10 minutes off)
µA mA	Input for 0 A to 500 mA current measurements
СОМ	Return terminal for all measurements
VΩ	Input for voltage, continuity, resistance, diode
CAP Temp	test, conductance, capacitance



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KEYPAD DESCRIPTION

The meter's 12 push-button keypad activates features, augments functions selected by the rotary switch, and allows the navigation of the displayed menu structure

F1-F2-F3-F4 keys

Selects sub-functions related to the currently selected primary mode set by the rotary switch

Cursor buttons

Use the cursor buttons to selected items in a menu tree, adjust display contrast, scroll information, and perform data entry

HOLD button

Freezes the displayed reading and, if desired, saves the screen shot. The HOLD button also accesses the AUTO HOLD feature which is detailed in this Instruction Manual

MAX/MIN button

Starts and stops the Maximum (MAX) and Minimum (MIN) reading memory

OK button

Confirms data entry

Rotary Switch

Selects the primary measurement function; for each, the meter presents a standard display for that function (range, measurement units, and modifiers). See table below:

V~	AC voltage measurements		
V-	DC and AC+DC voltage measurements		
mV	DC(AC) millivolts, ac + dc millivolt, Temperature, Clamp Current measurements		
Ω.» ⊣⊢ →	Resistance, Diode test, capacitance, continuity measurements		
Hz %	Frequency and duty cycle measurements		
RPM Counter	RPM, Counter measurements		
A	AC, dc and ac + dc amps measurements		
mA	AC, dc and ac + dc milliamps measurements		
uA	AC, dc and ac + dc microampere measurements up to 5,000 μA		

INFO button

Opens the information window

Backlight button 🖤

Selects backlight intensity from low to high. Also used to return from an auto-power off condition



LCD DISPLAY DESCRIPTION



- 1. Soft key labels indicate the function of the button just below the displayed label.
- 2. **Bar graph** Analog display for the input signal (See the "Bar Graph" section for more information).
- 3. Primary measurement display area* (minus sign indicates a negative reading).
- 4. Range indicates the meter's present range and the ranging mode (auto or manual).
- 5. Battery level indicates the battery charge level.
- 6. Time indicates the time set for the internal clock.
- 7. **Mode** annunciators indicate the Meter's mode.
- 8. **Mini-measurement display** shows the input value when the primary and secondary displays are busy with a menu screen or pop-up message. Also shows the lightning bolt icon (when necessary) in this area.
- 9. Main display provides measurement information regarding the input signal.
- 10. Date indicates the date set for the internal clock.
- 11. **Beeper** indicates the Meter's audible feedback is enabled (this is not associated with the continuity beeper).
- 12. **Unit** indicates the units of measure. Auxiliary Units indicates measurements that use factors instead of units (such as Crest Factor).
- 13. Blue tooth indicates communication link activity.
- 14. **Relative** indicates that the displayed value is relative to a stored reference value.
- 15. **Secondary display** shows secondary measurement information concerning the input signal.

*The Primary display area indicates the most important value of the selected function. The secondary display contains the bar graph and other values that may be measured in addition to the primary function (for example, frequency measurements along with the primary AC voltage measurement).

QUICK START GUIDE

Step One: Ensure that batteries are installed and are fresh

Step Two: Carefully read the Safety section of this Instruction Manual

Step Three: Check the Table of Contents to find the section of this Instruction Manual related to the desired test

Step Four: Connect the test leads to the meter and to the device under test as described in this Instruction Manual's section related to the test in question

Step Five: Safely perform the test as described in this Instruction Manual

Step Six: Read the measurement value on the LCD display

Step Seven: Carefully disconnected the meter's test leads from the circuit or device under test

Step Eight: Read the section of this Instruction Manual entitled Features and Functions to learn more about the multitude of meter uses and features

Step Nine: Disconnect the test leads from the circuit under test and from the meter and switch OFF the meter before storing.

WARNING: Risk of electrocution. High-voltage circuits, both AC and DC, are very dangerous and should be measured with great care.

- 1. ALWAYS turn the function switch to the OFF position when the meter is not in use.
- 2. If **OL** appears in the display during a measurement, the value exceeds the selected range. Change to a higher range or use the Auto range mode.

DC VOLTAGE MEASUREMENTS

CAUTION: Do not measure DC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

- 1. Set the function switch to the V- position.
- Insert the black test lead banana plug into the negative COM jack. Insert the red test lead banana plug into the positive V jack.
- 3. Touch the black test probe tip to the negative side of the circuit.
- 4. Touch the red test probe tip to the positive side of the circuit.
- 5. Read the voltage in the display.



AC VOLTAGE MEASUREMENTS

WARNING: Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240V outlets for appliances because the contacts are recessed deep in the outlets. As a result, the reading may show 0 volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.

CAUTION: Do not measure AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

- 1. Set the function switch to the **V**~ position.
- Insert the black test lead banana plug into the negative COM jack. Insert red test lead banana plug into the positive V jack.
- 3. Touch the black test probe tip to the neutral side of the circuit. Touch the red test probe tip to the "hot" side of the circuit.
- 4. Read the voltage in the display.

dBm/dBV AC MEASUREMENTS

The meter is capable of displaying AC voltage as a dB value; relative to 1 milli-watt (dBm), relative to 1V (dBV), or to a custom reference value.

