Programmable Digital Voltmeter

Please read through the manual before installment and operation

Chapter 1. General Introduction

This series digital display meters are a new generation of programmable intelligent voltage meters, which are mainly used in the real-time measurement and indication on AC or DC current in an electric circuit .With features of high precision, good stability, calibration-free long-termoperation and onsite parameter setting on a panel, it is an idea substitute of traditional dial instrument or ordinary digital instrument.

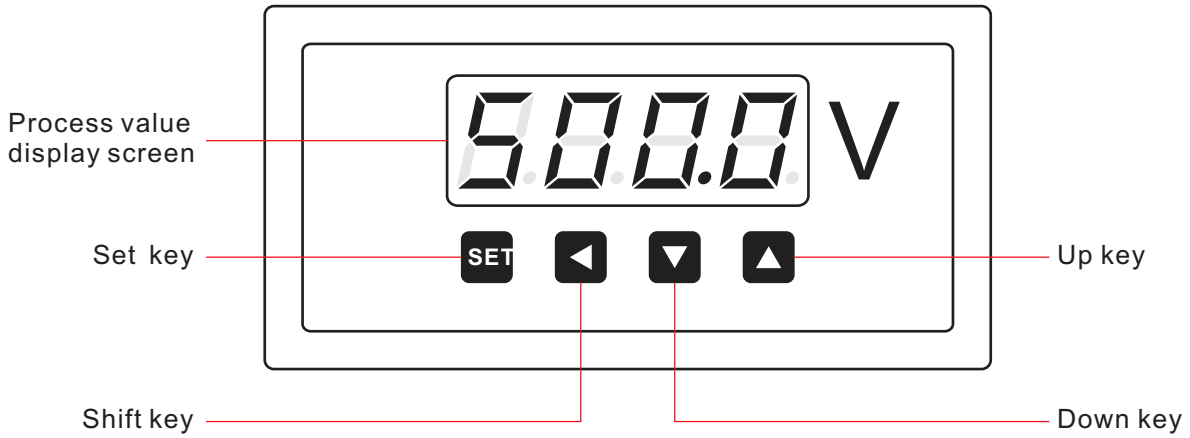
This series of meter features a modular design by utilizing large-scale integrated circuit, high-performance single microprocessor,digital signal processing technology and SMT techniques. The calibrating potentiometer inside the meter is cancelled and soft calibration is adopted instead. The modular and uniform design mode substantially reduces the production costs of the meter , which makes it highly cost-effective.

Chapter 2. Technical parameters

1. Measuring range:
1. 1 Digital AC Ammeter: Direct measurement: AC 0~600V; Accessory device: AC 0~9999V(PT*/100V)
1. 2 Digital DC Ammeter: Direct measurement: DC 0~600V;
2. Accuracy rating: ±0.5 % FS±1 digit
3. Sampling rate: about 1 times/s
4. Overload: consistent 1. 2times, instantaneous 2times/30s
5. Measuring display mode: RMS measurement, four-digit LED nixietube display
6. Display resolution: Max. display resolution of Voltage: 0.1V
7. Input circuit consumption: <0.5VA
8. Auxiliary power supply: AC 220V±10%50/60Hz or AC/DC 85~265V
9. Auxiliary supply consumption:< 3VA
10. Overflow indication: Displaying character"HHHH"or"LLLL"
11. Operational environment: free of corrosive gas with temperature of -10~50°C , and humidity 85%RH.

Chapter 3. Programming and usage

1. Panel description



2. Key function

SET Set key: Press this key 2s to enter the programmable mode;
Under the programmable mode, it is used to enter the next menu.

◀ Shift key: Under the programmable mode, it is used to left shift the cursor one digit,and quit the programmable mode and return the measuring value display interface.

