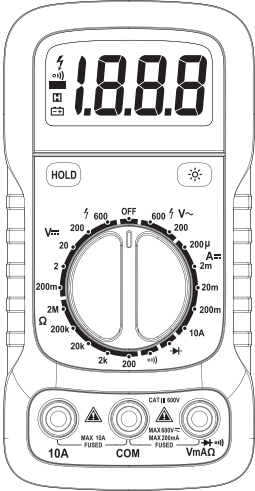
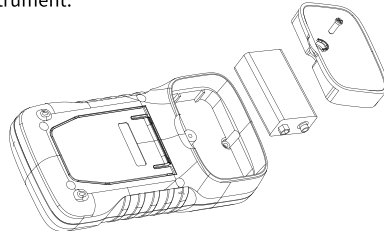
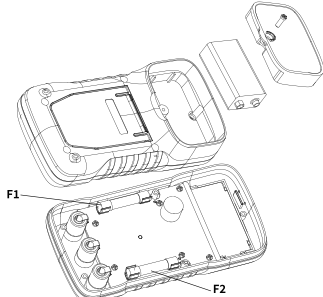


USERS MANUAL DIGITAL MULTIMETER  	Table of Contents 1. Overview1 2. Safety Information1 3. Product Profile6 3.1 Product Appearance and Specifications6 3.2 Function Keys6 3.3 LCD7 4. Technical Indicators7 4.1 General Characteristics7 4.2 Accuracy Index8 5. Measurement Operation10 5.1 Measure DC Voltage10 5.2 Measure DC Current11 5.3 Measure AC Voltage13 5.4 Measure Resistance14 5.5 Measure Diode15 5.6 Measure Continuity15 6. Repair15 6.1 Replace the Battery15 6.2 Replace the Fuse16 6.3 Maintenance17 Accessories17
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Technical Indicators Overload protection: Built in 600V withstand voltage PTC resistor. Frequency range: 45~1000Hz. 4.2.3 DC Current <table><tr><th>Range</th><th>Resolution</th><th>Accuracy</th></tr><tr><td>200μA</td><td>0.1μA</td><td>±(1.0% reading + 3dgt)</td></tr><tr><td>2mA</td><td>0.001mA</td><td>±(1.0% reading + 3dgt)</td></tr><tr><td>20mA</td><td>0.01mA</td><td>±(1.0% reading + 5dgt)</td></tr><tr><td>200mA</td><td>0.1mA</td><td>±(1.5% reading + 5dgt)</td></tr><tr><td>10A</td><td>0.01A</td><td>±(3.0% reading + 8dgt)</td></tr></table> Protection: F 250mA/600V,F 10A/600V. 5-10A measurement time: maximum 10 seconds, interval 3-5 minutes. 4.2.4 Resistance <table><tr><th>Range</th><th>Resolution</th><th>Accuracy</th></tr><tr><td>200Ω</td><td>0.1Ω</td><td>±(0.8% reading+ 5dgt)</td></tr><tr><td>2kΩ</td><td>0.001kΩ</td><td>±(0.8% reading+ 2dgt)</td></tr><tr><td>20kΩ</td><td>0.01kΩ</td><td>±(0.8% reading+ 2dgt)</td></tr><tr><td>200kΩ</td><td>0.1kΩ</td><td>±(0.8% reading+ 2dgt)</td></tr><tr><td>2MΩ</td><td>0.001MΩ</td><td>±(1.0% reading+ 5dgt)</td></tr></table> 4.2.5 Diode & Continuity <table><tr><th>Range</th><th>Function</th></tr><tr><td></td><td>Display the approximate forward voltage of the diode.</td></tr></table>	Range	Resolution	Accuracy	200μA	0.1μA	±(1.0% reading + 3dgt)	2mA	0.001mA	±(1.0% reading + 3dgt)	20mA	0.01mA	±(1.0% reading + 5dgt)	200mA	0.1mA	±(1.5% reading + 5dgt)	10A	0.01A	±(3.0% reading + 8dgt)	Range	Resolution	Accuracy	200Ω	0.1Ω	±(0.8% reading+ 5dgt)	2kΩ	0.001kΩ	±(0.8% reading+ 2dgt)	20kΩ	0.01kΩ	±(0.8% reading+ 2dgt)	200kΩ	0.1kΩ	±(0.8% reading+ 2dgt)	2MΩ	0.001MΩ	±(1.0% reading+ 5dgt)	Range	Function		Display the approximate forward voltage of the diode.	Measurement Operation The buzzer sounds when the on-resistance is less than about 60Ω. It is normal for the buzzer to sound when the resistance is less than 120Ω. Open circuit voltage: about 2.4-3V. Overload protection: Built in 600V withstand voltage PTC resistor. 5. Measurement Operation Precautions before operation: 1. Connect the power and check the 9V battery first. In case of insufficient battery voltage, "" will be displayed on the display, and the battery needs to be replaced. If "" is not displayed on the display, follow the steps below. 2. The "" symbol next to the test pen jack indicates that the input voltage should not exceed the indicated value, which is to protect the internal circuit from damage. 3. Before testing, turn the switch into the gear you need. 5.1 Measure DC Voltage 1. Insert the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack, and the black probe into the "COM" jack. 2. Set the function range switch to the "$V\text{---}$" range, and connect the test pen to the power supply or load to be tested. The polarity of the red probe connected	Measurement Operation to the terminal will be displayed on the monitor at the same time. Note 1. If the measured voltage range is not known in advance, please set the functional range switch to the maximum range and gradually decrease it until satisfactory resolution is achieved. 2. If the display only shows "OL", it means that the range has been exceeded, and the function range switch should be set to a higher range. 3. Do not input voltages higher than 600V. It is possible to display higher voltages, but there is a risk of damaging the internal wiring of the instrument. 4. In measuring high voltage, special attention should be paid to avoid electric shock. 5.2 Measure DC Current Warning Do not attempt to measure current on the circuit when the voltage between the open circuit voltage and ground exceeds 30V. If internal components are damaged during measurement, you may damage the instrument or hurt yourself. When measuring, please use the correct input socket, function gear and range. When the	Measurement Operation test pen is plugged into the current input socket, do not connect the other terminal of the test pen in parallel to any circuit. 1. Cut off the power supply of the circuit under test. Discharge all high-voltage capacitors on the circuit under test. 2. Insert the black probe into the "COM" jack. When the measured current does not exceed 200mA, insert the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack. If the current being measured is between 200mA and 10A, insert the red probe into the "10A" jack. 3. Set the functional range switch to the required "$A\text{---}$" range position, connect the test pen to the load to be measured in series, and the polarity of the red pen connection will be displayed when the current value is displayed. 