# AP Series of LEDs Bargraph Meter

## AP1101FC314Z — Single Bargraph Indicator Meter With Alarm Control

AP
F

### FEATURES

- Display widely by raster with colorful and fine lines.
- Embedded structure meter so then can be installed easily.
- Used in measure and display the value of DC current, voltage, rheostat or thermocouple.
- Wide range of power supply and low power consumption.
- Highlight cursor segments and output alarm signal.
- Alarm point can set exit retardation.

Http://www.barmeter.com

## ■ DESCRIPTIONS

- **Input Type:** Current, Voltage, Rheostat, Thermocouple
- **Max. Input Over Capability:** 2×input value
- **Input Resistance Via Voltage Meter:** ＞500KΩ
- **Resistance Via Current Meter:** ＜50Ω
- **Measuring Accuracy :**
  - 1、Current,voltage ±0.5% F.S.±1 Segment
  - 2、Rheostat ±1.0% F.S.±1 Segment
  - 3、Thermocouple ±1.0% F.S.±1 Segment
- **Effective Beam Number:** 101 Segments
- **Segment Pitch:** 1.0 mm
- **Zero and Full Adjust Ratio:** ±10~20%
- **Power Supply And Range:** D1: DC 10~28V<br>D2: DC 36~72V<br>A1: AC 86~264V
- **Power Consumption:** ≤700 mW (F.S.)
- **Environment:** -30℃~70℃ & ＜85%RH

## ■ MODEL AND ORDERING CODE

AP1101FC314Z [D][1][N][a][H][N][7][0][1][1][ ]

- Order Code (View 'ORDER CODE')
- SP4's Relay Output: a: Normally Open; b: Normally Closed; N: None
- SP3's Relay Output: H: Have; N: None
- SP2's Relay Output: a: Normally Open; b: Normally Closed; N: None
- SP1's Relay Output: a: Normally Open; b: Normally Closed; N: None
- Power Supply: D1: DC10~28V; D2: DC36~72V; A1: AC86~264V
- Model

## ■ ORDER CODE

| Bar color | 0~5V | 1~5V | 0~10mA | 4~20mA | 0~10V |
|---|---|---|---|---|---|
| Red | 7011 | 7012 | 7013 | 7014 | 7015 |
| Green | 7021 | 7022 | 7023 | 7024 | 7025 |
| Yellow | 7031 | 7032 | 7033 | 7034 | 7035 |

| Bar color | Rheostat | Thermocouple (K) |
|---|---|---|
| Red | 7016 | 7017K |
| Green | 7026 | 7027K |
| Yellow | 7036 | 7037K |

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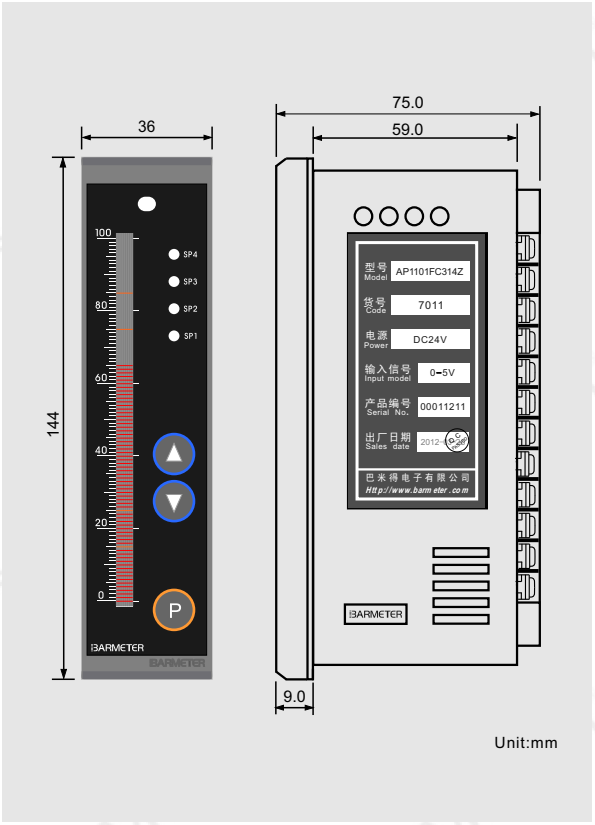
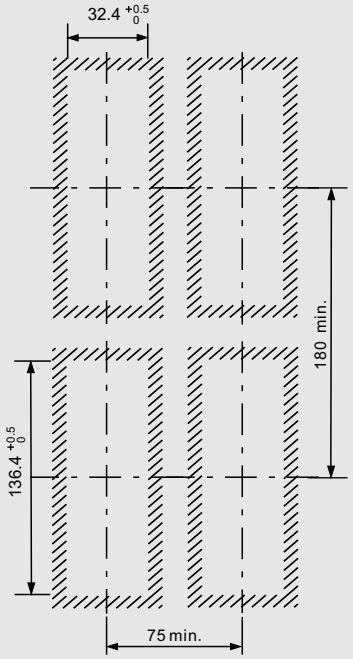
## ■ DIMENSION



