Digital Power Factor & Phase Meter Operation Manual

Please read through the manual before installment and operation
Please keep the manual for future use

Chapter 1. Usage

Digital display power factor and phase meters are the new generation of programmable intelligent meters, which are mainly used in the real-time measurement and indication on power factor value and phase(power factor angle) value of single-phase or three-phase electric wiring. One meter integrates power factor, phase and frequency measuring wiring at the same time. The power factor meter can see the frequency and phase value, and phase meter can see frequency and power factor value through the keyboard. With features of high precision, good stability, needing no adjustment for long term, direct reading and etc. It is an idea upgraded product of original dial power factor and phase meter or common digital power factor and phase meter.

Chapter 2. Type and designation

Function & shape / REF Number	Measure and Display			Size
	Power Factor	1-phase	3-phase	Unit: mm
79644	●	●		72X72
79650	●		●	96X96

Chapter 3. Technical Parameters

3.1 Power factor measurement display range:
0.000C ~ 0.500C ~ 1.000 ~ 0.500L ~ 0.000L
3.2 Phase measurement display range: 0° ~359.9°
3.3 Frequency measurement display range: 45.00 ~ 65.00Hz
3.4 Accuracy rating of power factor measurement: ±0.01
3.5 Accuracy rating of phase measurement: ±1°
3.6 Resolution: Power factor display resolution is 0.001,
frequency display resolution is 0.01Hz,
phase display resolution is 0.1°
3.7 Sampling rate: About 3 times /s
3.8 Rated input voltage: AC100V±10%、220V±10%、380V±10%
3.9 Input current: 1~5A
3.10 Input circuit power consumption of voltage: <1VA
3.11 Input circuit power consumption of current: <0.5VA
3.12 Auxiliary power supply: AC/DC85~264V 50/60Hz
3.13 Auxiliary supply consumption: <3VA
3.14 No input signal reminders: Displaying character "----"
3.15 Operational environment: places free of gas corruption with temperature of -10~50℃, and relative humidity≤85%RH.

Chapter 4. Setting and Wiring

4.1 Shape and Hole cutout dimension

Unit: mm

Instrument shape	Panel dimension		Case dimension			Hole cutout dimension	
	W	H	W	H	D	W	H
72x72	72	72	67	67	80	68	68
96x96	96	96	91	91	80	92	92

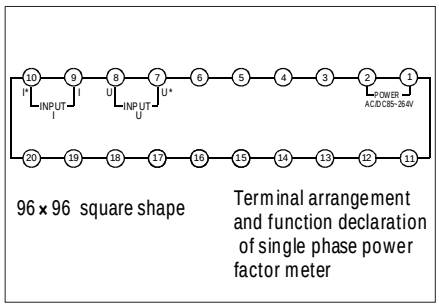
4.2 Method of installation

Choose the corresponding hole cutout dimension according to the instrument dimension from the table above, Open a hole in the installation screen, embed instruments into the hole, put the two clamping pieces into the clamping rectangular and push and tighten it by hand.

4.3 Description of Wiring and terminal

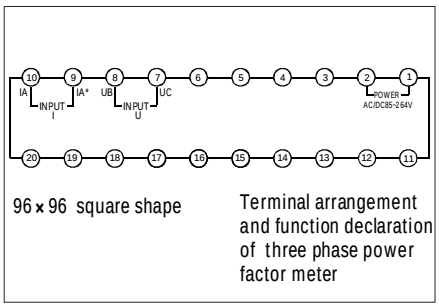
(Attention: If it is not the same with the wiring schema of the instrument case, please accord to the one of instrument case.)

