⚠ Caution

- Do not use organic solvent to clean the meter but with a soft cloth if necessary.
- Do not expose the meter under direct sunlight, extreme temperature or moisture.

Please contact our agents or distributors for a variety of measuring instrument we produce under the strict quality control requirement of ISO 9001.

Specifications and external appearance of the product described above may be revised for modification without prior notice.

HCA003500-00020

INSTRUCTION MANUAL

WIRELESS CLAMP METER

Model : DE-35

Thank you for purchasing our products. Please read this instruction manual before using the meter and keep it properly for contingent use.

DER EE
ELECTRICAL INSTRUMENT CO., LTD.
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CHUNG HO CITY, TAIPEI HSIEN, TAIWAN
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Operation Manual · · · · Index

For safe operation, please read the instruction manual carefully before using the meter and keep this manual together with the meter properly for contingent use.

PRECAUTION :

To avoid hazards or damage during operation process, the following symbols are used as prompt for points for attentions.

:Warning: Improper use of the product may result in body injury or even death, please read the operation carefully.

:Caution: Improper use of the product may result in body injury or even death, please read the operation carefully.

:Dual insulation

:AC - Alternating Current

:DC - Direct Current

:Grounding - Earth Terminal

⚠ Warning

■ **To prevent electrical shock or fire!**

- Before getting measured, make sure that the test leads and function switch has been set properly.
- Before switching among functions, remove the test leads off the measured object.
- Before measurement, make sure the circuit or the object won't exceed the maximum measurement range.
- Do not use this instrument, if there's any crack or damage in the case of meter or test leads.
- Do not open the case of meter during measurement.
- When measuring with test leads, always put your hands behind the guard ring of the test leads.
- When measuring with sensor clamp, put your hands behind the guard ring of the meter.
- Before undergoing resistance measurement, switch off the power to the circuit under test firstly.
- Never use the meter under rainy or humid environment or with wet hands.
- Before undergoing current measurement, make sure to remove the test leads from the input terminals.

⚠ Warning

■ **To prevent damage or electrical shock to the meter!**

According to the safety standard, the maximum voltage input power is classified as follows to protect the users against transient impulse voltage in power lines.

