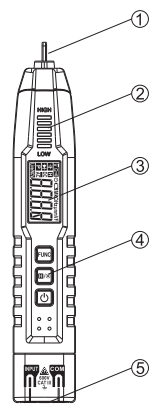


<p>Safety statement</p> <p>⚠ Caution: Operation that may cause damage to meter</p> <p>⚠ Warning: operation that may cause danger to users.</p> <p>Safety Instructions</p> <p>The meter conforms to IEC61010-1 CAT.III600V overvoltage safety standard and pollution level 2.</p> <p>Safety specification</p> <p>⚠ Warning</p> <p>To avoid possible electric shock or personal injury, please observe the following specifications:</p> <ul style="list-style-type: none"> ● Please read this manual carefully and pay special attention to safety warning information before using the meter. ● Operate the meter according to the manual, otherwise the protection function provided by the instrument may be damaged or weakened. ● Take special care when measuring values that exceed 60VDC, 30vac <p>1</p>	<p>RMS, or 42V. This kind of voltage has the danger of electric shock.</p> <ul style="list-style-type: none"> ● Do not measure voltage higher than the rated value between terminals or between terminals and ground. ● Measure the known voltage to check whether the meter works normally. If it is not normal or damaged, please do not use it again. ● Before using the meter, please check whether there are cracks or damaged plastic parts in the instrument shell. If so, please do not use it again. ● Before using the meter, please check whether the probe is cracked or damaged. If so, please replace the probe with the same model and the same electrical specification. ● Please use the meter according to the measurement category, voltage or current rating specified in the meter or manual. ● Please observe local and national safety regulations. Wear personal protective equipment (such as approved rubber gloves, masks and <p>2</p>	<p>flame retardant clothing, etc.) to prevent injury caused by electric shock and electric arc when dangerous live conductors are exposed.</p> <ul style="list-style-type: none"> ● When the "a" symbol is displayed on the meter, please replace the battery in time to prevent measurement error. ● Do not use the meter in the environment with explosive gas or steam or humid environment. ● When using the probe, please hold your fingers behind the probe finger guard. ● When measuring, please connect the null or ground wire first, then the live wire; when disconnected, please disconnect the live wire first, and then the null or ground wire. ● Remove the probe from the meter before opening the case or battery cover. Do not use the meter when the meter is disassembled or the battery cover is opened. ● The meter can only be used together with the probe provided to meet the <p>3</p>	<p>requirements of the safety standard. If the probe is damaged and needs to be replaced, the probe of the same model and electrical specification must be replaced.</p> <p>Overview</p> <p>This instrument is a true RMS digital multi-meter with intelligent test function.</p>  <p>① NCV sensor ② Signal intensity indicator ③ Display ④ Function key ⑤ Input Jack</p> <p>4</p>	<p>Power on / off</p> <p>Press and hold the "⏻" key for about 2 seconds to turn on or off.</p> <p>Gear selection</p> <p>Press the "FUNC" key to make gear selection. Press and hold the "FUNC" key for about 2 seconds to return to the NCV measurement mode. Power on is in NCV measurement mode by default.</p> <p>Data hold</p> <p>Press "HOLD" key to turn on or off data holding.</p> <p>Flashlight</p> <p>Press and hold "LIGHT" key for about 2 seconds to turn on or off flashlight.</p> <p>Auto power off</p> <p>After power on, auto power off will be on by default and "LO" symbol will be displayed. Without any key operation in about 15 minutes, the meter will automatically shut down to save battery energy.</p> <p>Measurement operation</p> <p>5</p>	<p>⚠ Warning</p> <ul style="list-style-type: none"> ● Do not measure the voltage higher than 600V, otherwise the meter may be damaged. ● Pay special attention to safety when measuring high voltage to avoid electric shock or personal injury. ● Before use, test the known voltage with the meter to confirm that the meter is in good condition. <p>1. NCV measurement</p> <p>1) Press "⏻" key to power on into NCV measurement mode by default</p> <p>2) Gradually close the NCV sensing area to the measured conductor</p> <ul style="list-style-type: none"> ● When the weak electric field signal is detected, it will display "---L"; the buzzer will sound slowly and the green light on. ● When the strong electric field signal is detected, it will display "---H"; the buzzer will sound quickly and the red light on. <p>2. Smart (AUTO) measurement</p> <p>In this mode, DC voltage, AC voltage, resistance, continuity can be measured,</p> <p>6</p>	<p>and the meter can automatically identify the measurement signal.