- 1. Set the function switch to the V^{\sim} position
- Press the F1 key (MENU) on the LCD and then navigate to the dBm/dBV field using the arrow keys and then press OK.
- 3. Navigate to the menu item labeled dBm and then press OK.
- Insert the black test lead banana plug into the negative COM jack. Insert red test lead banana plug into the positive V jack.
- 5. Touch the black test probe tip to the neutral side of the circuit. Touch the red test probe tip to the "hot" side of the circuit.
- 6. Read the dBm in the primary display area and read the Voltage in the secondary display area.





LOW PASS FILTER FOR ACV MEASUREMENTS

The meter is equipped with a Low Pass Filter for AC measurements. To activate the filter please follow the steps below:

- 1. Set the rotary switch to the V~ position
- 2. Press the F1 key (MENU)
- 3. Move the menu selector to the LOW PASS field and then press OK
- 4. Select LPF (Low Pass Filter) and then press OK
- 5. Press the F3 key (RANGE) and then press the F2 key (MANUAL)
- 6. Move the menu selector to the 500V field and press the OK key

DC/AC MILLIVOLT MEASUREMENTS

CAUTION: Do not measure DC/AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

- 1. Set the function switch to the **mV** position.
- 2. Press the F1 key (MENU), move the menu selector to the menu item labeled mVDC or mVAC, and then press the OK key
- 3. Select mVDC or mVAC from the key options and press the OK key.
- 4. Insert the black test lead banana plug into the negative **COM** jack.
- 5. Insert the red test lead banana plug into the positive **V** jack.
- 6. Touch the black test probe tip to the negative side of the circuit.
- 7. Touch the red test probe tip to the positive side of the circuit.
- 8. Read the voltage in the display.



CURRENT CLAMP MEASUREMENTS

- 1. This meter offers remote current clamp measurement functionality.
- 2. Set the rotary switch to the **mV** position.
- Press the F1 key (MENU), move the menu selector to the item labeled CLAMP DC/AC, and then press the OK key.
- Select the item labeled RANGE (0.1~100mV/A) and then press the OK key.
- 5. Connect the remote clamp to the input terminal jacks ensuring proper polarity. Insert the clamp's negative lead into the negative **COM** jack and connect the clamp's positive lead into the meters positive V jack.
- 6. Read the measurement in the display.





DC CURRENT MEASUREMENTS

CAUTION: Do not make 20A current measurements for longer than 30 seconds. Exceeding 30 seconds may cause damage to the meter and/or the test leads.

- 1. Insert black test lead banana plug into the negative **COM** jack.
- 2. For current measurements up to 5000μ A DC, set the function switch to the μ A position and insert the red test lead banana plug into the μ A/mA jack. Press the F1 key (MENU) and select uADC, Press the OK key.
- 3. For current measurements up to 500mA DC, set the function switch to the **mA** position and insert the red test lead banana plug into the μ A/mA jack. Press the F1 key (MENU) and select mADC, Press the OK key.
- For current measurements up to 10A DC, set the function switch to the **10A** position and insert the red test lead banana plug into the **10A** jack. Press the F1 key (MENU) and select ADC, Press the OK key.
- 5. Remove power from the circuit under test, then open up the circuit at the point where current is to be measured.
- 6. Touch the black test probe tip to the negative side of the circuit.
- 7. Touch the red test probe tip to the positive side of the circuit.
- 8. Apply power to the circuit.
- 9. Read the current in the display.



AC CURRENT MEASUREMENTS

CAUTION: Do not make 20A current measurements for longer than 30 seconds. Exceeding 30 seconds may cause damage to the meter and/or the test leads.

- Insert the black test lead banana plug into the negative COM jack.
- 2. For current measurements up to 5000μ A AC, set the function switch to the μ A position and insert the red test lead banana plug into the μ A/mA jack. Press the F1 key (MENU) and select uAAC, Press the OK key.
- 3. For current measurements up to 500mA AC, set the function switch to the **mA** position and insert the red test lead banana plug into the μ A/mA jack. Press the F1 key (MENU) and select mAAC, Press the OK key.
- For current measurements up to 10A AC, set the function switch to the 10A position and insert the red test lead banana plug into the 10A jack. Press the F1 key (MENU) and select AAC, Press the OK key.



- 5. Press the key labeled MENU, move the menu selector to the item labeled AC, and then press the OK key
- 6. Remove power from the circuit under test, then open up the circuit at the point where current is to be measured.
- 7. Touch the black test probe tip to the neutral side of the circuit. Touch the red test probe tip to the "hot" side of the circuit.
- 8. Apply power to the circuit.
- 9. Read the current in the display.

RESISTANCE MEASUREMENTS

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any resistance measurements. Remove the batteries and unplug the line cords.

- 1. Set the function switch to the → → Ω CAP position.
- 2. Insert the black test lead banana plug into the negative **COM** jack.
- Insert the red test lead banana plug into the positive Ω jack
- Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading.
- 5. Read the resistance in the display.



CONTINUITY CHECK

WARNING: To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

- 1. Set the function switch to the 🏓 🖤 Ω CAP position.
 - 2. Press the F1 key (MENU), move the menu selector to the RESISTANCE, and then press the OK key
 - 3. Move the menu selector to the item labeled CONTINUITY and press the OK key
 - 4. Insert the black lead banana plug into the negative **COM** jack.

 - 6. Touch the test probe tips to the circuit or wire under test.
 - 7. If the resistance is less than approximately 35 Ω , the audible signal will sound. If the circuit is open, the display will indicate **OL**.