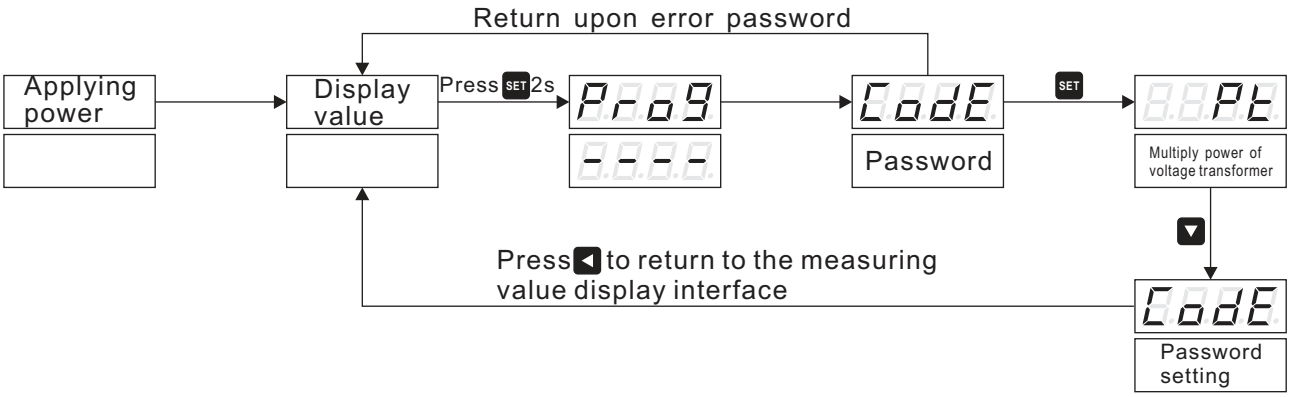
▼ Down key: under the programmable mode,it is used for degression of parameter value or enter the next menu;

▲ Up key:under the programmable mode,it is used for progressive increase of parameter value or enter the previous menu;

3. How to operate

The instrument displays program version code and enters measuring valve display statue automatically 2s later when applying power . Enter programming status by pressing down SET 2S. The operational flowchart is as following:

Note: Password to enter the menu is 0000(user can modify the password"CODE")



Note: Under the programmable mode, select the menu and press the SET key to modify the parameter; Use the ◀ ▼ ▲ key to input or modify the parameter.

4. Program parameter specification

NO.	Parameter code	Parameter name	Setting range	Parameter default	Description
1	Prog	Programmable mode PROG	/	/	Prompt to enter the programmable mode
2	CodE	Programmable password CODE	/	0000	Password to enter the programmable mode
3	PtPt	Multiply power of PT PT	1~100	1	Set multiplying power of voltage transformer "PT"(Primary value of voltage transformer/secondary value)
4	CodE	Setting programmable password CODE	0~9999	0000	Modify programming password

Chapter 4. Installment and connection

1.Shape and cutout hole dimension (unit: mm)

Shape	Panel dimension		Case dimension			Cutout hole dimension	
	W	H	W	H	D	W	H
120×120square	120	120	110	110	80	112	112
96×96square	96	96	90	90	80	92	92
80×80square	80	80	74	74	80	76	76
72×72square	72	72	66	66	80	68	68
48×48square	48	48	44	44	70	45	45

2. Method of installation

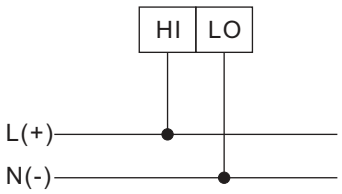
Choose the corresponding hole cutout dimension from the table above , make a hole in the installation screen, insert the instruments into the hole, place the two clamping pieces into the clamping holder and push and tighten them by hand.

3. Terminal arrangement and function declaration of instrument(please accord to the one of instrument case)

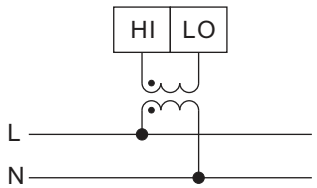
3. 1Auxiliary power supply (POWER): The voltage range of operation is AC 220V,50/60Hz. It is suggested to install a fuse of 1A beside of the live wire when using the AC power supply to prevent damaging the instrument. In the areas with poor power quality, the surgesuppressor and quick pulse group suppressor should be installed in the power supply circuit.

Electrical quantity signal input (I input):HI represents“+”port of DC input signal,live wire terminal of AC voltage input signal and inlet wire terminal of AC current input signal. Input voltage should not be higher than the maximum value (AC 600V, or you should consider of using PT and installing fuse of 1A on voltage input port. While the current is higher than AC10A, you should consider of using CT)