Over-voltage Category (CAT.)	Maximum input voltage
CAT III	600V

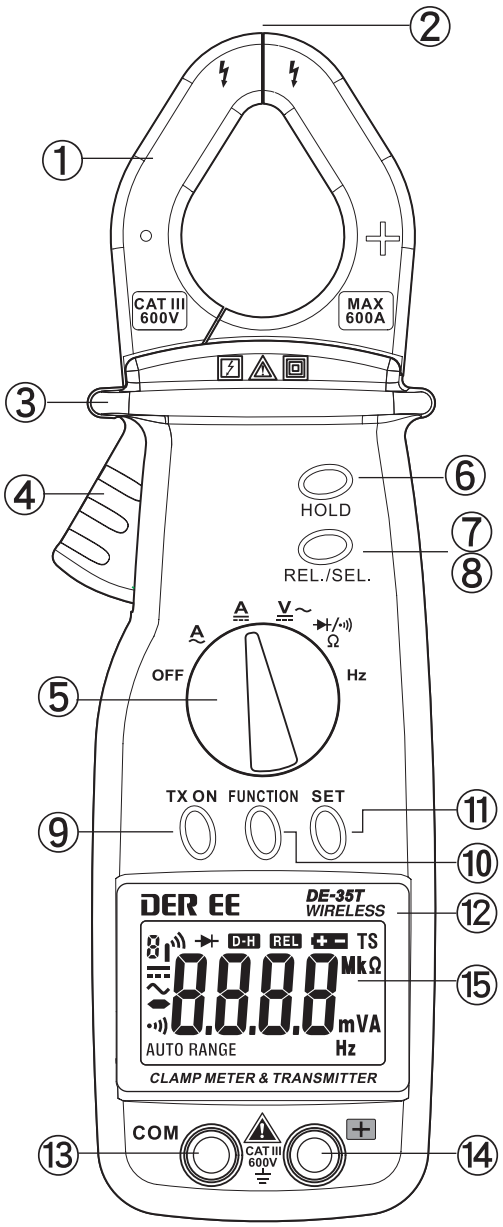
⚠ Caution

- Do not use the meter near equipment emitting noise or under an environment with sudden temperature change. Otherwise, unstable or erroneous reading will appear.
- Please make sure the power of batteries for transmitter and receiver or if any interface between transmitter and receiver before measuring.
- Do not use this instrument in high interface circumstances ,otherwise the transmission might fail.
- Transmission distance between receiver and transmitter is approx. 100 meter (333 feet) in open space
- Don't exceed the operative transmission distance
- The transmission distance will be shorter that depends on the materials and construction of building.
- Don't place the transmitter in metal covered equipments while data transmission since it will effect the electric wave to fail transmission.

⚠ Caution

- The transmission distance might be shorter due to different environments and building structure. This is because electric wave might be interfered while data transmission. The reading might be inaccurate.
- Do not expose the meter to the sunlight in the car.
- Do not expose the meter under direct sunlight, extreme temperature or moisture.
- Transmission signals might be weak and have interference with electric wave while operating in high or low temperate environment.
- Please position the conductor in the center of jaw in order to ensure the accuracy of measurement while measuring current.
- When measuring current, keep away from high current nearby to ensure the accuracy.
- After measurement, switch the function knob back to OFF position. As there will be slight power consumption under auto power off mode.
- Do not use organic solvent to clean the meter but with a soft cloth if necessary.
- Except the screws of battery lid. Do not unscrew the transmitter and receiver to ensure the instrument function and transfer normally.
- Take out the batteries of the instrument if it will be left idle for a long time to avoid battery leakage.
- When the measurement values appear irregularly or the symbol  displays, replace the batteries immediately to ensure normal operation.

(1) DE-35T (Transmitter) NAME OF PARTS



① **Clamp**
Put conductor in the center of clamp to ensure the accuracy.

② **Opening of the clamp**

③ **Guard ring**
Please keep your hand under the guard ring for measurement of current.

④ **Clamp trigger**
Pull this clamp trigger to open clamp and release the clamp trigger to close clamp

⑤ **Function Switch Knob**
Please refer to the list in following page.

⑥ **HOLD key**

⑦ ⑧ **Relative / Select key**

⑨ **TX ON key**

⑩ **FUNCTION key**

⑪ **SET key**

⑫ **Name Plate**

⑬ **Input terminal COM** (negative)

⑭ **Input terminal** ✚ (positive)

⑮ **LCD display**

⑤ Transmitter - Function Switch Knob

Range	Function
OFF	Turn off power
A~	AC current measurement
A⎓	DC current measurement
V⎓~	DC voltage / AC voltage measurement
Ω/⊣/•ıı)	Resistance measurement / Diode check / Continuity check
Hz	Frequency measurement

⑥ Transmitter - Symbols on LCD - HOLD key

Press HOLD key during measurement, **D-H** symbol will appear on display and lock the reading value. Press HOLD key again to release this function when the held data is no longer needed.

⑦ Transmitter - REL./SEL. key

Press REL./SEL. key to switch among the following functions:

	Range	Function
REL.	A~	Relative function
	A⎓	Zero set function
SEL.	V⎓~	Select measurement of DC voltage or AC voltage
	Ω/⊣/•ıı)	Select measurement of Resistance or Diode check or Continuity check

⑧ Transmitter - RELATIVE Measurement

- Press REL. key during the measurement while **REL** symbol lit on LCD. The difference between 2 input signals will display while under this function. For example, the first input is X and the 2nd input is Y. In RELATIVE mode, the display on LCD is equivalent to Y minus X. If the 3rd input is Z, the relative value is Z minus X.
- REL. key is applied to zero set function for DCA (A ⎓) measurement.

