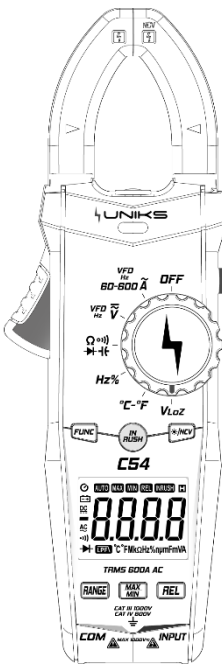

C58

Digital Trms AC/DC Clamp Meter

User Manual

V.1.0 27.11.2023

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1. Safety Information

⚠ WARNING

Special attention shall be paid when using the meter, improper use might cause an electric shock or damage the meter. During use, it is necessary to follow the usual safety regulations and fully comply with the safety measures specified in the user manual.

To fully make use of the functions of the meter and ensure safe operation, please carefully read and follow the instructions of this manual.

Instrument complies with safety requirements on electronic measuring instrument of EN-61010-1, EN-61010-2-030, EN-61010-2-032, level II pollution, and over-voltage standard is CAT III 1000V， CAT IV 600V. Please follow the safety operation guidelines to ensure safe use of the meter.

1.1 Preparations

1.1.1 When use the meter, users must comply with the standard safety rules:

- General protection against electric shock
- Prevent misuse of the meter

1.1.2 After received the meter, check if it has been damaged during the delivery.

1.1.3 After storage and shipment under poor conditions, inspect and confirm whether the meter is damaged.

1.1.4 The pen must be in good condition. Before use, check the pen to see if any damage to the insulation and if the metal wire of the wire exposed.

1.2 Symbol

⚠ Note (important security information, see the Instruction Manual).

Able to be used on dangerous electrified conductors.

Dual- insulation protection (Category II).

CAT III ,CAT IV follow the over-voltage (Setup) level III 、 IV of IEC-61010-1 standard and pollution degree 2 means the impulse withstand voltage level of protection provided.

CE In line with the European Union (EU) Standard.

⏚ Grounded

1.3 Maintenance

1.3.1 Please do not attempt to open the bottom case to adjust or repair the meter. Such operation could only be performed by technicians who are fully aware of the meter and the risk of electric shock.

1.3.2 Before opening the meter case or battery cover, the pen should be removed from the tested line.

1.3.3 To avoid electric shock that might be caused by erroneous readings, when the meter displays "  " symbol, the battery should be replaced immediately.

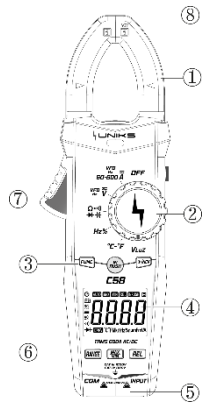
1.3.4 Use a damp cloth and mild detergent to clean the meter, do not use abrasive cleaning agents or solvents.

1.3.5 Power supply of the meter should be turned off when not use and range should be switched to the OFF position.

1.3.6 If the meter is not used for a long time, batteries should be removed to prevent damage to the meter.

2. Description

2.1 Part Name



① Current clamp head: used for measuring current

② Rotary switch

③ Function button

④ Display screen

⑤ Input socket

⑥ Function button

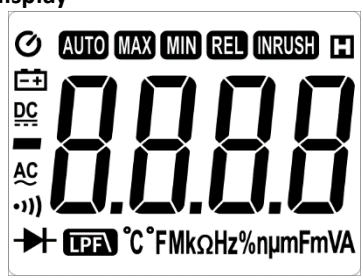
⑦ Trigger

⑧ Non-contact voltage detecting & inducing area

2.2 Instructions to rotary switch

OFF	Meter OFF position
VFD Hz 600 Ã	60A/600A range of AC/DC current measurement.
VFD Hz Ṽ	AC/ DC Voltage measurement.
Ω •))) ⊣ ⊣(	Resistance / Continuity / Diode / Capacitance
Hz%	Frequency / Duty
°C-°F	Temperature measurement
VLoZ	Low resistance voltage measurement.