DIODE TEST

- 1. Set the function switch to the ✤ •》Ω CAP position
- 2. Press the F1 key (MENU), move the menu selector to the DIODE field, and then press the OK key
- 3. Move the menu selector to the item labeled DIODE and press the OK key
- Insert the black test lead banana plug into the negative COM jack and the red test lead banana plug into the positive V jack.
- Touch the test probes to the diode under test. Forward voltage will typically indicate 0.400 to 3.200V. Reverse voltage will indicate OL. Shorted devices will indicate near 0V and an open device will indicate OL in both polarities.



TEMPERATURE MEASUREMENTS

- 1. Set the function switch to the **TEMP** position.
- 2. Press the F1 key (MENU), move the menu selector to the item labeled TEMP, and then press the OK key
- 3. Move the menu selector to menu item labeled FAHRENHEIT, Celsius, or Kelvin and then press the OK key
- 4. Insert the Temperature Probe into the input jacks ensuring correct polarity.
- 5. Touch the Temperature Probe head to the device under test. Maintain contact with the device until the reading stabilizes (about 30 seconds).
- 6. Read the temperature in the display.

To input a **temperature offset** value, press the F3 key (OFFSET). A message box will appear showing the currently selected offset value. Use the right/left arrow keys to position the cursor over

one of the digits (or the polarity sign). Then use the up/down arrows to edit the selected digit or polarity sign. With the desired value displayed, press the F1 key (OK) to confirm the temperature offset.

Note: The temperature probe is fitted with a type K mini connector.

A mini connector to banana connector adaptor is supplied for connection to the input banana jacks. The adapter connects to COM (-) and V (+).

Note: The temperature range of the supplied thermocouple probe is -20 to 250°C (-4 to 482°F)



CAPACITANCE MEASUREMENTS

WARNING: To avoid electric shock, disconnect power to the unit under test and discharge all capacitors before taking any capacitance measurements. Remove the batteries and unplug the line cords.

- 1. Set the rotary function switch to the **CAP** position.
- Press the F1 key (MENU), move the menu selector to the menu item labeled CAPACITANCE, and then press the OK key.
- 3. Select CAPACITANCE and then press the OK key.
- Insert the black test lead banana plug into the negative COM jack.
- 5. Insert the red test lead banana plug into the positive **V** jack.
- 6. Touch the test leads to the capacitor to be tested.
- 7. Read the capacitance value in the display



FREQUENCY, DUTY CYCLE, PULSE WIDTH, and PERIOD MEASUREMENTS (ELECTRONIC)

- 1. Set the rotary function switch to the Hz/% position.
- Press the F1 key (MENU), move the menu selector to the menu item of your choice, either FREQUENCY(Hz), DUTY CYCLE, PULSE WIDTH, or PERIOD, and then press the OK key.
- 3. Insert the black lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **Hz** jack.
- 4. Touch the test probe tips to the circuit under test.
- 5. Read the measurement on the display.



RPM MEASUREMENTS

- 1. Set the rotary function switch to the **RPM** position.
- 2. Insert the black lead banana plug into the negative **COM** jack and the red test lead banana plug into the positive **V** jack.
- 3. Touch the test probe tips to the circuit under test.
- 4. Read the RPM value on the display.

COUNTER MEASUREMENTS

- 1. Set the rotary function switch to the **RPM** position.
- 2. Press the F1 key (MENU), move the menu selector to the item labeled COUNTER, and then press the OK key
- 3. Move the menu selector to the item labeled START and press the OK key
- 4. Insert the black test lead into the negative **COM** jack and the red test lead into the positive **V** jack.
- 5. Touch the test probe tips to the circuit under test.
- 6. Read the Period value on the display.
- 7. To set the Count Threshold press the F1 key (MENU), move the menu selector to the item labeled COUNTER, and press the OK key
- 8. Move the menu selector to the menu item labeled THRESHOLD and press the OK key
- 9. Enter 1 or 2 or 3 using the arrow keys and then press the F1 key to save. Press the F1 key to return to the measure screen.

FUNCTIONS AND FEATURES

FUNCTION MENU BASICS

Each primary measurement function (selected by rotary dial position) has a number of optional sub-functions or modes accessed by pressing the F1 key (MENU). A typical menu is shown here.

Menu selection is indicated by the dark colored square (designated as the 'menu selector' in this Instruction Manual) to the left of the menu item. Use the four front panel cursor buttons (left, right, up, and down) to position the menu selector next to a menu item. As the menu selector moves between menu items, the four F keys and OK key change to reflect the available functions and/or modes available for the selection menu item.



THE 'HELP' UTILITY

While operating the meter, additional information regarding a selected function, a front-panel button, or a menu may be needed. Press the INFO key to open an

information window that lists topics covering the functions and modifiers that are available at the time the button is pressed. Each topic provides a brief explanation on a meter function or feature. The number of informational topics displayed at any one time may exceed the display area. Use the keys labeled NEXT and PREV to move from topic to topic. Use the key labeled MORE, UP, and DOWN to scroll through the information a full screen at a time.

	13:18	0.0001	VDC	03/26/11	
		Measu	re VD	0	
Menu	Soft key	labeled Me	nu - Ope	ns the	
	funtion a	and mode n	nenu		
Save	Soft key	labeled Sav	e - Acce	sses the	
	memory	managem	ent menu	I for saving	
	measure	ements,setti	ng up re-	cording	
	sessions	or viewing	and dele	ting	
	stored n	neasuremen	ts from	nemory.	
Help	Range -	Switches th	e range i	nanual.	
PRE	EV	NEXT		CLO	SE

AUTOMATIC AND MANUAL RANGING

Press the F3 key (RANGE) to open the Range menu. Press F1 key (AUTO) to enable the

Auto Range mode. Press F2 key (MANUAL) to enable the Manual Range mode. In the Manual Range mode, move the menu selector to the desired range.