Attention:

- "OL" appears which means the relative value is beyond the range.
- At ACA (A ~) and DCA (A ⎓) range, press REL./SEL key, the measurement range is fixed (**AUTORANGE** symbol disappears and auto range disable) and decided according to the first input signal.
- To cancel this function, just press **REL** . key again and REL symbol disappears on LCD. As the measurement range has been locked, to recall the auto range please turn the function switch knob back to OFF then turn to the position desired for measurement.

Transmitter - RELATIVE operation at respective measurement:

a. ACA (A ~)

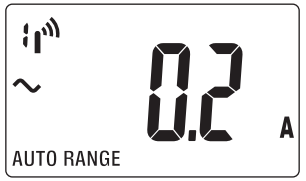
- Auto range will be cancelled automatically and **AUTORANGE** symbol disappears on LCD. The measurement range is fixed and decided according to the first input signal.
- If the relative value is beyond the range fixed (400A) while "OL" will display on LCD.
- To cancel this function, just press REL. key again and **REL** symbol disappears on LCD. As the measurement range has been locked, to recall the auto range please turn the function switch knob back to OFF then to the position desired for measurement.

b. DCA (A ⎓)

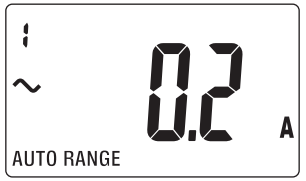
- If there is minor reading display on LCD, press REL. key for zero set before measurement. The auto range is cancelled and the range is fixed thereof.
- To cancel this function, just press REL. key again and **REL** symbol disappears on LCD.

⑨ Transmitter – TX ON key

After pressing, the symbol appears means transmitter in the process of transmitting. Press once again, the symbol disappears means no transmission. (the LCD screen is updated per second once symbol appears.)



Transmitting



No transmission

⑩ Transmitter - FUNCTION key

In measuring mode, press FUNCTION key for 2 sec to enter the transmission span selection mode then short press to switch to ID setting mode. Operate with SET key to set the transmission span and ID code. Finish the setting by pressing FUNCTION key for 2 sec to return to the measuring mode.

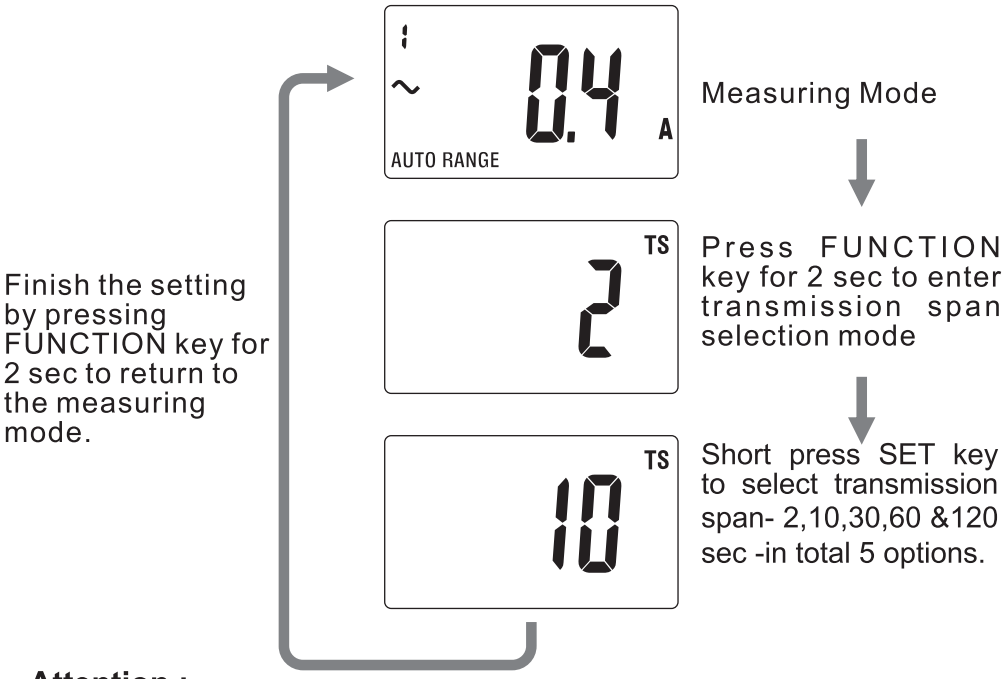
⑪ Transmitter - SET key

Operate with FUNCTION key to set the transmission span and ID code.