2.3 LCD display



	Automatic shutdown indication
	Battery low voltage indication
INRUSH	Inrush current measurement mode
AUTO	Auto range
REL	Relative measurement mode
MAX	Maximum measurement indication
MIN	Minimum measurement indication
LPF	Low pass filter indicator
	Continuity indication
	Diode measurement mode
	Data negative sign
DC、AC	DC、AC
H	Data hold status
%	Duty cycle symbol
Hz、kHz、MHz	Hertz, Kilohertz, Megahertz
°C、°F	℃、℉
nF、μF、mF	Capacitance unit：nF、μF、mF
mA、A	Current value unit：mA、A
mV、V	Voltage value unit：mV、V
Ω、kΩ、MΩ	Resistance value unit : Ohm, Kilohm, Megohm

3. Specification

The meter should specify one year as a cycle to re-calibrate in the conditions of 18℃ ~ 28℃ and relative humidity less than 75%**.**

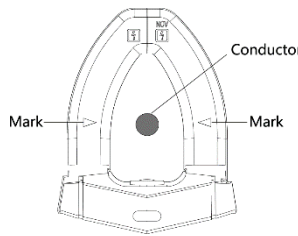
3.1 Overview

- Automatically select measurement function and range.
- Overload protection for the whole measurement range.
- Maximum allowable voltage between the measuring terminal and the ground : 1000V DC or 1000V AC.
- Work height: < 2000m.
- Display : LCD
- Maximum display value : 6000 digits.
- Polar indication : automatically indicate '-' means negative polarity
- Over range Indication :'0L' or '-0L'
- Sampling time : about 3 times/s
- Unit display : with function and quantity of electricity unit display.
- Automatic Power off time : 10 minutes.
- Power supply : 1.5V AAA battery ×3
- Battery low voltage indication：LCD display symbol.

- Temperature coefficient: < 0.1×accuracy /℃
- Working temperature : 18℃ ~ 28℃
- Storage temperature : -10℃ ~ 50℃

3.2 Technical Index

When measuring current，place the conductor to the center of the clamp head. If not, it can increase ±1.5% position deviation to the maximum.



3.2.1 DC current

Range	Resolution	Accuracy
60A	0.01A	± (3.0% reading +10 digits)
600A	0.1A	

- Minimum input value of DC current : 0.1A DC
- Maximum input value of DC current : 600A DC

3.2.2 AC Current

Range	Resolution	Accuracy
60A	0.01A	± (2.5% reading +5 digits)
600A	0.1A	

- Minimum input value of AC current : 0.1A (rms)
- Maximum input value of AC current : 600A (rms)
- Frequency range: 45Hz ~ 1000Hz

3.2.3 AC Voltage

Range	Resolution	Accuracy
6V	0.001V	± (0.8% reading +5 digits)
60V	0.01V	
600V	0.1V	
1000V	1V	± (1.0% reading +5 digits)

- Minimum input value of AC voltage: 1mV (rms)
- Maximum input value of AC voltage: 1000V (rms)
- Frequency range: 45Hz ~ 1000Hz

3.2.4 DC Voltage

Range	Resolution	Accuracy
6V	0.001V	± (0.5% reading +5 digits)
60V	0.01V	
600V	0.1V	
1000V	1V	

- Minimum input value of DC voltage：1mV
- Maximum input value of DC voltage：1000V

3.2.5 Frequency / Duty

3.2.5.1 By A Range(from current clamp)：

Range	Resolution	Accuracy
100Hz	0.01Hz	± (1.0% reading +5 digits)
1000Hz	0.1Hz	
10kHz	0.001kHz	

- Frequency input rang：10Hz ~ 10kHz
- Input signal range：≥ 25A AC current (rms)

3.2.5.2By V Range:

Range	Resolution	Accuracy
100Hz	0.01Hz	± (1.0% reading +5 digits)
1000Hz	0.1Hz	
10kHz	0.001kHz	
100kHz	0.01kHz	
500kHz	0.1kHz	

- Frequency input range：10Hz ~ 500kHz
- Input signal range：≥ 0.8V AC voltage（rms）

3.2.5.3 By Hz/%Range：

Range	Resolution	Accuracy
10Hz	0.001Hz	± (0.5% reading +5 digits)
100Hz	0.01Hz	
1kHz	1Hz	
10kHz	10Hz	
100kHz	100Hz	
1MHz	1kHz	
10MHz	10kHz	
1%-99%	0.1%	± (3.0% reading +2 digits)

- Overload protection：1000V DC or AC（rms）
- Input signal range：≥ 0.8V AC voltage（rms）

3.2.6 Continuity

Range	Resolution	Functions
•))	1Ω	If resistance is lower than 30Ω, then the beeper in the meter may sound. The circuit voltage is about 1V.