AC AND DC SIGNALS

This meter is capable of displaying both AC and DC

signal components (voltage or current) as two separate readings or one AC+DC (RMS) value combined. The meter displays AC and DC combinations three ways:

- DC displayed over AC (DC, AC)
- AC displayed over DC (AC, DC)
- AC combined with DC (AC+DC)

Select one of the above combinations using the FUNCTION and MODE menu as described in the steps below:

- 1. With the rotary switch set to V, mV, A, mA, or uA press the key labeled MENU
- 2. Move the menu selector to the menu item labeled MATH
- 3. Press OK
- 4. The three labels (AC+DC, AC/DC, and DC/AC) will appear
- 5. Move the menu selector to the desired menu label
- 6. Press OK

While in any of the three modes described above Peak Measurements, Frequency, Duty Cycle, MAX-MIN, Relative %, and Period Measurements are not available for use.

Auto	Range			AC+DC
	U	. U	184	4





MINIMUM (MIN) AND MAXIMUM (MAX) READINGS

The MIN-MAX recording mode captures minimum, maximum, and average measurement values. When the measurement falls below the recorded minimum value or above the recorded maximum value, the meter beeps and records the new value.

The meter stores the elapsed time since the recording session was started at the same time. The MIN-MAX



mode also calculates an average of all readings taken since the MIN-MAX mode was activated. Average mode is useful for capturing intermittent readings and recording readings while equipment operation precludes watching the meter.

The MIN-MAX mode is useful when recording power supply surges, in-rush currents, and finding intermittent failures. Response time is the length of time an input must remain at a new value to be captured as a possible new minimum or maximum valued.

To activate the MIN-MAX mode, press the MIN-MAX button; the display will indicate the MIN-MAX values at the top of the measurement page. The start date and time are indicated at the bottom of the measurement page. In addition, the recorded MIN-MAX-AVG values appear in the secondary display with their respective elapsed timers.

To stop a MIN-MAX recording session press the key labeled STOP. The summary information in the display freezes and the keys change function to allow saving the collected data. Press the key labeled 'CLOSE' to discard the collected data and return to the normal operating mode.

To save the MIN-MAX screen data, the MIN-MAX session must be ended by pressing the key labeled STOP. After pressing STOP, press the key labeled SAVE. A dialogue box will open prompting for a filename (a name is automatically proposed which can be accepted or changed by the user). Press the key labeled SAVE. Press the key labeled RESTART while MIN-MAX is running stops the MIN-MAX session, discards all MIN-MAX data, and starts a new MIN-MAX recording session.

CAPTURING PEAK VALUES

To activate the PEAK Mode, press the F1 key (MENU). Move the menu selector to the menu item labeled PEAK/CREST F (Crest Factor) and then press the OK key. Move the menu selector to the PEAK or the CREST F label and then press OK to start the PEAK recording session.



RELATIVE MODE

To activate the Relative mode, press the F1 key (MENU) and move the menu selector next to the menu item labeled REL/REL% and then press the OK key.

Move the menu selector to the REL or the REL% label and press OK to start the Relative mode.

If the meter is currently in the Relative mode, pressing REL% causes the meter to switch OFF the Relative mode and display Relative percent.

mADC

13:25 -0.0008 mADC

Auto Range

DATA HOLD AND AUTO-HOLD MODE

To freeze the display for any function, press the HOLD key. Pressing the F2 key (AUTO HOLD) activates the Auto Hold mode (if the meter is not in the PEAK, MIN-MAX, or Record modes). Auto-Hold monitors the input signal and updates the display and, if enabled, sounds the beeper each time a new stable measurement is detected. A stable

measurement is one that does not vary more than a selected adjustable percentage (Auto-Hold threshold) for at least one second. The meter filters open lead conditions so that the meter leads can be moved between test points without triggering a display update.

STORING INDIVIDUAL SCREEN-SHOTS

For all measurement functions, a snapshot of the screen data is saved by pressing the key labeled SAVE.

VIEWING MEMORY DATA

Viewing data stored in the meter's memory is performed through the SAVE menu as described below:

- 1. Press the F2 key (SAVE).
- 2. Position the menu selector on MEMORY and press the OK key.
- 3. Position the menu selector on VIEW and press the OK key.
- 4. Position the menu selector on LOG and press the OK key.
- 5. Press F1 (PREV) or F2 (NEXT) to view your saved data sets.



Hold



VIEW TREND DATA

Viewing data stored in the meter's memory is performed through the SAVE menu as described below:

- 1. Press the F2 key (SAVE) and select menu item MEMORY and Press the OK key.
- 2. Select menu item VIEW and Press the OK key.
- 3. Select menu item LOG and Press the OK key.

If there are previously stored records, press the F1 key

(PREV) to page through them or Press the F2 key (NEXT) to scroll in the opposite direction.

Press F4 (CLOSE) to return the meter to the normal operating mode.

Press the F3 key (TREND) to display the recorded data in a trend-plot view. Press the F2 key (DELETE) to clear recorded data.

Press the F3 key (SUMMARY) to get back to the data summary and Press F4 key (CLOSE) to return to normal operating mode.