※ For details, please refer to FUNCTION & SET key operation instruction.

FUNCTION & SET key operation instruction

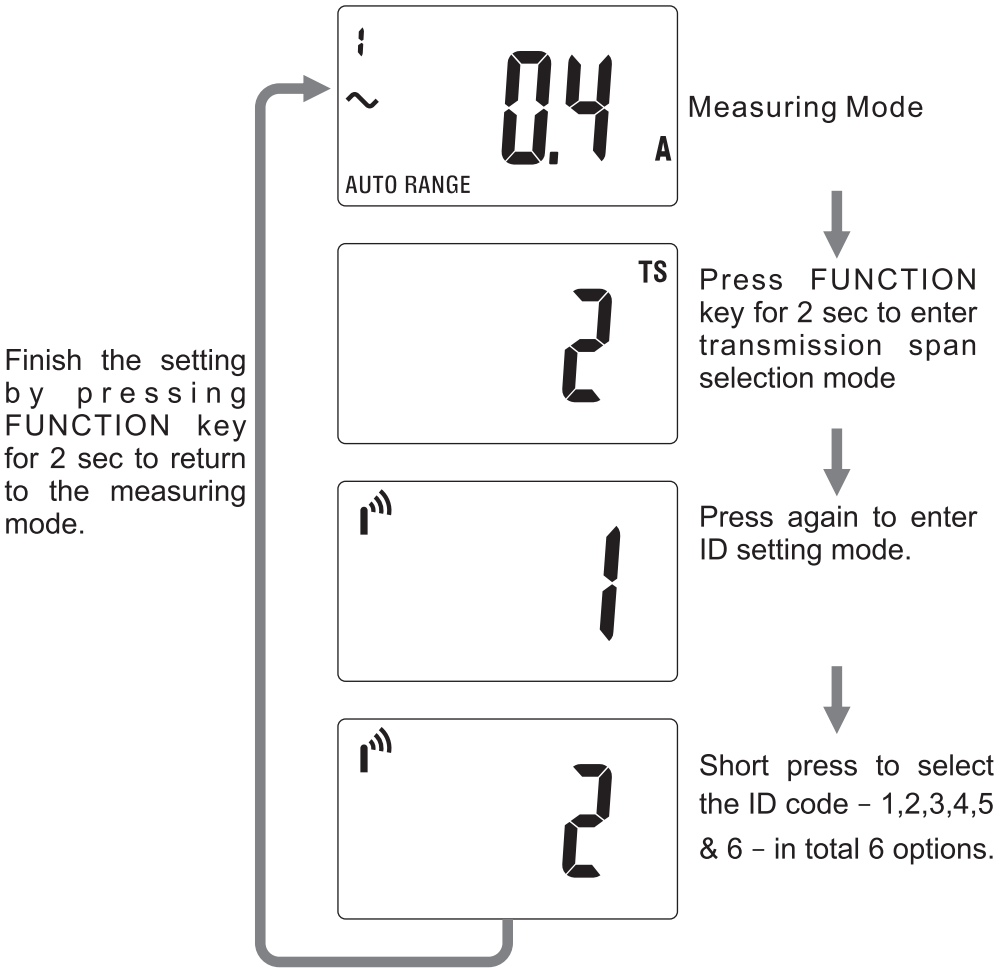
- Transmission span setting



Attention :

While using one transmitter to one receiver, the transmission span of two units must be the same to have data transmission normally.

- ID code setting :



Attention :

While using one transmitter to one receiver, the ID code set in both meters need to be the same. Meanwhile, it has to be at “ on “ status for receiver in order to receive the measuring data correctly.

※ For receiver ID code setting, please refer to page 27.

