Recorder Flow Pressure Temp Analyzer Level

Datasheet

Online pH/ORP Meter

SUP-MDA-pH

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Online pH/ORP Meter
SUP-MDA-pH

Independent research and development of electronic online monitoring pH / ORP value, through the RS485 or current transmission remote access to the monitoring room for record and save.

pH / ORP meter is one of the intelligent online chemical analysis equipment, is a widely used in thermal power, chemical fertilizer, metallurgy, environmental protection, Pharmaceutical, biochemical, food and tap water solution pH value or ORP value and temperature of the continuous monitor.

Applications

- Sewage Treatment
- Exhaust Gas Treatment
- Dyeing Wastewater
- Strong Acid And Base
- Metal Surface Treatment
- Fertigation System
- Food Processing
- Power Plants
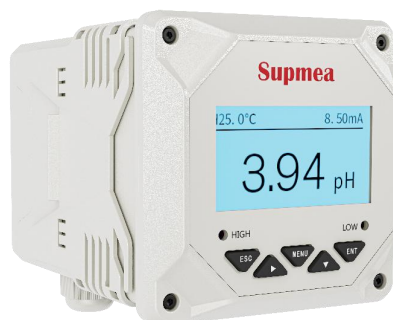
Features

- Easy operation
- Design of board card modularity, for convenience of assembly and configuration.
- 2.4 inches 128*64 lattice screen.
- Isolating transmitting output, with little interference.
- Isolating RS485 communication.
- Can be pH / ORP measurement, temperature measurement, upper and lower limit control, transmission output, RS485 communication.
- Configurable manual and auto temperature offset function.
- Configurable upper/lower limit warning and delay.
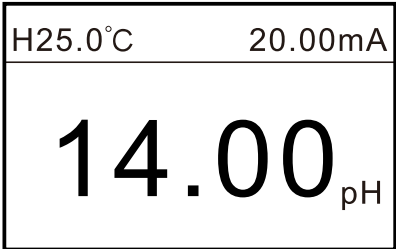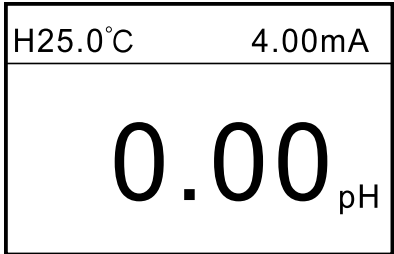- Configurable hummer and LCD backlight switch.

Online pH/ORP Meter

Parameters

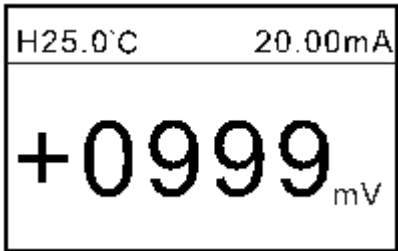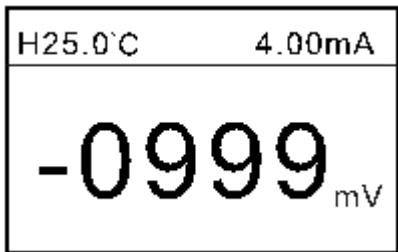| Parameters	Details
Screen size	2.8 inch monochrome LCD with a resolution of 128*64
Overall dimension	MDA-pH: 100mm×100mm×150mm PH6.8: 100mm×100mm×150.5mm
Cutout dimension	92.5mm×92.5mm
Weight	0.58kg
Ingress protection	IP5X
Measure variables	pH/ORP
Measure range	pH: (0.00 ~ 14.00) pH ORP:(-2000 ~ 2000) mV
Accuracy	pH: ±0.02pH ORP: (-2000 ~ -1000) mV，±2mV (-1000 ~ 1000) mV，±1mV (1000 ~ 2000) mV，±2mV
Input resistance	≥10^{12}Ω
Temperature compensation	NTC10K: (-10~60) ℃　Accuracy　±0.3℃ (60~130) ℃　Accuracy　±2℃ Pt1000 , Pt100(Customized)：　Accuracy ±0.3℃ Range: (-10 ~130)℃　manual/automatic
Output	(4~20) mA output, maximum loop is 750Ω, ±0.2%FS
RS485 output	Isolated, Modbus-RTU RS485
Relay	2channels, Pickup/Breakaway　AC250V/3A
Relative humidity	10%~85% (No condensation)
Working temperature	(0~60) ℃
Power supply	AC: 220V±10%，50Hz/60Hz 110V±10% DC: 24V±10%，input power≥6W
Storage conditions	Temperature: (-15~65) ℃ Relative humidity: 5%~95%(No condensation) Altitude: <2000m

