

# SD Series Sensor Meter User Manual



## Features:

1. Dual line LED display, lower line display measuring value;
2. Two alarm output;
3. Accept different Analog signal or Temperature signal input;

For your safety, please read following content carefully before you are using our meter!

### ☐ Safety Caution

- ※ Please read the manual carefully before you use the meter
- \* Please comply with following important points:
  - ! WARNING: An accident may happen if the operation does not comply with the instruction
  - ⚠ NOTICE: An operation that does not comply with the instruction may lead to product damage
- ※ The instruction of the symbol in the manual is as follow.
- ⚠ An accident or danger may happen in a special condition.

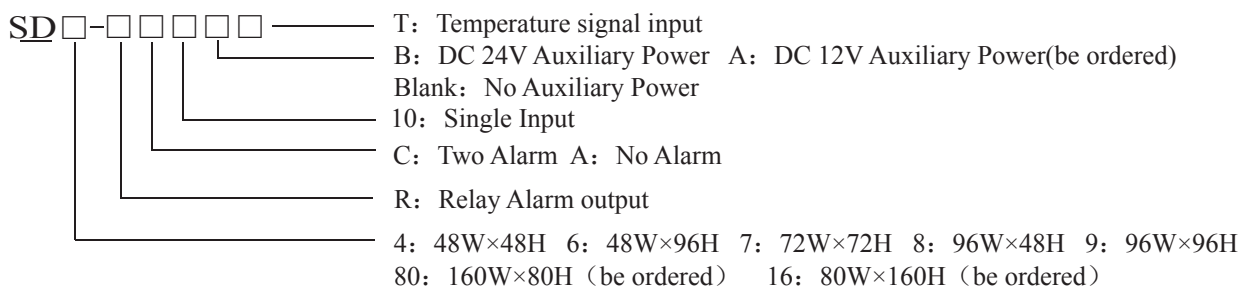
### ⚠ Warning

1. A safety protection equipment must be installed or please contact with us for the relative information if the product is used under the circumstance such as nuclear control, medical treatment equipment, automobile, train, airplane, aviation and equipment etc.. Otherwise, it may cause serious loss, fire or person injury.
2. A panel must be installed, otherwise it may cause creepage (leakage).
3. Do not touch wire connectors when the power is on, otherwise you may get an electric shock.
4. Do not dismantle or modify the product. If you have to do so, please contact with us first. Otherwise it may cause electric shock and fire.
5. Please check the connection number while you connect the power supply wire or input signal, in case cause fire.

### ⚠ Caution

1. This product cannot be used outdoors. Otherwise the working life of the product will become shorter, or an electric shock accident may happen.
2. When you connect wire to the power input connectors or signal input connectors, the moment of the No.20 AWG (0.50 mm<sup>2</sup>) screw tweaked to the connector is 0.74n.m - 0.9n.m. Otherwise the connectors may be damaged or get fire.
3. Please comply with the rated specification. Otherwise it may cause electric shock or fire, and damage the product.
4. Do not use water or oil base cleaner to clean the product. Otherwise it may cause electric shock or fire and damage the product.
5. This product should be avoid working under the circumstance that is flammable, explosive, moist, under sunshine, heat radiation and vibration. Otherwise it may cause explosion.
6. In this unit it must not have dust or deposit, otherwise it may cause fire or mechanical malfunction.
7. Do not use gasoline, chemical solvent to clean the cover of the product because such solvent can damage it. Please use some soft cloth with water or alcohol to clean the plastic cover.