- Overload protection：1000V DC or AC（rms）

3.2.7 Diode

Range	Resolution	Functions
3V	0.001V	Displays approximate value of diode forward voltage Forward voltage. The circuit voltage is about 3V.

- Overload protection：1000V DC or AC（rms）

3.2.8 Resistance

Range	Resolution	Accuracy
600Ω	0.1Ω	±(1.0% reading +3 digits)
6kΩ	0.001kΩ	
60kΩ	0.01kΩ	
600kΩ	0.1kΩ	
6MΩ	0.001MΩ	
60MΩ	0.01MΩ	±(2.0% reading +3 digits)

- Overload protection：1000V DC or AC（rms）

3.2.9 Capacitance

Range	Resolution	Accuracy
6.000nF	0.001nF	± (4.0% reading +5 digits)
100.0nF	0.1nF	
1.000uF	1nF	
10.00uF	10nF	
100.0uF	100nF	
1.000mF	1uF	
10.00mF	10uF	± (4.0% reading +5 digits)
100mF	100uF	± (5.0% reading +5 digits)

- Overload protection: 1000V DC or AC (rms)

3.2.10 Temperature

Range	Resolution	Accuracy
-20 ~ 1000℃ (-4 ~ 1832℉)	1℃/2℉	± (1.0% reading +2 digits)

- Overload protection: 1000V DC or AC (rms)

4. Operation Guide

4.1 Data Hold / Light

During the measuring process, if the readings are required to hold, slightly press "H" button, the display value will be locked, slight press "H" button again to cancel data hold. Press and hold for more than 2 seconds to turn on or off the lighting, and it will automatically turn off after about 1 minute.

4.2 LCD Backlight / Non-contact Voltage Detection (NCV)

In the process of measurement, if the ambient light is too dim, causing reading difficulties, press "✳/NCV" button to open backlight and it will automatically turn off after about 1 minute. Press and hold for more than 2 seconds to enter the non-contact voltage detection mode and release to exit the mode.

4.3 Auto Power Off

1) If there is no operation within 10 minute, the meter will enter sleep state and automatically shut down to save power.
2) After the auto power-off, press the "FUNC" button to wake the meter into working status.

3) When turn the meter on, hold the "FUNC" button at the same time, then the auto power off function will be canceled.

4.4 Manual Range

Press the"RANGE"button to enter manual range mode, press the button again to switch to the current range, press and hold to exit manual range mode.

4.5 Relative Measurements

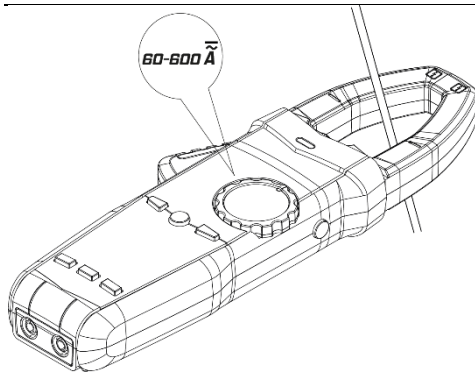
Press "REL" button to enable or disable the relative measurement function. When relative measurement is enabled, the display value will be reset.

4.6 AC / DC Current Measurement

1) Turn rotary switch to current range , press the "FUNC" button to select the DC Current, AC Current, frequency measurement. Hold trigger, open the clamp, and clamp one cable of the measured circuit and the meter will display the current value measured.

2) In the AC current mode, press and hold "FUNC" button for more than 2 seconds to start VFD measurement function.