13:19)	03,	/26/11 📢
Stopped	Reco	ording V	DC
Ω		nn	\mathbf{n}
U	. U		U
R1og000	0		
Start t	imes: 03/2	4/11 14:5	7:41
Duratio	n: 00days	00hrs 00m	in 07sec
Samples	: 3	Events:	0
PREV	NEXT	TREND	CLOSE



RECORDING MEASUREMENTS (DATALOGGING)

The meter's datalogger collects measurement information over a user-specified duration (sampling rate). A datalogging recording session is made up of one or more

measurement records with each record including a measurement summary representing the duration of the recording session.

- 1. Set the meter rotary switch to the meter setting to be logged. (Example V^{\sim} to log AC volts).
- 2. Connect the black lead to the COM jack and the Red lead to the V jack.
- 3. Datalog: Press the F2 key (SAVE) and then position the menu selector next to the menu item LOG and press the OK key to open the datalogging configuration screen.
- 4. The recording session Duration and Sample rate are user-programmable. These two parameters interact in that one setting variable may adjust the other to fit the recording session in the available memory. Adjust these by using the up and down menu arrows to select either Duration or Sample rate. Press OK key to select. Press F1 key (EDIT) to edit the parameter, press the OK key to enable editing. Use the left and right menu arrow keys to select the unit to change, press F1 key (OK) to save your changes.

The percentage of memory available at the beginning of a recording session is displayed below the duration and sample interval settings.

- 5. Press the F2 key (START) to start datalogging.
- 6. To change either of the two recording variables use the cursor buttons to position the menu selector next to the desired menu item and press the key labeled EDIT. Use the arrow keys to move between, and to set, each digit of the selected variable.
- 7. Press the key labeled START to start recording.
- 8. The recording session will continue until the allocated memory is consumed, the batteries expire, the rotary switch is moved, or the session is terminated by pressing the key labeled STOP.



ZOOMING ON TREND DATA

While viewing trend data, press ZOOM to zoom in or out respectively on the data around the cursor. Each press reduces the x-axis time period by one half in order to reveal more detail. Each press doubles the time period until all of the recorded data is displayed. The zoom level is displayed in the upper-right hand corner of the display.

METER SETUP OPTIONS

The meter offers a number of setup options and preset features such as date and time formats, battery save mode timeouts, and the displayed language. Some options affect

general operations and are active in all functions while others are limited to one function or one group of functions.

Meter information such as serial number, model, etc. is also available in the Setup mode.

Access to the setup options is available by pressing the F4 key (SETUP).

RESET THE METER SETUP OPTIONS



The meter's setup options can be reset to factory default conditions through the Setup menu.

- 1. Open the setup menu by pressing the F4 key (SETUP).
- 2. Position the menu selector next to the item labeled RESET and then press the OK key
- 3. Position the menu selector next to the item labeled SETUP and then press the OK key, press the OK key again.
- 4. A message will appear asking "Reset settings to Factory Defaults?" to confirm the Reset action. Press the F1 key (OK) or the F4 key (Cancel) to cancel the reset.

METER INFORMATION SCREEN

The meter INFO selection lists the serial number, model number, firmware version, calibration date, calibration counter, operator name, and company name.

- 1. Open the Setup menu by pressing the F4 key (SETUP).
- Position the menu selector next to the menu item labeled INSTRUMENT and press OK
- 3. Position the menu selector next to the menu item labeled METER INFO and press OK, press the OK key again for meter information.

SETTING THE EVENT THRESHOLD VALUE

- 1. Press the F4 key (SETUP) to access the setup menu
- Position the menu selector next to the menu item labeled LOGGING and press OK
- 3. Position the menu selector next to the menu item labeled THRESHOLD and press OK
- 4. Position the menu selector next to the menu item labeled EDIT and press OK
- 5. Use the up and down arrow keys to change the event threshold values
- 6. With the desired value selected, press theF1 key (OK) to confirm the change or press the F4 key (Cancel) to cancel the change.

CHANGE CALIBRATION PASSWORD

The Calibration selection allows a qualified calibration technician to enter a password that grants access to the meter for calibration purposes.

- 1. Press the F4 key (SETUP) to access the Setup menu.
- 2. Using the cursor buttons, move the menu selector next to the item labeled Calibration and press OK.
- 3. Select PASSWORD and press OK.
- 4. Select EDIT and press OK.
- 5. Using the menu arrow keys enter a password and Click F1 key (OK) of F4 key (CANCEL).

Note: default password is 1234

CALIBRATION ACCESS

The Calibration selection allows a qualified calibration technician to enter a password that grants access to the meter for calibration purposes.

- 1 Press the F4 key (SETUP) to access the Setup menu.
- 2. Using the cursor buttons, move the menu selector next to the item labeled Calibration and press OK.
- 3. Select menu item CALIBRATE and press OK.
- Select CALIBRATE and press OK. 4.
- 5. Input the current password using the menu keys and press F1 key (OK) or press the F4 key (CANCEL).

Calibration instructions are only available to gualified certified technicians. Contact Extech Instruments for further information concerning calibration instructions

BLUETOOTH[™] CAPABILITY

A Bluetooth communication link can be established allowing the user to monitor the meter from an Android device using the application ExView™.

- 1. Open the setup menu by pressing the F4 key (SETUP).
- 2. Position the menu selector next to the INSTRUMENT label and press OK
- 3. Position the menu selector next to the COMMUNICATE label and press OK
- 4. Press the F1 key (START) to turn on the Bluetooth[™] signal or press the F2 key (STOP) to turn off the Bluetooth[™] signal.