3.2 Typical connection



Voltage(when≤600V)input directly



Voltage(when>600V)input via PT

Chapter 5.Cautions

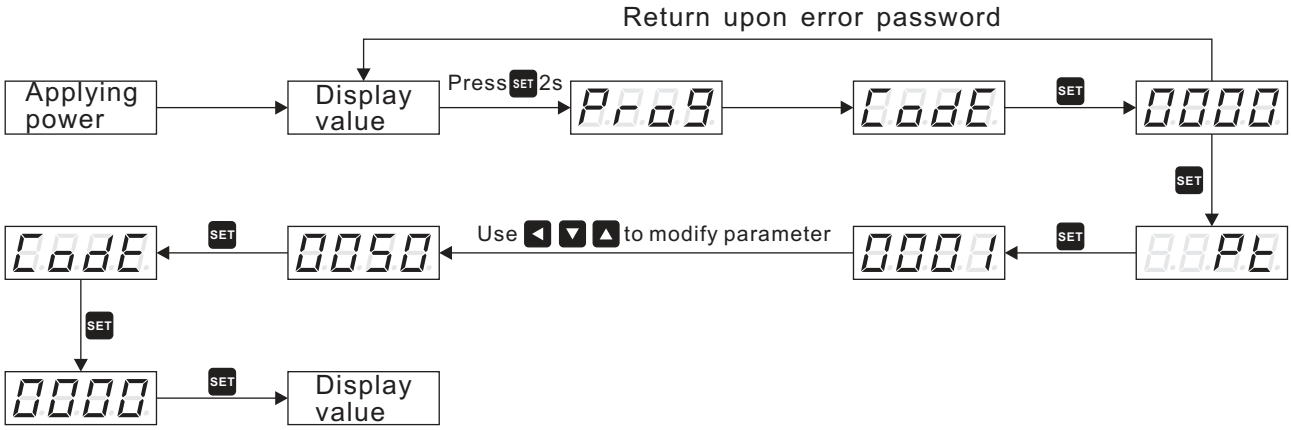
1. Please confirm if the power supply, input signal and each terminal wiring of the meter are correct and reliable before applying the power.
2. The instrument must be preheated for 15 minutes to guarantee the precision of measurement.
3. The instrument should not be rapped, knocked and vibrate excessively and its using environment should meet the technical requirements.
4. The meter has been calibrated according to the measuring range required by the customer upon order. The user should check once again if the measuring range of the meter is fit with the specifications of the transformer and set the measuring range again if not.

Chapter 6. Packing and Storage

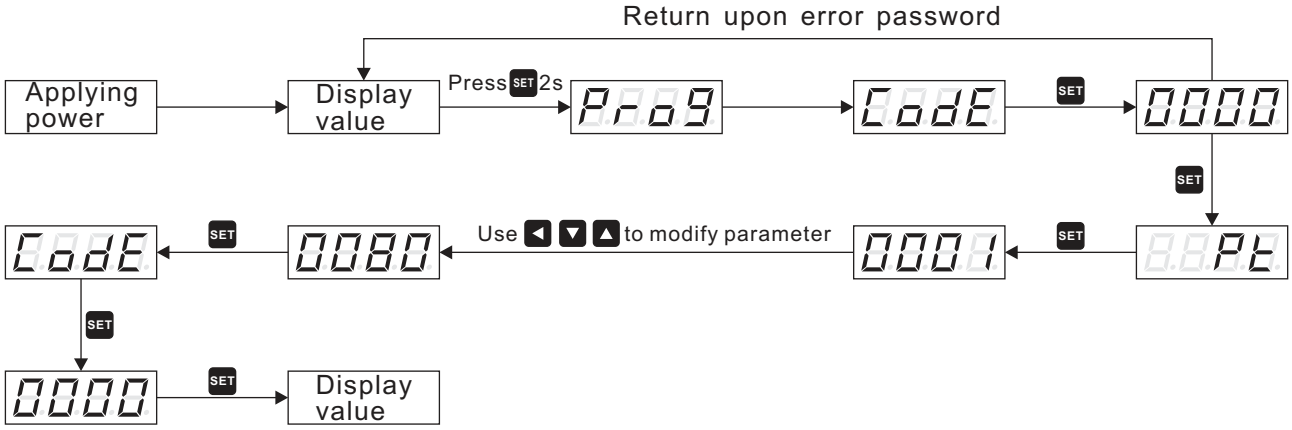
The instrument and accessories with packing should keep storage conditions cool and dry and free of wet and corrosive gas with temperature not more than 70°Cand not less than -40°C,and relative humidity≤85%RH.

Appendix 1: Example of programming

Example 1: The factory default parameter is AC 0~600V(PT=1); If the voltage transformer is5KV/100V should modify the PT multiplying power as 50(5000/100)



Example 2: The factory default parameter is AC 0~600V(PT=1); If the voltage transformer is8KV/100V should modify the PT multiplying power as 80(8000/100)



Example 3: The factory default programmable password is 0000, modify the password as 1234