3) Press "IN RUSH" button to turn on the inrush current measurement function while in AC current.

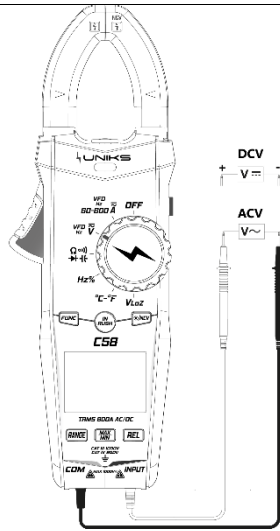


4.7 AC / DC voltage measurement

1）Turn rotary switch to AC/DC voltage, press "FUNC" button to shift between AC and DC voltage measurement mode, and connect the probe to the measured signal.

2）In DC mode, the red probe is connected to the positive pole of the measured signal and the black probe is connected to the negative pole of the measured signal.

3）When measuring AC voltage，Press and hold the "FUNC" button for more than 2 seconds to start the VFD measurement function.



4.8 Low resistance voltage measurement

Turn rotary switch to "**VLoZ**", press "**FUNC**" button to switch between AC and DC voltage measurement mode to connect the probe to the measured signal.

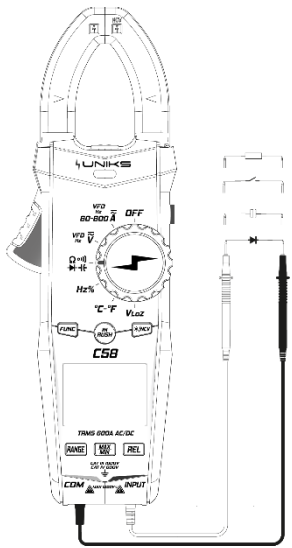
Note：In low resistance measurement mode，the input impedance is 300kΩ，the longest measurement time shall not be more than 1 minute.

4.9 Resistance / Continuity / Diode / Capacitance measurement

Turn rotary switch to "Ω", press "FUNC" button to switch to select the resistance, continuity, diode, capacitance measurement function.

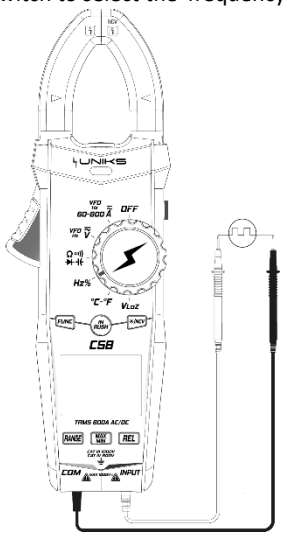
1) When resistance measurement is selected, the meter displays the measured resistance value.
2) When choosing the continuity function measurement, the meter will display the resistance value of the measured impedance. When the measured value is less than about 30Ω, the meter will buzz. When the measured resistance value is more than about 600Ω, it will display OL.
3) When selecting the diode function for measurement, the red probe is connected to the positive pole of the measured diode and the black probe is connected to the negative pole of the measured diode and the meter will display approximate value of forward voltage. When the probe is connected in reverse to measure diode, the meter will display OL.
4) When capacitance measurement is selected, the meter displays the measured capacitance value.

Note：When measuring large capacitance, the capacitance should be fully discharged before measurement, otherwise it may introduce significant errors.



4.10 Frequency / Duty

Turn rotary switch to "**Hz%**" , press "FUNC" button to switch to select the frequency or duty measurement.



4.11 Temperature measurement

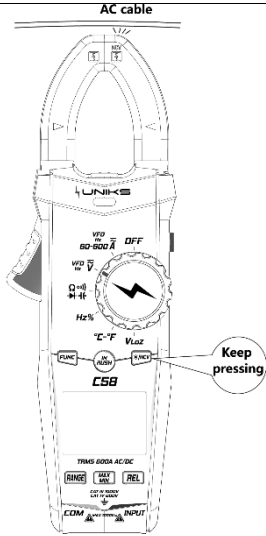
Turn rotary switch to "°C-°F", insert thermocouple probe into input socket, with the positive pole of the probe being connected to red input terminal. The primary display panel will show the measured temperature, slightly press "FUNC" button to switch the unit for measuring temperature.