Note: when the meter is shut off and then back on, the Bluetooth signal will have to be turned back on manually.

GX900 SOFTWARE

The GX900 meter is supplied with software that will allow you to capture measured data in Real Time and download logged data from the GX900 to the software. Refer to the software's help file for instructions for use.





SETTING THE DATE AND TIME

The meter's internal clock is used for time-stamping and for general informational purposes. To change the date and time, as well as the display format, press the F4 key (SETUP) and then follow the steps below:

- 1. Position the menu selector next to the item labeled DISPLAY and press OK.
- 2. Position the menu selector next to the item DATE/TIME and press the OK key.
- 3. Position the menu selector next to either the SET DATE or the SET TIME item and the press the OK key.
- 4. Using the left and right arrows position the cursor on the date or time element to adjust it.
- 5. Use the up and down arrows to change the selected date or time values.
- 6. Press the F1 key (OK) to complete and confirm the actions.

AUTOMATIC POWER OFF

- 1. Open the Setup menu by pressing the F4 Key (SETUP).
- 2. Position the menu selector next to INSTRUMENT and press OK.
- 3. Position the menu selector next to SETTINGS and press OK.
- 4. Position the menu selector next to the item labeled POWER OFF and press OK.
- 5. To set the Auto Power OFF time interval, use the up and down arrows to select the time in minutes (05 to 60).
- 6. Set the time to zero (00) to disable the Auto Power OFF feature.
- 7. Press the F1 key (OK) to confirm the selection.
- 8. Press the F4 key (CANCEL) to return to the normal operating mode without saving the edit.

TIME AND DATE FORMATS

- 1. Press the f4 key (SETUP).
- 2. Position the menu selector next to the item labeled DISPLAY and press OK.
- 3. Position the menu selector next to the item labeled FORMAT and press OK
- 4. Position the menu selector next to the item labeled TIME FORMAT or DATE FORMAT and press OK to begin editing
- TIME FORMAT select F1 (24 HOUR) or F2 (12 HOUR).
 DATE FORMAT select F1(MM/DD/YY) or F2 (DD/MM/YY).
 Press F3 (CANCEL) to exit without changing the format.

NUMERIC FORMAT

- 1. Press the F4 key (SETUP).
- 2. Position the menu selector next to the item labeled DISPLAY and press OK.
- 3. Position the menu selector next to the item labeled FORMAT and press OK
- 4. Position the menu selector next to the item labeled NUMERIC and press OK.
- 5. Select F1 (0.000) or F2 (0,000) or F4 (CANCEL).

LANGAUGE FORMAT

- 1. Press the F4 key (SETUP).
- 2. Position the menu selector next to the item labeled DISPLAY and press OK.
- 3. Position the menu selector next to the item labeled FORMAT and press OK
- 4. Position the menu selector next to the item labeled LANGAUGE and press OK.
- 5. Select F1 (ENG) or F4 (CANCEL).

Extech Instruments DIGITAL OSCILLOSCOPE INSTRUCTIONS

MAIN OSCILLOSCOPE DISPLAY DESCRIPTION

- 1. Date and Time
- 2. Status of current waveform window
- 3. Remaining battery power
- 4. Waveform display area
- 5. Waveform peak value
- 6. Signal coupling marks, preset amplitude
- 7. Waveform's measured frequency
- 8. Preset sample rate
- 9. Trigger mode mark
- 10. Fast display mark
- 11. Slow display mark





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OSCILLOSCOPE FUNCTION TEST

Perform a quick functional test to verify the operation of the oscilloscope.

- 1. Switch ON power
- 2. Connect the oscilloscope to a signal source. A 110/220V AC power source is a good place to start.
- 3. Press 'AUTO' and the corresponding frequency and peak waveform will be detected in a matter of seconds.
- 4. If using a 110/220V power source use the down arrow button to set the V/div. User the left/right arrows to set the number of samples per second.



OSCILLOSCOPE PROBE AND CONNECTOR

The probe provides finger protection from electrical shock. Keep fingers in the safe area behind the protective barrier at all times.



BATTERY AND FUSE REPLACEMENT

BATTERY REPLACEMENT

When the low battery icon appears on the display replace the batteries as described below:

- 1. Switch the meter off and remove the test leads from the meter's input jacks
- 2. Open the battery compartment door by removing the 2 screws.
- 3. Replace the batteries; please observe battery orientation and polarity
- 4. Replace the battery compartment cover

Battery Safety Reminders

- Please dispose of batteries responsibly
- Observe local, state, and federal regulations with regard to battery disposal.
- Never dispose of batteries in a fire. Batteries may explode or leak.
- Never mix battery types. Always install new batteries of the same type.



FUSE REPLACEMENT

- 1. Switch the meter off and remove the test leads from the meter's input jacks
- 2. Remove the battery compartment cover.
- 3. Remove the fuse from the battery compartment by first carefully prying one end loose and then sliding the fuse from its bracket
- 4. Install only specified replacement fuses
- Replace the battery compartment cover
 800mA/1000V ceramic 6.3mm x 32mm (SIBA 7017240.0,8)
 10A/1000V ceramic 10mm x 38mm (SIBA 5019906.10)