## 1. Model

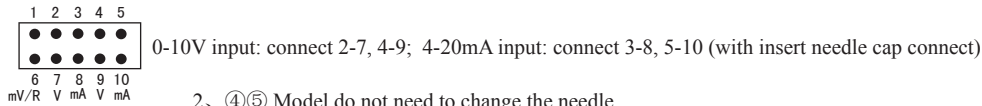


## 2. Model Description

| Model                     | Input Signal                                | Alarm Function  | Auxiliary Power |
|---------------------------|---|-----------------|-----------------|
| ①SD□-A10 (Normal Model)   | DC 0~10V or 4~20mA(other signal be ordered) | No Alarm        | NO              |
| ②SD□-RC10B (Normal Model) | DC 0~10V or 4~20mA(other signal be ordered) | TWO Relay Alarm | DC 24V/30mA     |
| ③SD□-RC10A (be ordered)   | DC 0~10V or 4~20mA(other signal be ordered) | TWO Relay Alarm | DC 12V/30mA     |
| ④SD□-A10-T (be ordered)   | TC/RTD                                      | No Alarm        | NO              |
| ⑤SD□-RC10B-T (be ordered) | TC/RTD                                      | TWO Relay Alarm | DC 24V/30mA     |

### Special Notice:

1. ①②③ Model with 4-20mA or 0-10V signal input before EX-factory, customer who want to change the signal between those two different signals, they should change “INP” menu (please refer to Setting Menu), and just change insert needle according to following instruction: (EX-Factory setting is 0-10V input, if want to input 0-10V DC, there is no need to change the needle)

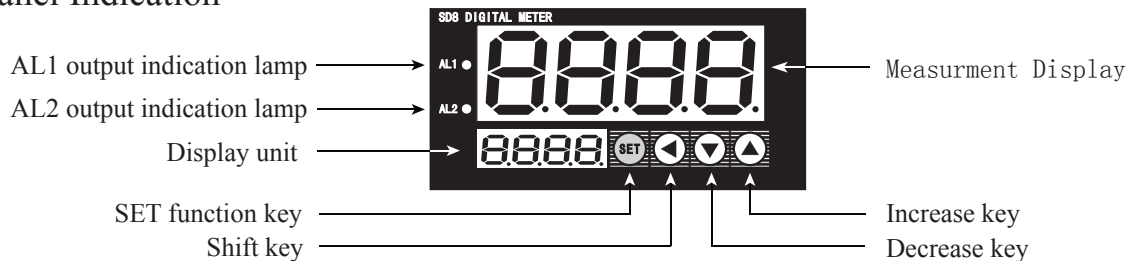


2. ④⑤ Model do not need to change the needle

## 3. Main Technical Parameters

|                     |   |
|---------------------|---|
| Measuring Accuracy  | ±0.5%F.S  |
| Alarm Output        | Relay 1 output capacity: AC 1A/250V Relay 2 output capacity: AC 3A/250V |
| Power Supply        | SD4: AC/DC 100~240V SD7:AC 110/220V±10% SD6/8/9/16/80:AC 220V±10%       |
| Total Current       | <30mA(220VAC)   |
| Ambient temperature | 0~50℃   |
| Ambient humidity    | 45~85%RH  |
| Auxiliary Voltage   | 24V 30mA (12V auxiliary voltage can be specially ordered)               |