Display
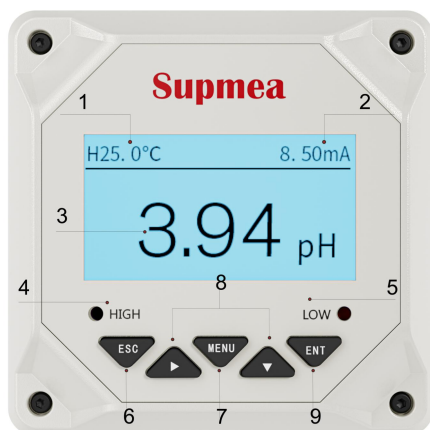
1   Temperature：Compensation temperature

2   Analyst output：Analyst output

3   Measured value：Real-time measurements value

4   High alarm：High alarm

5   Low alarm：Low alarm

6   ESC：Check related warning status on the "monitoring page"

   Return to previous level page in the up& down level page linked to
   "menu page"

7   Menu：Enter the MENU on the "monitoring page"

   Exit the MENU on the "menu page"

8   Choose："MOVE RIGHT" and "MOVE DOWN"

9   Enter：Enter the sub-menu or confirm modification on the "menu page"

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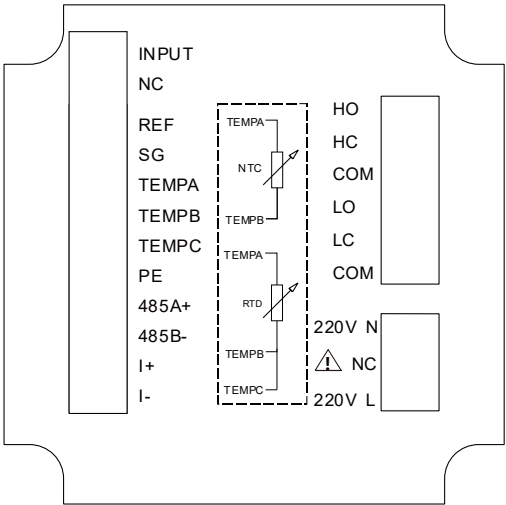## Monitor page