SPECIFICATIONS

GENERAL SPECIFICATIONS

Englagura	Double molded waterproof		
Enclosure	Double molded, waterproof		
Shock (Drop Test)	6.5 feet (2 meters)		
Diode Test	Test current 0.9mA maximum, open circuit voltage 3.2V DC (typ.)		
Continuity Check	Audible signal will sound if the resistance is less than 25 ohms		
DEAK			
Terra creture Concer	Captures peaks > Ins		
	True DMC		
AC Response			
ACV Bandwidth	50HZ to 100,000HZ		
Crest Factor	<3 at full scale up to 500V, decreasing linearly to <1.5 at 1000V		
Display	50,000 count backlit liquid crystal display with bar-graph		
Memory	2,500 memory locations		
Over-range indication	"OL" is displayed		
Auto Power Off	After 30 minutes of inactivity (approximately) with disable feature		
Polarity	Automatic (no indication for positive); Minus (-) sign for negative		
Measurement Rate	20 times per second		
Low Battery	Battery icon displayed when battery drops below operating voltage		
Fuses	FF 0.8A/1000V 6.3x32mm, (SIBA 7017240.0,8) FF 10A/1000V 10x38mm, (SIBA 5019906.10)		
Operating Temperature	41°F to 104°F (5°C to 40°C)		
Operating Humidity	Max 80% up to 31°C (87°F) decreasing linearly to 50% at 104°F		
Storage Temp/Humidity	-4°E to 140°E (-20°C to 60°C): <80% RH		
Operating Altitude	7000ft (2000meters) may		
	This mater protected by double insulation per EN61010.1 and		
	This meter protected by double insulation per ENOTOTO-T and		
Safaty	Category III 1000V: Pollution Degree 2. The meter also mosts III		
Salety	61010 1 2nd Edition (2004) CAN/CSA C22 2 No. 61010 1 2nd		
	Edition (2004) and U 61010B -2-031 1st Edition (2003)		
	Version 2.04 EDB. Erequency range 2400 MUz - 2482 E MUz		
	VEISION 2.0+EDR, Frequency range 2400 MITZ2403.3 MITZ (ISM Bond). Quard band 2 MHz $\leq E \leq 2.5$ MHz Modulation		
Bluetooth specification	mothed GESK 1 Mbps 0.5 Gaussian: Bosoiving signal range 82		
	to 20 dBm Transmission newor Minimum: 18dBm to ±4 dBm		
	ANSL/ NEDA- 500/LC IEC-CR2032: Normal Voltage: 3.0.Voltage		
Built-in lithium	Typical Capacity: 240 mAh : Storage, 5 Vear Chemical type:		
	Lithium polymer. Standard: CR/T		
Dimensions	1 = 10000000000000000000000000000000000		
Weight	1.05 lbo (020a)		
vveluill	1.03 MS. (0380)		

ELECTRICAL SPECIFICATIONS

Function	Range	Resolution	Accuracy	
	50mV [¹]	0.001mV	(0.05% + 20)	
	500mV [1]	0.01mV	(0.025% + 5digits)	
	5V	0.0001V	(0.025% + 5digits)	
DC Voltage	50V	0.001V	(0.025% + 5digits)	
	500V	0.01V	(0.05% + 5digits)	
ĺ	1000V	0.1V	(0.1% + 5)	
I	[1] Use the relative r	mode (REL Q) to compensate for of	ffsets.	
Function	Range	Resolution	Accuracy	
			50 to 10000Hz	
	50mV	0.001mV		
	500mV	0.01mV		
	5V	0.0001V	50/60HZ(0.3% + 25)	
AC VOllage	50V	0.001V	<trh2(0.5% +="" 25)<="" td=""></trh2(0.5%>	
	500V	0.01V	~5KH2(3% + 25)	
	1000V	0.1V		
	Accuracy for all AC	voltage ranges are specified from 5	5% of range to 100% of range	
Function	Range	Resolution	Accuracy	
			0 to 1000Hz	
	50mV	0.001mV		
	500mV	0.01mV		
(AC+DC)	5V	0.0001V [¹]	<10KHZ(1% + 23)	
	50V	0.001V	~ 10K112(3.5 /0 + 25)	
	500V	0.01V		
	1000V	0.1V		
	[1] Add 1% above 5	k		
Function	Range	Resolution	Accuracy	
	500µA	0.01µA		
	5000µA	0.1µA	0.1%+20	
	50mA	0.001mA		
DC Current	500mA	0.01mA	0.15%+20	
	10A	0.001A	0.3%+20	
	(20A: 30 sec max w	ith reduced accuracy)		
Function	Range	Resolution	Accuracy	
			50 to 10000Hz	
	500µA	0.01µA		
	5000µA	0.1µA	50/60Hz (0.6% + 25	
AC Current	50mA	0.001mA	<1KHz (1.5% + 25)	
	500mA	0.01mA	<10KHz (3% + 25)	
	10A	0.001A		
	(20A: 30 sec max w	ith reduced accuracy)	·	
	Accuracy for all AC current ranges are specified from 5% of range to 100% of range			

Function	Range	Resolution	Accuracy
1 dilotion	lange	Recolution	0 to 1000Hz
	500µA	0.01µA	(1.00) 07)
	5000µA	0.1µA	(1.0% + 25)
(AC+DC)	50mA	0.001mA	
	500mA	0.01mA	
	10A	0.001A	(1.5% + 40)
Function	Range	Resolution	Accuracy
			5K-100K
AC Voltage (5000+ count)	50mV	0.001mV	
	500mV	0.01mV	(5.0% + 40)
	5V	0.0001V	
	50V	0.001V	(6.0% + 40)

NOTE: Accuracy is stated at 18 to 28°C (65 to 83°F) and less than 75% RH. AC switch according to the calibration of sine wave. It generally increases $\pm(2\%$ reading + 2% full scale) if non sine wave if the wave's crest factor is less than 3.0.