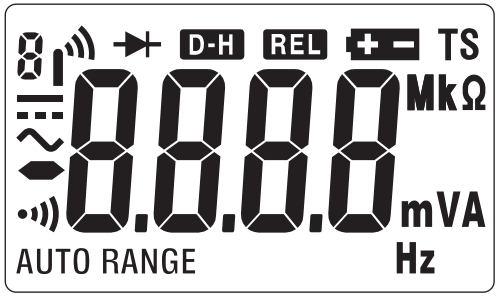
⑫ Name plate
Show brand name and model number.

⑬ "COM" terminal
Connect the negative input end for DCV, ACV, Ω, ⊣, •ıı), & Hz measurement (black test lead).

⑭ " ⊞ " terminal
Connect the positive input end for DCV, ACV, Ω, ⊣, •ıı), & Hz measurement (red test lead).

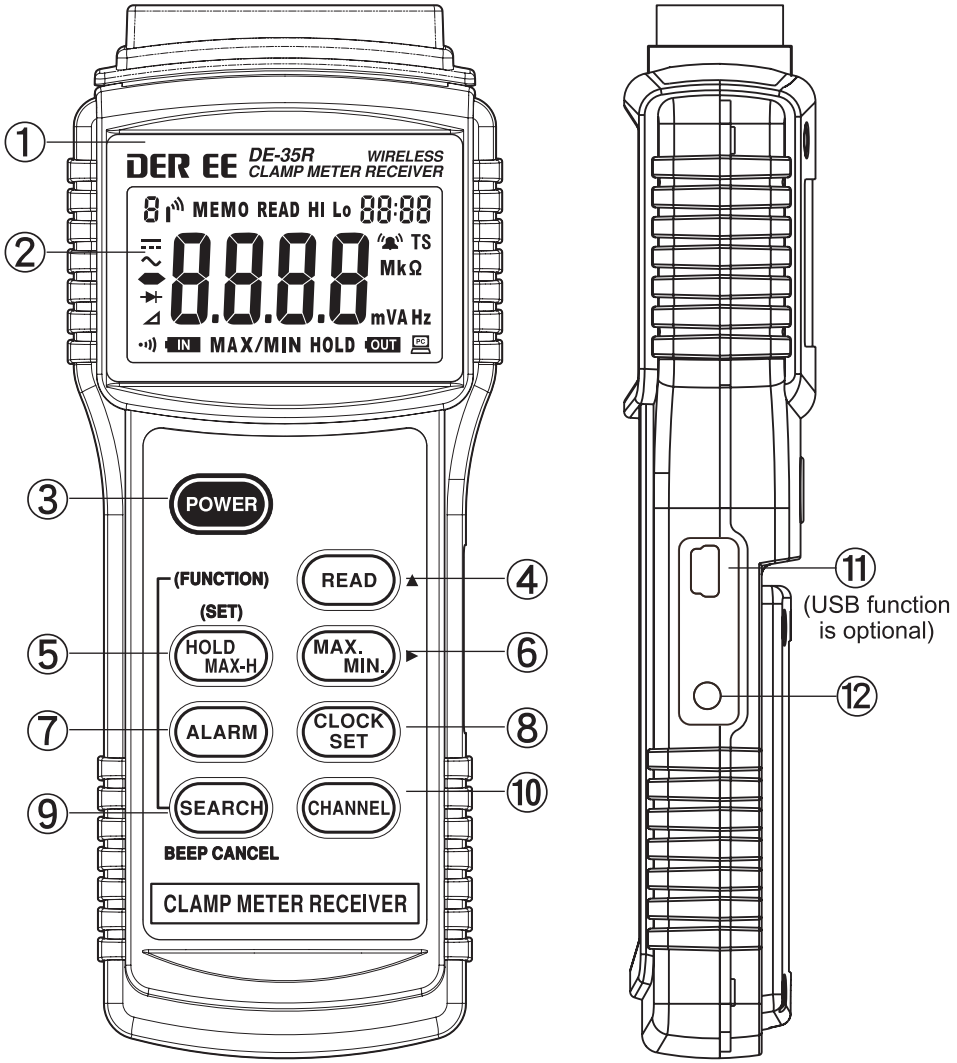
⑮ LCD display
Display measurement symbols, units and values.