★ **pH monitor：**

H25.0°C　　　　4.00mA
0.00 pH

H25.0°C　　　20.00mA
14.00 pH

★ **ORP monitore**

H25.0°C　　　　4.00mA
-0999 mV

H25.0°C　　　20.00mA
+0999 mV

Wiring

INPUT
NC
REF
SG
TEMPA
TEMPB
TEMPC
PE
485A+
485B-
I+
I-

TEMPA
NTC
TEMPB

TEMPA
RTD
TEMPB
TEMPC

HO
HC
COM
LO
LC
COM

220V N
⚠ NC
220V L

220V wiring diagram

INPUT
NC
REF
SG
TEMPA
TEMPB
TEMPC
PE
485A+
485B-
I+
I-

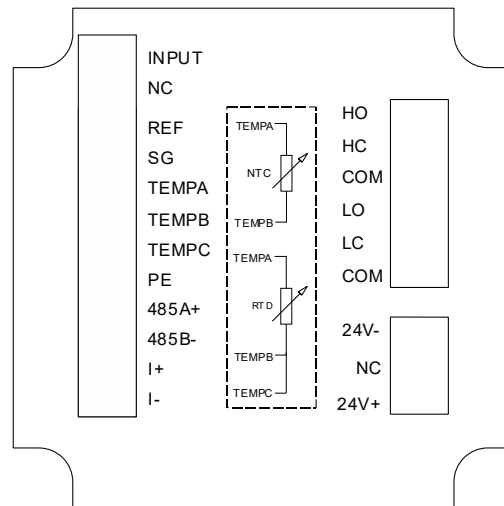TEMPA
NTC
TEMPB

TEMPA
RTD
TEMPB
TEMPC

HO
HC
COM
LO
LC
COM

110V N
⚠ NC
110V L
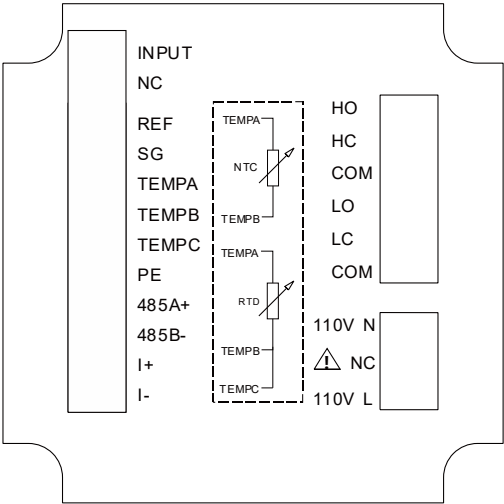
110V wiring diagram

24V wiring diagram

Identification of terminal

- INPUT: Measuring terminal of the electrode
- NC: Unidentified
- REF: Reference terminal of the electrode
- SG:Grounding terminal of the electrode
- TEMPA: Temperature compensation terminal A,NTC10K and Pt1000/Pt100 connect here
- TEMPB: Temperature compensation terminal B,NTC10K and Pt1000/Pt100   connect here
- TEMPC: Temperature compensation terminal C, Pt1000/Pt100 three-wire temperature grounding, Pt1000/Pt100 two-wire need to be connected to TEMPB, When connected to NTC10K, C terminal is not connected.
- PE:Grounding terminal of the Instrument
- 485 A +: RS485 communication interface A +
- 485 B -: RS485 communication interface B-
- I +: (4~20) mA output
- I -: (4~20) mA output
- 220V L: AC220V live wire
- 220V N: AC220V neutral wire
- HO: High alarm normally open relay
- HC: High alarm normally closed relay
- LO: Low alarm normally open relay
- LC: Low alarm normally closed relay
- COM: Common
- 110V L : AC110V live wire
- 110V N : AC110V neutral wire
- 24V+: DC24V+
- 24V-: DC24-

Dimensions

92.5mm

92.5mm

87mm

87mm
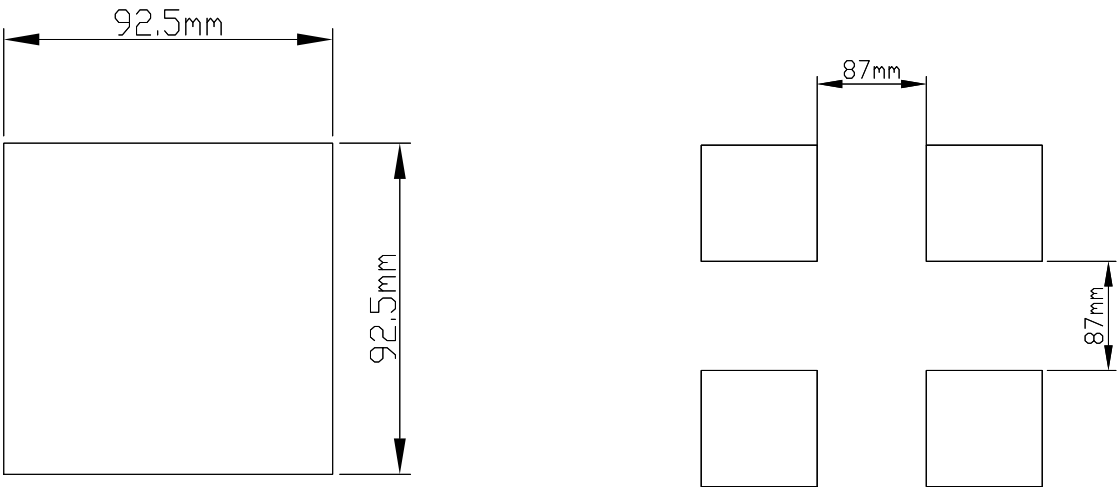
Opening size and minimum distance between square holes of distribution box