4. Disconnect the circuit to be tested. Connect the black test pen to the low potential end of the disconnected circuit, and connect the red test pen to the high potential end of the disconnected circuit. 5. Turn on the power supply of the circuit under test, and then read the displayed reading. If the display only shows "OL", this means that the input exceeds the selected range and the rotary switch should be placed at a higher range. 6. Cut off the power to the circuit under test,	Measurement Operation discharge all high-voltage capacitors, remove the test pen of the instrument and restore the circuit to its original state. Warning 1. If the measured current range is not known in advance, please put the function range switch at the maximum range, and then gradually decrease until satisfactory resolution is achieved. 2. If the display only shows "OL", it means that the range has been exceeded, and the function range switch should be set to a higher range. 3. The "" symbol next to the test pen jack indicates that the maximum input current is 200mA or 10A depending on the jack used. Excessive current will burn out internal components. 4. When measuring a large current of 5-10A, the power-on time should not exceed 10s to avoid unstable test data due to heat or damage to the instrument due to overheating. 5. When making multiple measurements, the time interval between each measurement must be 3-5min. 5.3 Measure AC Voltage 1. Insert the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack, and the black probe into the "COM" jack. 2. Set the function range switch to the "$V\text{~}$" range,
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Measurement Operation and connect the test pen to the power supply or load to be tested. Note: Refer to DC voltage measurement precautions 1, 2, 3, and 4. 5.4 Measure Resistance 1. Insert the black probe into the "COM" jack, and the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack. 2. Place the rotary switch in the "Ω" gear, connect the red and black probes to the resistor under test, and read the measurement result from the display. Note 1. If the measured resistance exceeds the maximum value of the selected range, the over-range "OL" will be displayed, and a higher range should be selected at this time. When measuring the resistance above 1MΩ, it may take several seconds for the reading to be stable, which is normal for high resistance measurement. If the display only shows "OL", this means that the range has been exceeded and the function range switch should be placed at a higher range. 2. When there is no input, such as an open circuit, the instrument displays "OL". 3. When checking the on-line resistance, all power supplies in the tested line must be turned off first, and all capacitors must be fully discharged.	Repair 5.5 Measure Diode 1. Insert the black probe into the "COM" jack, and the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack, with the polarity of the red probe being positive. 2. Place the rotary switch in the "$\rightarrow+$" gear, connect the red probe to the anode of the diode under test, and the black probe to the cathode of the diode, and read the approximate forward voltage drop value of the diode value under test on the display. 5.6 Measure Continuity Insert the black probe into the "COM" jack, and the red probe into the "$V\Omega\rightarrow\rightarrow\rightarrow mA$" jack. Place the rotary switch in the "" gear, and connect the probe to two points on the circuit under test. If the resistance between these two points is less than about 60Ω, the built-in buzzer will sound an alarm. 6. Repair 6.1 Replace the Battery If the "" symbol appears on the LCD screen when the instrument is in use, the battery must be replaced to prevent the instrument from working abnormally. 1. Unplug the test line, and set the function range switch to the OFF gear. 2. Open the battery cover screw with a screwdriver	Repair and take out the battery cover and battery. 3. The battery used in this instrument is: 6F22 9V, and insert batteries of the same specifications. 4. After replacing the battery, cover the battery cover and tighten the screws before using the instrument.  6.2 Replace the Fuse Fuse specifications: diameter 6mm, length 20mm. Fuse parameters: F1: F 250mA/600V; F2: F 10A/600V. 1. Unplug the test line, and set the function range switch to the OFF gear. 2. Open the battery cover with a screwdriver and take out the battery. 3. Remove the top and bottom screws and open the rear shell of the instrument.	Repair 4. Remove the damaged fuse, replace it with one of the same specification, cover the rear shell again, tighten the screws, install the battery, and cover the battery cover.  6.3 Maintenance Clean the instrument surface with a soft cloth when necessary. Do not use organic solvents or abrasives that corrode and dissolve the casing. Accessories <table><tr><td>●Instruction manual</td><td>1</td></tr><tr><td>●Test probe</td><td>1</td></tr><tr><td>●6F22 9V</td><td>1</td></tr></table>	●Instruction manual	1	●Test probe	1	●6F22 9V	1	EMC&LVD IEC61010-1 CAT IV 600V RoHS Y01-04-0253																																		
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