(2) DE-35T (Transmitter) Symbols on LCD



Symbol & Units	Description
8	Transmission ID code setting
	Antenna blinking while in the process of transmitting
TS	Transmission span selection with 2,10,30,60 & 120 sec options.
⎓	Lit when in DC mode measurement
~	Lit when in AC mode measurement
	Lit when measuring negative polarity
AUTO RANGE	Auto range indicator
•ıı)	Lit when in continuity check
⊣	Lit when in diode check
D-H	Data hold indicator
REL	Lit when In relative mode or zero set function
+−	Lit when low battery
Hz	Lit when in frequency measurement
MΩ,kΩ,Ω	Unit for resistance measurement
mV,V	Unit for voltage measurement
A	Unit for current measurement
8.8.8.8	Display the measured values

(3) DE-35R (Receiver) NAME OF PARTS



Side View

① Name plate
Show brand name and model number.

② LCD Display
Show measurement symbols, units and values

③ POWER :
Power switch key

④ READ : To read memorized Max. or Min. measuring data
Subsidiary function (▲) : To adjust values while setting clock and alarm function

⑤ HOLD / MAX-H :
To lock the Max. measuring data

⑥ MAX./MIN : To enter Max/Min measuring data mode
Subsidiary function (▶) : To move the position of digits while setting clock and alarm function

⑦ ALARM : Alarm function

⑧ CLOCK SET : Clock setting function

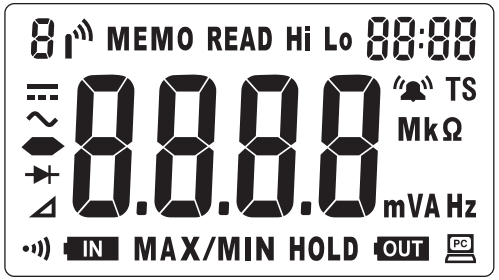
⑨ SEARCH : Signals manual searching

⑩ CHANNEL : Channel switching

⑪ USB Socket (optional, come with instrument equipped with USB function)

⑫ PWR ⊕⊂⊖− DC 3V/10mA External Power Supply Socket

(4) DE-35R (Receiver) Symbols on LCD



Symbol & Units	Description
8	Transmission ID code setting with code 1 – 6 options
	Antenna blinking while receiving the signals from transmitter
MEMO	Memorized of Max. and Min. measuring data
READ	Read memorized Max. and Min. measuring data
Hi Lo	In alarm mode, when measuring values ≧ or ≦ alarm setting values
88:88	Lit when in 24 hours clock mode
⎓	Lit when in DC mode measurement
~	Lit when in AC mode measurement
	Lit when measuring negative polarity
	Lit when in diode check
Δ	Lit when in relative mode
	Lit when in continuity check
8.8.8.8	Display the measuring data
IN	Lit when receiver in low battery. Please replace new batteries immediately to avoid malfunction
OUT	Lit when transmitter in low battery. Please replace new batteries immediately to avoid malfunction

MAX/MIN	Lit when read the memorized of Max and Min measuring data
HOLD	Lit when lock the measuring data
PC	Lit when connecting with PC (this symbol shows when instrument equipped with USB function)
	Lit when in alarm mode. Buzzer symbol blinking and alarm activated when measuring data reach the setting value.
TS	Transmission span with 2.10.30.60.120 sec options (while using one transmitter to one receiver).* While using multi transmitters to one receiver, the instruments are in the process of transmitting all the time.
Hz	Lit when in frequency measurement
MΩ,kΩ,Ω	Lit when in capacitance measurement
mV,V	Lit when in volts measurement
A	Lit when in current measurement

(5) DE-35R (Receiver) Function Switch Knob

POWER

- Press POWER to switch on
- LCD displays full screen for approx. 2 sec then enter the receiving mode
- Press longer than 3 sec to switch off