</p> <p>1) Press "⏻" key to power on, display Auto and enter the intelligent measurement mode.</p> <p>2) Press "FUNC" key to select "AUTO" gear.</p> <p>3) Insert the red probe into "INPUT" jack and the black probe into the "COM" jack.</p> <p>4) Contact the probe with both ends of the measured subject or resistance (parallel), and the meter will automatically recognize the measured signal.</p> <p>When measuring the resistance, if the resistance value is < about 50 Ω, the buzzer will sound</p> <p>4) Read the results from the display.</p> <p>NOTE : The minimum measurable voltage of this mode is about 0.8V</p> <p>3. Frequency measurement</p> <p>1) Press "⏻" key to power on,</p> <p>7</p>	<p>2) Press "FUNC" key to select "Hz" gear.</p> <p>3) Insert the red probe into "INPUT" jack and the black probe into the "COM" jack.</p> <p>4) Contact the probe with both ends of the measured subject .</p> <p>5) Read the results from the display.</p> <p>4. Cap measurement</p> <p>1) Press "⏻" key to power on,</p> <p>2) Press "FUNC" key to select "Cap" gear.</p> <p>3) Insert the red probe into "INPUT" jack and the black probe into the "COM" jack.</p> <p>4) Contact the probe with both ends of the measured Cap .</p> <p>5) Read the results from the display.</p> <p>5. Diode measurement</p> <p>1) Press "⏻" key to power on,</p> <p>2) Press "FUNC" key to select "Diode" gear.</p> <p>3) Insert the red probe into "INPUT" jack</p> <p>8</p>
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<p>and the black probe into the "COM" jack.</p> <p>4) Connect the red probe to the anode of the diode and the black probe to the cathode of the diode</p> <p>5) Read the forward bias value on the display screen.</p> <p>6) If the electrode of the test wire is inversely connected with the electrode of the diode, the display will read OL , which can be used to distinguish the anode and cathode of the diode</p> <p>6. Live wire detecting</p> <p>1) Press "⏻" key to power on,</p> <p>2) Press "FUNC" key to select "LIVE" gear.</p> <p>3) Insert the red probe into "INPUT" jack and remove the black probe.</p> <p>4) Use the red probe contact the conductor.</p> <ul style="list-style-type: none"> ● When the weak electric field signal is detected, it will display "---L"; the buzzer will sound slowly and the green light on. <p>9</p>	<ul style="list-style-type: none"> ● When the strong electric field signal is detected, it will display "---H"; the buzzer will sound quickly and the red light on. <p>7. Non-contact phase sequence detection</p> <p>1) Press "⏻" key to power on,</p> <p>2) Press "FUNC" key to select "Phase" gear to enter the phase sequence detection state</p> <p>a) Display the "PA" symbol with the "A" letter flashing and sticks the sensing probe to the first phase line, waiting for a beep</p> <p>b) Display the "PAB" symbol with the "B" letter flashing and stick the sensing probe to the second phase line and wait for a beep</p> <p>c) Display the "PABC" symbol with the "C" letter flashing and stick the sensing probe to the second phase line and wait for a long beep</p> <p>d) At the end of the test, the display will display the measurement results on the display</p> <ul style="list-style-type: none"> ◆ "P --- L" symbol displayed on the screen indicates left-handed phase <p>10</p>	<p>sequence</p> <ul style="list-style-type: none"> ◆ "P --- R" symbol displayed on the screen indicates right -handed phase sequence <p>Note1 : Please connect the probe to the wire.</p> <p>Note2 : The thickness and type of shielded wires / cables, insulation, or complete insulation will affect the test</p> <p>Note3: Please complete the test on the three wires within 1 minute, otherwise the detection timeout error will occur, The prompt is that the PABC symbol appear and the P letter flashes. In case of timeout error, please return to phase sequence detection function for the retest .