150mm

100mm

100mm

130mm
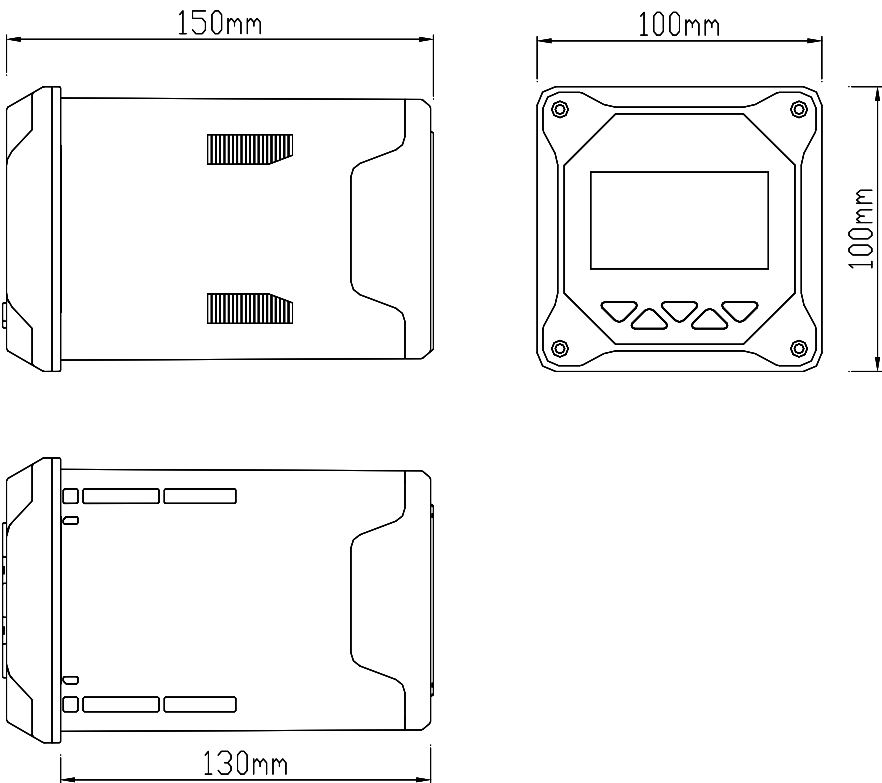
Instrument dimensions

Multi-point calibration

To achieve the best possible accuracy, the calibration should cover the range of the desired measurement values. If the readings go beyond the calibrated range, the pH meter assumes linearity and simply extrapolates the value to be displayed. The true value may be slightly different.

More advanced pH meters will let the user calibrate at three, four or five and even higher numbers of pH values. A multi-point calibration mean, in comparison to a two-point calibration, that you can calibrate your pH tester on both sides of the zero point (pH 7.00). This will expand your pH measurement range without the need of recalibrating.