Function	Range	Resolution	Accuracy		
Resistance	50Ω[1]	0.001Ω	0.5%+20		
	500Ω[1]	0.01Ω	0.05%+10		
	5kΩ	0.0001kΩ	0.05%+10		
	50kΩ	0.001kΩ			
	500kΩ	0.01kΩ	0.1%+10		
	5ΜΩ	0.0001ΜΩ	0.2%+20		
	50MΩ	0.001ΜΩ	2%+20		
[1] Use the relative mode (REL Q) to compensate for offsets.					
Function	Range	Resolution	Accuracy		
Capacitance	5nF[1]	0.001nF	±(2% + 40)		
	50nF[1]	0.01nF			
	500nF	0.1nF	±(2% + 40 digits)		
	5µF	0.001µF			
	50µF	0.01µF			
	500µF	0.1µF	±(5% +40 digits)		
	10mF	0.01mF			
[1] With a film capacitor or better, use relative mode (REL Δ) to zero residual.					

Function	Range	Resolution	Accuracy
Frequency (electronic)	50Hz	0.001Hz	
	500Hz	0.01Hz	
	5kHz	0.0001kHz	
	50kHz	0.001kHz	±(0.01% + 10)
	500kHz	0.01kHz	
	5MHz	0.0001MHz	
	10MHz	0.001MHz	
	Sensitivity: 2V RMS min. @ 20% to 80% duty cycle and <100kHz; 5V RMS min @ 20% to 80% duty cycle and >100kHz.		
Frequency	40.00-10kHz	0.01 - 0.001kHz	±(0.5% reading)
(electrical)	Sensitivity: 2V RMS		
Function	Range	Resolution	Accuracy
Duty Cycle	0.1 to 99.90%	0.01%	±(1.2% reading + 2 digits)
	Pulse width: 100µs - 100ms, Frequency: 5Hz to 150kHz		
4-20mA%	-25 to 125%	0.01%	±50 digits
	0mA=-25%, 4mA=0%, 20mA=100%, 24mA=125%		
Function	Range	Resolution	Accuracy
RPM	(0.01% + 10)		
Count	(0.5% + 10)		
Clamp(DC)	0.1-100mV/A	0.1A-0.0001A	Clamp + 0.5%
Clamp(AC)	0.1-100mV/A	0.1A-0.0001A	Clamp + 0.5%
Function	Range	Resolution	Accuracy
Temperature (type-K)	-50 to 1000°C	0.1°C	±(1.0% reading + 2.5°C)
			±(1.0% reading + 4.5°F)

Warranty

FLIR Systems, Inc. warrants this Extech Instruments brand device to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department for authorization. Visit the website www.extech.com for contact information. A Return Authorization (RA) number must be issued before any product is returned. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. FLIR Systems, Inc. specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, incidental or consequential damages. FLIR's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

Calibration, Repair, and Customer Care Services

FLIR Systems, Inc. offers repair and calibration services for the Extech Instruments products we sell. NIST certification for most products is also provided. Call the Customer Service Department for information on calibration services available for this product. Annual calibrations should be performed to verify meter performance and accuracy. Technical support and general customer service is also provided, refer to the contact information provided below.

Support Lines: U.S. (877) 439-8324; International: +1 (603) 324-7800

Technical Support: Option 3; E-mail: support@extech.com

Repair & Returns: Option 4; E-mail: repair@extech.com

Product specifications are subject to change without notice

Please visit our website for the most up-to-date information

www.extech.com

FLIR Commercial Systems, Inc., 9 Townsend West, Nashua, NH 03063 USA

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Garantie

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Calibrage, réparation et services après-vente

FLIR Systems, Inc. offre des services de calibrage et de réparation pour les produits Extech Instruments que nous commercialisons. Nous fournissons également une certification NIST pour la plupart des produits. Contactez notre service client pour toute information sur les services de calibrage disponibles pour ce produit. Un calibrage doit être effectué chaque année pour vérifier les performances et la précision du mètre. Nous offrons également une assistance technique et un service à la clientèle. Veuillez vous reporter aux coordonnées fournies ci-dessous.

Lignes d'assistance: États-Unis (877) 439-8324; international: +1 (603) 324-7800

Service d'assistance technique : Option 3 ; E-mail : support@extech.com

Réparations et retours : Option 4 ; E-mail : repair@extech.com

Les spécifications produit sont sujettes à modifications sans préavis.

Pour les toutes dernières informations, veuillez visiter notre site Web.

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Servicios de calibración, reparación y atención a clientes

FLIR Systems, Inc., ofrece servicios de reparación y calibración para los productos que vendemos de Extech Instruments. Además ofrecemos certificación NIST para la mayoría de los productos. Llame al Departamento de Servicio al Cliente para solicitar información de calibración para este producto. Para verificar el funcionamiento y precisión se debe realizar la calibración anual. Además se provee Soporte Técnico y servicios generales al cliente, consulte la información de contacto en seguida.

Líneas de soporte: EE.UU. (877) 439-8324; Internacional: +1 (603) 324-7800 Soporte Técnico Opción 3; correo electrónico: support@extech.com Reparación / Devoluciones: Opción 4; correo electrónico: repair@extech.com Las especificaciones del producto están sujetas a cambios sin aviso Por favor visite nuestra página en Internet para la información más actualizada www.extech.com FLIR Commercial Systems, Inc., 9 Townsend West, Nashua, NH 03063 USA Certificado ISO 9001

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