## 4. Panel Indication



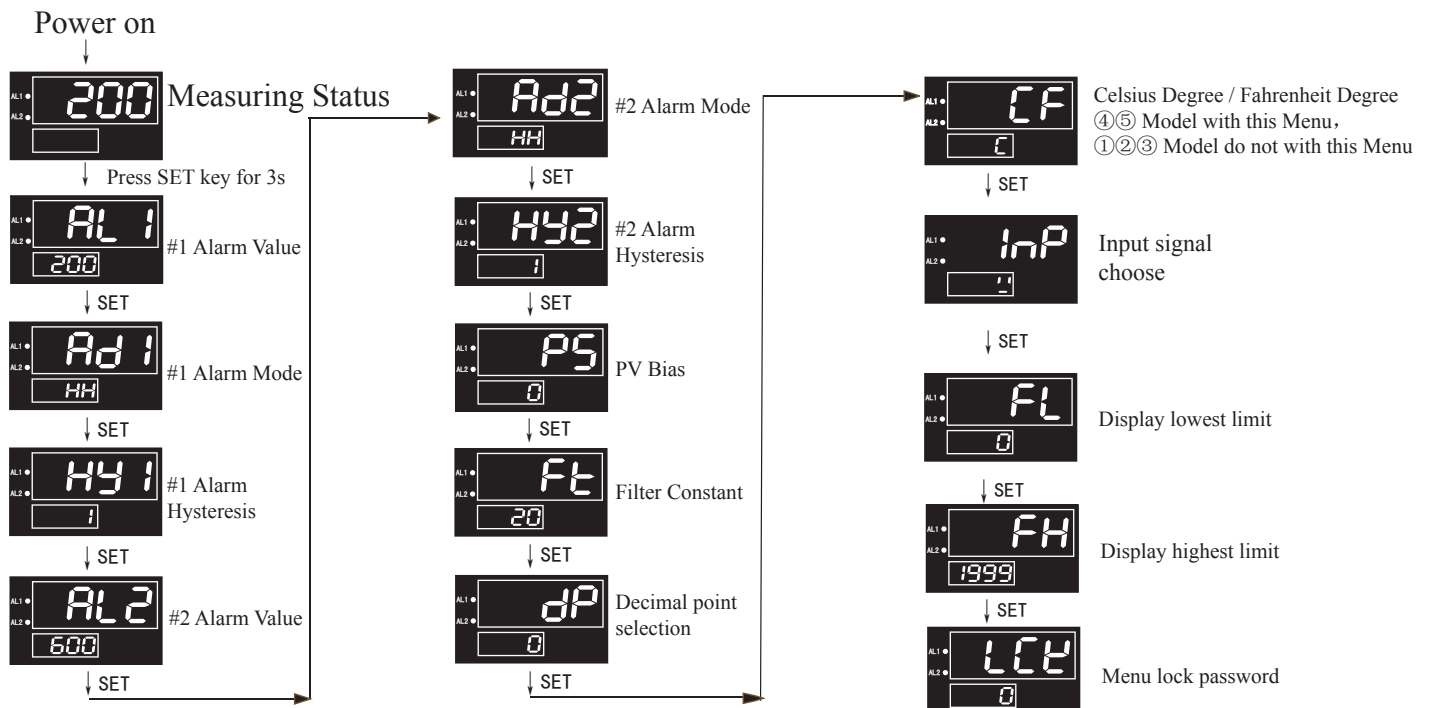
## 5. Panel Key Operation

(1). SET key: After power on, long time press SET key can enter into setting MENU; press SET key long time again can exit from MENU, press SET key for one time can enter into other branch menu.

(2). “◀” Key: in the each Menu, press ◀Key, the value that need to be changed will flash, press ▼ Key or ▲ Key can modify the parameter.

(3). “▲▼” Key: After press ◀ Key, press ▲ Key or ▼ Key to modify the value, press ▲ Key or ▼ Key without move your hand can quickly increase or decrease the value. After modification, press SET key for confirmation.