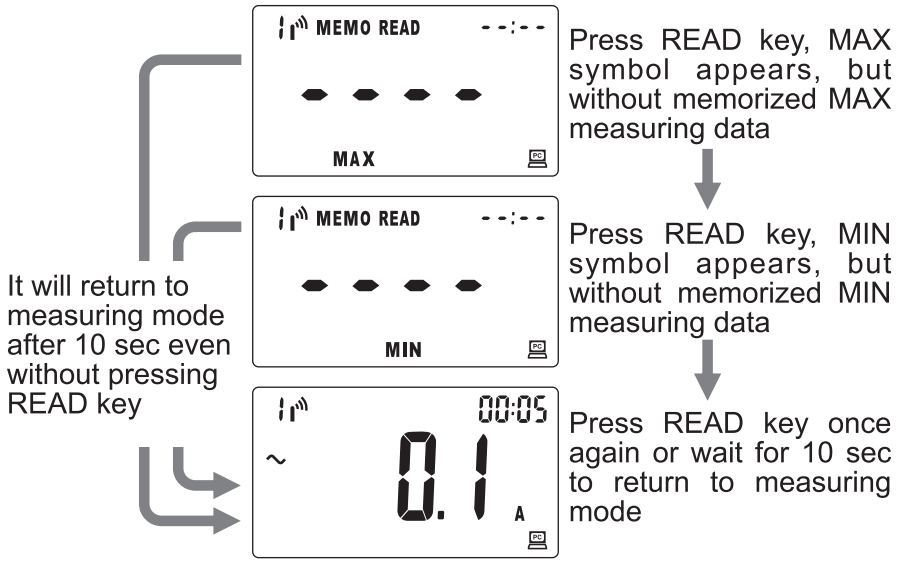
READ

- Press READ to read the memorized Max or Min measuring data.

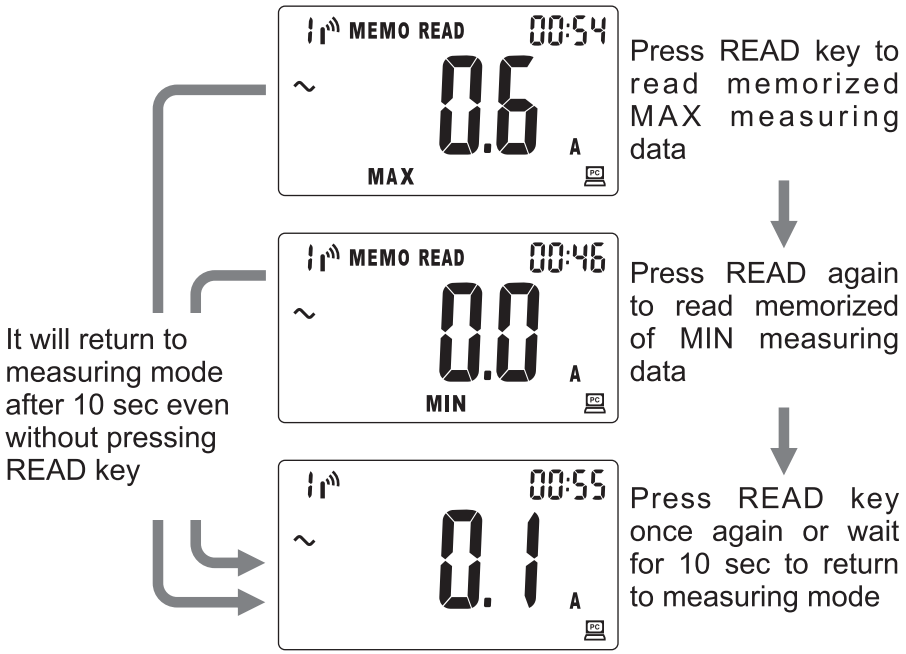
Remark : 1. Before entering Max/Min function, LCD displays - - - - (see below figures) when press READ key.
2. Memorized Max and Min. measuring data will be eliminated simultaneously while switching the channel. Press READ key once again, LCD displays - - - - .