4.12 Non-contact Voltage Detection (NCV)

Press and hold"✳/NCV" button more than 2 seconds, the meter displays "---". Place the NCV sensing area of the meter close to the measured cable, the cable condition can be judged by the buzzer sound and the LED indicator on the panel.

Note :

The detection operation might be affected by various factors such as the socket design and insulation thickness types are different and so on. Even there is no alarm indication, the voltage might still exist. Do not judge if there exist voltage or not in the cable relying on non-contact voltage detector.


AC cable
OFF
Hz%
°C-°F
FUNC
RANGE
MAX MIN
REL
COM
INPUT
TRMS 600A AC/DC
Keep pressing

5. Maintenance

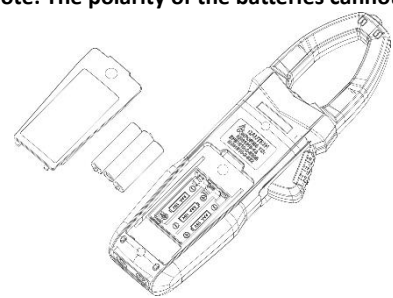
5.1 Replace Battery

> ⚠ **WARNING**
>
> **Before opening the battery cover of the meter, the test lead shall be removed from the measuring circuit first to prevent the risk of electric shock.**

1) If "⊟+" symbol appears, it means the batteries shall be replaced.
2) Screw the fastening screws of the meter battery cover and move away.

3) Replace the old batteries.
4) Install the battery cover as previous.

Note: The polarity of the batteries cannot be reversed.



5.2 Replace Test Lead

⚠ WARNING

When replacing the pens, the new ones shall be of the same or in equal level. The pens must be in good condition, and level of the Test Lead is: 1000V 10A.

Note: If the insulation layer of the test lead is damaged, such as the metal wire of the cable is exposed, then the pen must be replaced.

5.3. Waste disposal

Use a damp cloth and a small amount of detergent to clean the instrument shell..

⚠ Do not use abrasive or chemical solvents.

 The instrument should be recycled as electronic waste

6. Accessories

1)	Test Leads	Level：1000V 10A	1
2)	Use Manual		1
3)	Battery	1.5V AAA Battery	3
4)	Cloth bag		1
5)	K-Type Thermocouple Probe		1

7. ASSISTANCE

7.1 WARRANTY CONDITIONS

This instrument is warranted against defects in materials and workmanship, in accordance with the general terms and conditions. During the warranty period, defective parts can be replaced, but the manufacturer reserves the right to repair or replace the product. If the instrument is to be returned to the after - sales service or to a dealer transportation is borne by the customer. The shipment must, however, be agreed. Attached to dispatch an explanatory note about the reasons of the instrument must always be inserted. For shipping only use the original packaging. Any damage caused by the use of non-original packing shall be charged to the customer. The manufacturer accepts no responsibility for damage caused to people or objects.

The warranty does not apply in the following cases:

- Repair and / or replacement of accessories and battery (not covered by warranty).
- Repairs made necessary because of a misuse of the instrument or of its use with no compatible devices.
- Repairs made necessary due to improper packaging.
- Repairs made necessary due to work carried out by unauthorized personnel.
- Modification of the instrument without the explicit permission of the manufacturer.
- Use not provided for in the specifications of the instrument or in the instruction manual.

The content of this manual may not be reproduced in any form without the permission of the manufacturer.

Our products are patented and their trademarks. The manufacturer reserves the right to change specifications and prices if this is due to technological improvements.

7.2 ASSISTANCE

If the instrument does not operate properly, before contacting the Customer Service, check the status of the battery and wear

of the cables and replace them if necessary. If the instrument continues to manifest malfunctions check if the procedure of use of the same is in accordance with what is indicated in this manual. If the instrument is to be returned to the after - sales service or to a dealer transportation is borne by the customer. The shipment must, however, be agreed. Attached to dispatch an explanatory note about the reasons of the instrument must always be inserted. For shipping only use the original packaging; any damage caused by the use of non-original packing shall be charged to the customer.

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