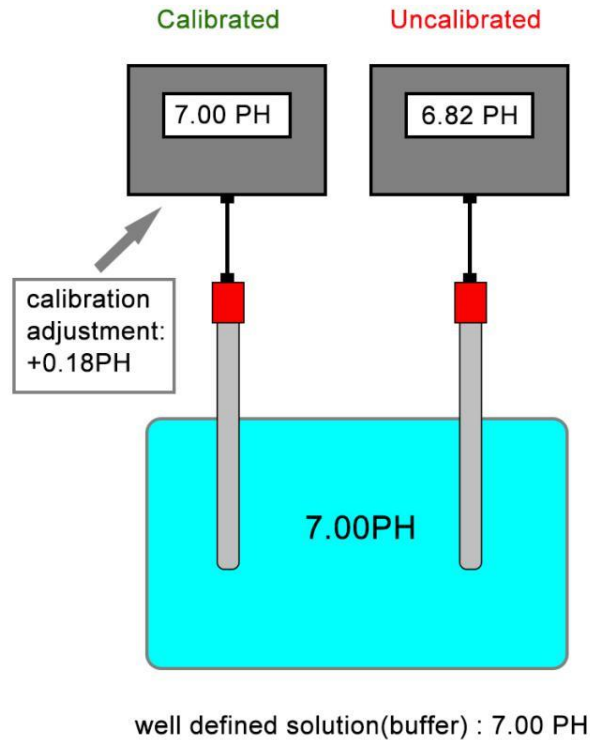Example) Three-point calibration ar pH 4.00, 7.0 and 9.21
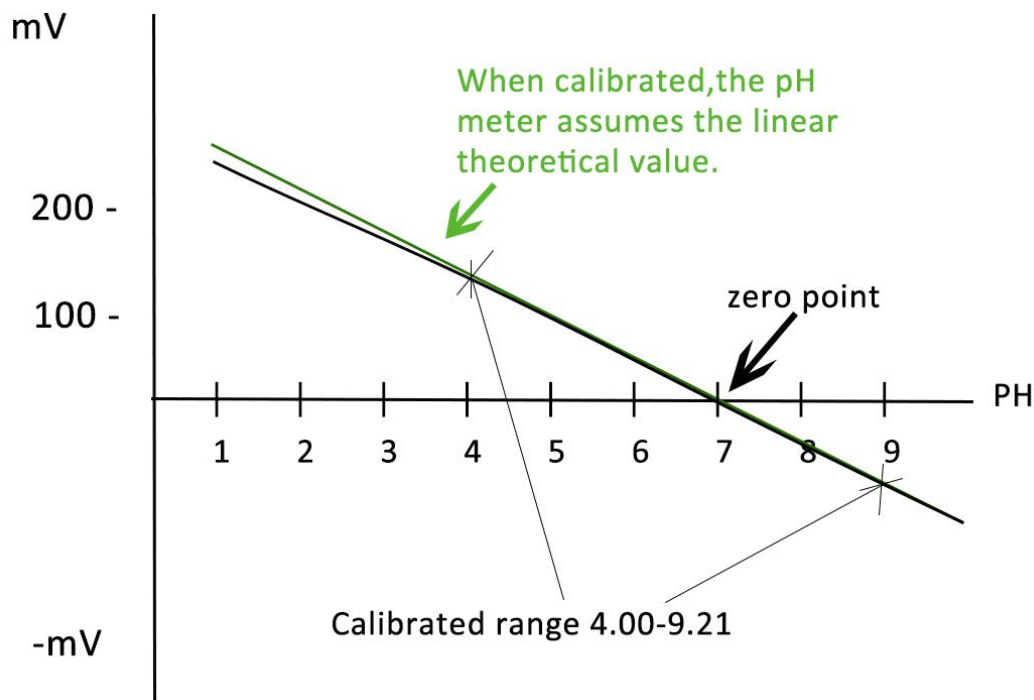
pH calibration

A pH calibration is the procedure of adjusting the pH meter by measuring solutions of known pH values.

Why you need to calibrate:

The characteristic of a pH electrode will change with time due to electrode coating and aging. And even a pH electrode would be stable over time, pH electrodes cannot be produced with identical characteristics.

In practice the response of a real pH sensor does not exactly follow the Nernst equation. This difference between the theoretical and actual behavior of a pH electrode must be compensated for. A calibration is required to match the pH meter to the current characteristics of the used pH sensor.

Calibrated   Uncalibrated

7.00 PH   6.82 PH

calibration
adjustment:
+0.18PH

7.00PH

well defined solution(buffer) : 7.00 PH

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Ordering code

SUP-MDA-pH-HC-B-4-1-C														Description
SUP-MDA-pH	-	-	-	-	-	-	-	-	-	-	-	-	-	
Range	HC													（0～14）pH，（-2000～2000)MV
Output		B												4-20mA+RS485
Alarm Output			4											2 channels SPDT
Electrical Interface				1										M16×1.5 cable plug×2+M12×1.5 cable plug
Power supply						C								24VDC
						E								220VAC
						D								110VAC
Additional features (optional)														
Accessories								P1						304SS back panel mounting bracket

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