</p> <p>Note4: When the three wires are close to each other, separate the wires as much as possible for better detection</p> <p>General Technical Specifications</p> <ul style="list-style-type: none"> ● Environment condition of using: CAT. III 600V; Pollution level2, Altitude < 2000m <p>11</p>	<p>Working temperature and humidity: 0~40°C(<80% RH, <10°C non condensing)</p> <p>Storage temperature and humidity: -10~60°C(<70% RH, remove the battery)</p> <ul style="list-style-type: none"> ● Temperature coefficient: 0.1× accuracy /°C (<18°C or >28°C) . ● MAX. Voltage between terminals and earth ground: 600V ● Sampling rate: approx. 3 times/second. ● Display: 4000 counts ● Over range indication: "OL". ● Low battery indication: "⏻" will be displayed. ● Input polarity indication: display "--". ● Power requirement: 2 x 1.5V AAA batteries. <p>Accuracy Specifications</p> <p>The accuracy applies within one year after the calibration.</p> <p>Reference condition: the environment temperature 18°C to 28°C, the relative humidity is no more than 80%, accuracy: ± (% reading + word) .</p> <p>12</p>	<p>DC voltage test</p> <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>4V</td> <td>0.001V</td> <td rowspan="4">±(0.5%+3)</td> </tr> <tr> <td>40V</td> <td>0.01V</td> </tr> <tr> <td>400V</td> <td>0.1V</td> </tr> <tr> <td>600V</td> <td>1V</td> </tr> </tbody> </table> <p>measurable voltage: 0.8V~600V</p> <p>Impedance: Approx.10MΩ</p> <p>AC voltage test</p> <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>4V</td> <td>0.001V</td> <td rowspan="4">±(0.8%+3)</td> </tr> <tr> <td>40V</td> <td>0.01V</td> </tr> <tr> <td>400V</td> <td>0.1V</td> </tr> <tr> <td>600V</td> <td>1V</td> </tr> </tbody> </table> <p>measurable voltage: 0.8V~600V</p> <ul style="list-style-type: none"> ◆ Impedance: Approx.10MΩ ◆ Frequency Response: 40Hz~1kHz; TRMS <p>Resistance test</p> <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>4000 Ω</td> <td>1 Ω</td> <td rowspan="3">±(1.0%+5)</td> </tr> <tr> <td>40 K Ω</td> <td>0.01 K Ω</td> </tr> <tr> <td>400 K Ω</td> <td>0.1 K Ω</td> </tr> </tbody> </table> <p>13</p>	Range	Resolution	Accuracy	4V	0.001V	±(0.5%+3)	40V	0.01V	400V	0.1V	600V	1V	Range	Resolution	Accuracy	4V	0.001V	±(0.8%+3)	40V	0.01V	400V	0.1V	600V	1V	Range	Resolution	Accuracy	4000 Ω	1 Ω	±(1.0%+5)	40 K Ω	0.01 K Ω	400 K Ω	0.1 K Ω	<table border="1"> <tbody> <tr> <td>4MΩ</td> <td>0.001 MΩ</td> <td rowspan="2">±(1.5%+10)</td> </tr> <tr> <td>40 MΩ</td> <td>0.01 MΩ</td> </tr> </tbody> </table> <p>Continue test</p> <table border="1"> <tbody> <tr> <td>• </td> <td><Approx. 50Ω, Buzzer will sound and the indicator light will be on.</td> </tr> </tbody> </table> <p>Cap test</p> <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>40nF</td> <td>0.01 nF</td> <td rowspan="6">±(3.0%+5)</td> </tr> <tr> <td>400nF</td> <td>0.1 nF</td> </tr> <tr> <td>4uF</td> <td>0.001uF</td> </tr> <tr> <td>40 uF</td> <td>0.01uF</td> </tr> <tr> <td>400 uF</td> <td>0.1uF</td> </tr> <tr> <td>4mF</td> <td>0.001 mF</td> </tr> </tbody> </table> <p>Frequency test</p> <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution</th> <th>Accuracy</th> </tr> </thead> <tbody> <tr> <td>40Hz</td> <td>0.01Hz</td> <td rowspan="5">±(1.0%+3)</td> </tr> <tr> <td>400Hz</td> <td>0.1Hz</td> </tr> <tr> <td>4KHz</td> <td>0.001KHz</td> </tr> <tr> <td>40kHz</td> <td>0.01kHz</td> </tr> <tr> <td>400kHz</td> <td>0.1kHz</td> </tr> </tbody> </table> <p>14</p>	4MΩ	0.001 MΩ	±(1.5%+10)	40 MΩ	0.01 MΩ	•	<Approx. 50Ω, Buzzer will sound and the indicator light will be on.	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Wipe the contacts in each input socket with a clean swab soaked in alcohol. <p>⚠ Warning</p> <p>Always keep the inside of the meter clean and dry to prevent electric shock or damage to the meter.</p> <p>Replace battery</p> <ol style="list-style-type: none"> 1) Turn off the meter power and remove the probes. 2) Remove the screw fixing the battery cover and remove the battery cover. 3) Remove the old battery and replace <p>15</p>	4MHZ	0.001 MHZ	<p>it with a new one of the same specification. Please pay attention to the battery polarity.</p> <p>4) Install the battery cover back to its original position, and fix and lock the battery cover with screws.</p> <p>⚠ Warning</p> <ul style="list-style-type: none"> ● To avoid electric shock or personal injury caused by wrong reading, please replace the battery immediately when the battery is low. Do not discharge the battery by shorting it or reversing its polarity. ● To operate and maintain the meter safely, please take out the battery when it is not used for a long time to prevent the battery leakage from damaging the product. <p>16</p>
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