## 6. Operation Sequence



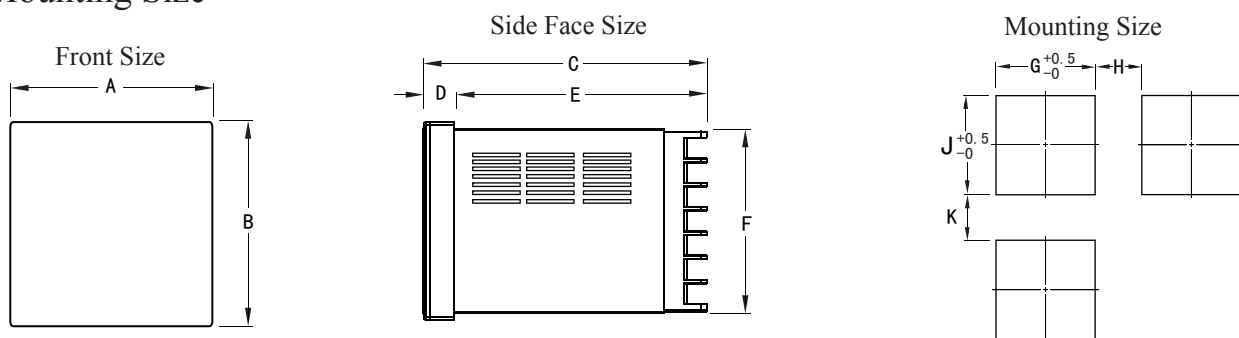
## 7. Setting Menu

| Menu                                      | Function name           | Description   | Setting range                                  | Ex-factory setting |
|---|-------------------------|---|--|--------------------|
| Under measuring status lower line display | Measurement unit choose | Null, m, cm, mm, Kg, g, mg, MPa, Pa, ba, Mba, N, W, KW, RPM, HZ, KHZ, mV, V, KV, mA, A, KA, Ω, °C, °F, can be choosed | /  | No Unit Display    |
| AL1                                       | #1 Alarm Value          | #1 Alarm Value Setting  | FL~FH  | 200                |
| AD1                                       | #1 Alarm Mode           | HH: Alarm 1 upper limit HL: Alarm 1 lower limit   | HH/HL  | HH                 |
| HY1                                       | #1 Alarm Hysteresis     | #1 Alarm Hysteresis   | 0-1000   | 1                  |
| AL2                                       | #2 Alarm Value          | #2 Alarm Value Setting  | FL~FH  | 600                |
| AD2                                       | #2 Alarm Mode           | HH: Alarm 2 upper limit HL: Alarm 2 lower limit   | HH/HL  | HH                 |
| HY2                                       | #2 Alarm Hysteresis     | #2 Alarm Hysteresis   | 0~1000   | 1                  |
| PS  | PV Bias                 | To bias meter display because of sensor   | -1000~1000                                     | 0                  |
| FT  | Filter Constant         | Digital filter for input signal   | 1-250  | 20                 |
| DP  | Decimal point selection | Decimal point setting   | 0-3  | 0                  |
| CF  | Temperature Unit        | C: Celsius F: Fahrenheit Model ①②③ No this menu   | C-F  | C                  |
| FL  | Display lowest limit    | Display lowest limit setting  | Model ①②③: -1999~9999<br>Model ④⑤: Input Table | -1999/-20          |
| FH  | Display highest limit   | Display highest limit setting   | Model ①②③: -1999~9999<br>Model ④⑤: Input Table | 4000/1300          |
| INP                                       | Input signal choose     | Model ①②③: $\mu$ : 0~10V; mA: 4~20mA; mV: 0~50mV; $\Omega$ : 0~400Ω<br>Model ④⑤: K J E T S PT100 CU50 CU100           | /  | $\mu$ /V           |
| LCK                                       | Menu lock password      | Password setting, the menu was forbade change when setting "11"   | 0~250  | 0                  |

Input Signal Table

| Code  | Input Type | Measuring Range | Resolution | Accuracy | Input Resistance |
|-------|------------|-----------------|------------|----------|------------------|
| $\mu$ | K          | -20~1300°C      | 1°C        | 0.5%FS   | >100KΩ           |
| J     | J          | -20~1000°C      | 1°C        | 0.5%FS   | >100KΩ           |
| E     | E          | -20~600°C       | 1°C        | 0.5%FS   | >100KΩ           |
| T     | T          | -20~400°C       | 1°C        | 0.5%FS   | >100KΩ           |
| S     | S          | -20~1700°C      | 1°C        | 0.5%FS   | >100KΩ           |
| PT100 | PT100      | -199.9~610.0°C  | 0.1°C      | 0.5%FS   | (0.2mA)          |
| CU50  | CU50       | -50.0~150.0°C   | 0.1°C      | 0.5%FS   | (0.2mA)          |
| CU100 | CU100      | -50.0~150.0°C   | 0.1°C      | 0.5%FS   | (0.2mA)          |