Terminal arrangement and function declaration of instrument



96×96 square shape

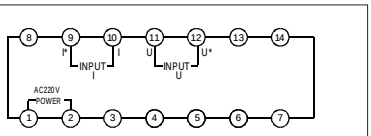
Terminal arrangement and function declaration of single phase power factor meter



96×96 square shape

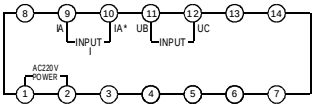
Terminal arrangement and function declaration of three phase power factor meter

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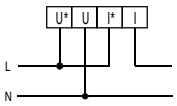
46 rectangular shape
6 square shape
72×72 square shape

Terminal arrangement and function declaration of single phase power factor meter

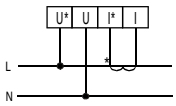


46 rectangular shape
6 square shape
72×72 square shape

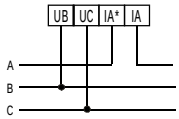
Terminal arrangement and function declaration of single phase power factor meter



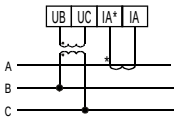
Single-phase power factor and phase wiring schema
Input directly (when Voltage≤600V),
Input directly (when Current≤10A)



Single-phase power factor and phase wiring schema
Input directly (when Voltage≤600V) ,
Input through instrument transformer (when Current＞10A)



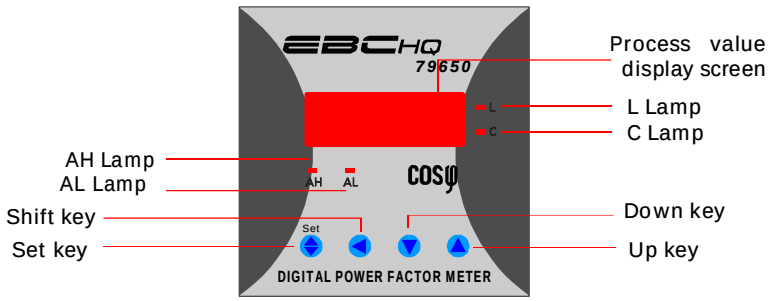
Three-phase power factor and phase wiring schema
Input directly (when Voltage≤600V) 、
Input directly (when Current＞10A)



T hree-phase power factor and phase wiring schema
Input through instrument transformer
(when Voltage＞660V) ,
Input through instrument transformer
(when Current＞10A)

Chapter 5. Program and Usage

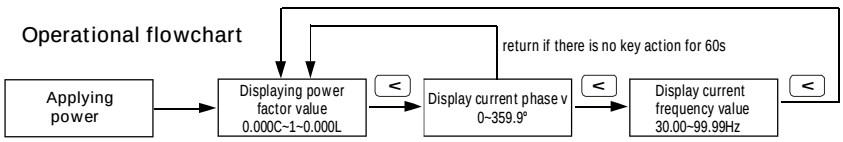
5.1 Panel description



Note: L lamp: L lamp remains lit while the measuring value is inductive,
C lamp: C lamp remains lit while the measuring value is capacitive
AH lamp, AL lamp, set key, down key and up key are the spare set of instrument, which are with no actual meaning in this series instruments.

5.2 How to operate

The instrument displays enters measuring valve display statues automatically 2s later. The current phase angle and frequency value can be examined in return by pressing the shift key (display blinkingly, return if there is no key action for 60s)



5.4、Cautions

5.4.1 Please confirm if the instrument power supply, input signal and each terminal wiring is correct and reliable before applying the power.

5.4.2 The wrong sequence and direction of instrument input signal have the possibility to cause the abnormal indicating value of instruments and wrong alarm and transmitting output.

5.4.3 The instrument must be preheated for 15 minutes to guarantee the precision of measurement and check.

5.4.4 The instrument should not be rapped, knocked and vibrated excessively and its using environment should meet the technical requirements.

Chapter 6. Packing and Storage

The instrument and accessories with packing should keep storage conditions cool and dry and free of wet and gas corruption with temperature not more than 70℃ and not less than -40℃ , and relative humidity≤85%

Chapter 7. Ordering instructions

Orders in the contract should clearly and comprehensively written instrument type, name and number of orders.

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