READ key operation instruction

- LCD displays - without memorized of Max/Min measuring data



- LCD displays – with memorized of Max/Min measuring data



※For operation with MAX/MIN key, please refer to page 21.

READ ▲

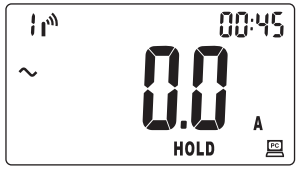
Subsidiary function (▲), to adjust blinking digits while setting the clock or alarm function.

※ For operation in alarm function, please refer to page 22 ~ 24

※ For operation in clock function, please refer to page 25.

HOLD MAX-H

- Press this key to lock the reading data with real time

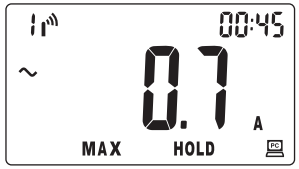


Press Hold key to lock the reading data

Press Hold key again to unlock and return to measuring mode

- Press this key for 2 sec to enter MAX-HOLD function mode to get the MAX measuring data.

※ Real Time is also locked at the same time to know when to get the MAX measuring data.



Press Hold for 2 sec to enter MAX-HOLD function mode

Press Hold key once again to exit MAX HOLD function mode and return to measuring mode

(SET)
HOLD MAX-H

Subsidiary function (SET), to operate with FUNCTION key to set the transmission span and with CHANNEL key to switch ID code to have the transmission function on and off.

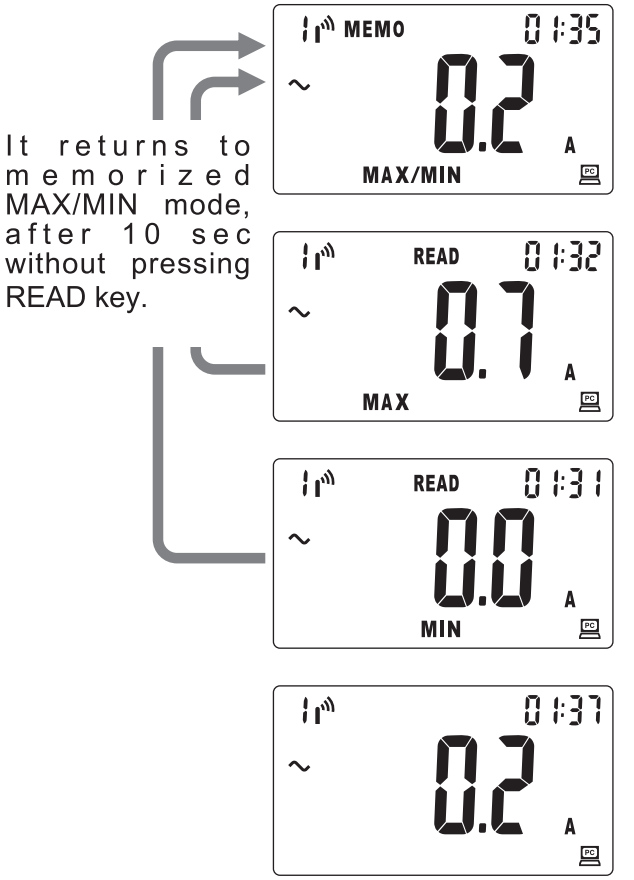
※ For transmission span operation, please refer to page 26.

※ For ID code switching operation, please refer to page 27.

MAX. MIN.

Press this key to memorize the MAX/MIN measuring data. Operate with READ key to read the memorized MAX or MIN measuring data.

MAX/MIN operation instruction



Press MAX/MIN key to enter MAX/MIN memorized data mode

Press READ key to read the memorized MAX measuring data

Press READ key once again to read the memorized MIN measuring data

Press MAX/MIN key to cancel the MAX/MIN memorized function then return to measuring mode.

It returns to memorized MAX/MIN mode, after 10 sec without pressing READ key.

※ The previous memorized measuring data will be eliminated by pressing MAX/MIN key and restart to measure the MAX/MIN value.