## 8. Mounting Size

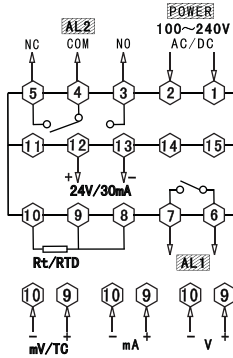


| Model        | A   | B   | C    | D   | E    | F    | G     | H (Min) | J     | K (Min) |
|--------------|-----|-----|------|-----|------|------|-------|---------|-------|---------|
| 4: (48*48)   | 48  | 48  | 97.5 | 6.5 | 91   | 45   | 45.5  | 25      | 45.5  | 25      |
| 6: (96*48)   | 48  | 96  | 97.5 | 9   | 88.5 | 89.5 | 45    | 25      | 90    | 25      |
| 7: (72*72)   | 72  | 72  | 97.5 | 9   | 88.5 | 67   | 67.5  | 25      | 67.5  | 25      |
| 8: (48*96)   | 96  | 48  | 97.5 | 9   | 88.5 | 44.5 | 90    | 25      | 45    | 25      |
| 9: (96*96)   | 96  | 96  | 97.5 | 9   | 88.5 | 91.5 | 92    | 25      | 92    | 25      |
| 80: (80*160) | 160 | 80  | 96   | 13  | 83   | 75.5 | 155.5 | 30      | 76    | 30      |
| 16: (160*80) | 80  | 160 | 96   | 13  | 83   | 155  | 76    | 30      | 155.5 | 30      |

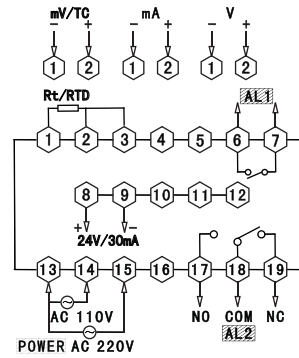
Note Unit:(mm) tolerance  $\pm 0.5\%$ (except special marked)

## 9. Connection Drawing

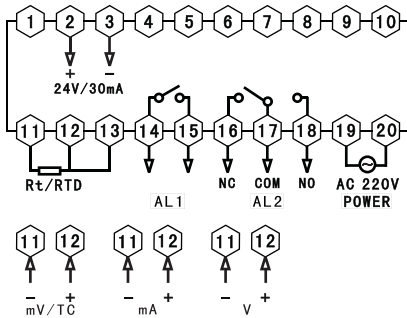
SD4 Power Supply: AC/DC 100-240V  
Alarm Relay Output: AC 250V 1A



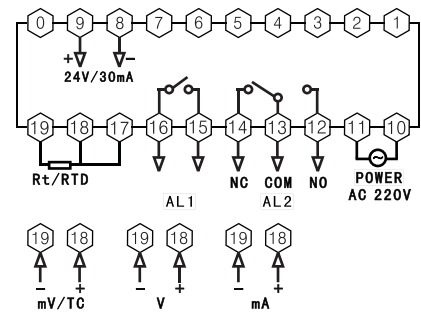
SD7 Power Supply: AC 110/220V±10%  
Alarm Relay Output: AC 250V 1A



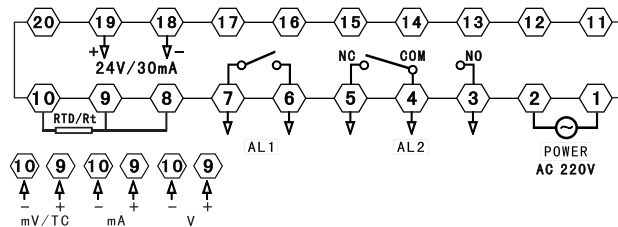
SD6/SD8 Power Supply: AC 220V±10%  
Alarm Relay Output: AC 250V 1A



SD9 Power Supply: AC 220V±10%  
Alarm Relay Output: AC 250V 1A



SD16/SD80 Power Supply: AC 110/220V±10%  
Alarm Relay Output: AC 250V 1A



Note: Please subject to the drawing on the products as final if there is any different from the above

## 10. Simple Problem Shooting

| Display Message   | Shooting Method   |
|-------------------|---|
| Display HHHH/LLLL | <ul style="list-style-type: none"> <li>To check input signal connection well or not.</li> <li>To check FH, FL value;</li> <li>To check working temperature is OK or not.</li> <li>To check input signal selection is right or not.</li> </ul> |