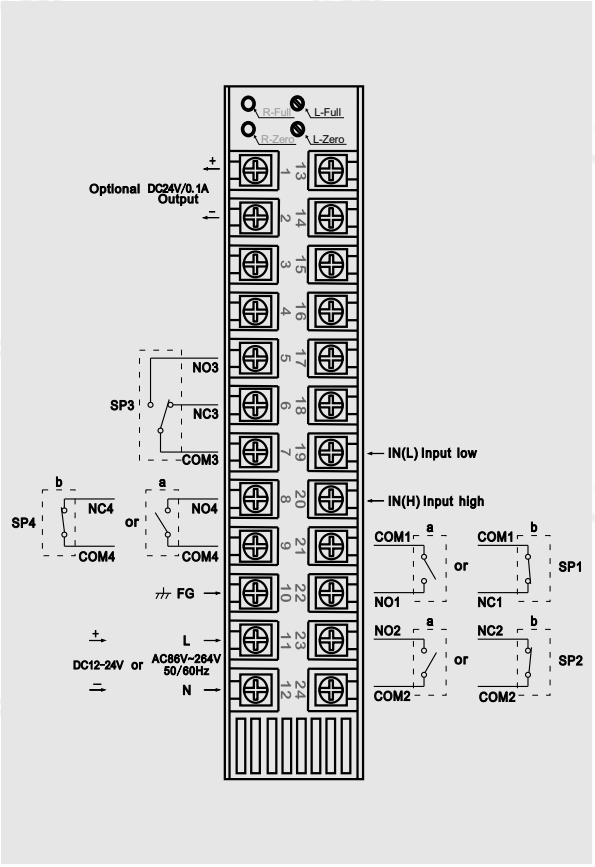

Unit:mm

## ■ CUTOUT SIZE




Unit:mm

## ■ CONNECTION DIAGRAM




## ■ CONNECTION DIAGRAM

| NO. | Symbol | I/O | Function |
|---|---|---|---|
| 1 | Vout(H) | O | DC 24V Output(+) (Optional) |
| 2 | Vout(L) | O | DC 24V Output(-) (Optional) |
| 5 | NO3 | O | Normally Open for SP3 |
| 6 | NC3 | O | Normally Closed for SP3 |
| 7 | COM3 | O | Common for SP3 |
| 8 | NO4/NC4 | O | Normally Open or Normally Closed for SP4 |
| 9 | COM4 | O | Common for SP4 |
| 10 | FG | I | Ground |
| 11 | PS+ / L | I | DC Power Positive or AC Power L |
| 12 | PS- / N | I | DC Power Negative or AC Power N |
| 19 | IN(L) | I | Signal Input Low |
| 20 | IN(H) | I | Signal Input High |
| 21 | COM1 | O | Common for SP1 |
| 22 | NO1/NC1 | O | Normally Open or Normally Closed for SP1 |
| 23 | NO2/NC2 | O | Normally Open or Normally Closed for SP2 |
| 24 | COM2 | O | Common for SP2 |

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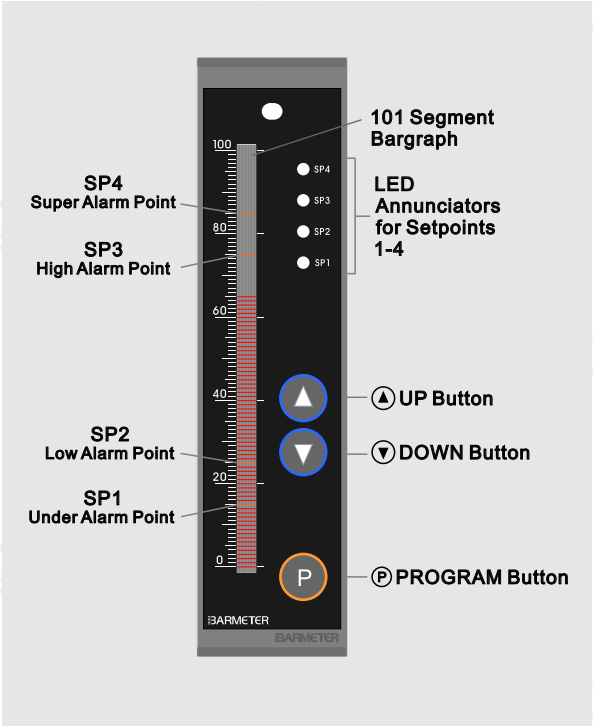
## ■ CONTROLS AND INDICATORS



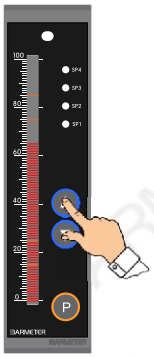

## ■ OPERATING INSTRUCTIONS

### 1. Bar Brightness Setting

**The meter will enter into the bar brightness setting state when press and hold the ▲ and ▼ buttons for 3 seconds in the measurement state.**

**Step A**

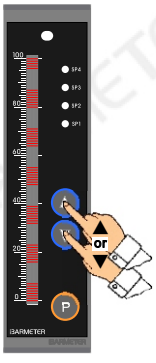
Press and hold the ▲ and ▼ buttons for 3 seconds.



the bar will present zebra-stripe

**Step B**

Press the ▲ or ▼ button to control the bar's brightness (there are 8 grades).



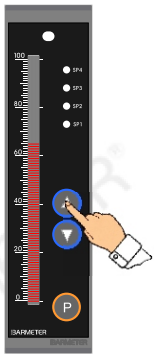

**Step C**

Press and hold the Ⓟ button for 3 seconds or no key operation for 10 seconds to enter into the measurement state.

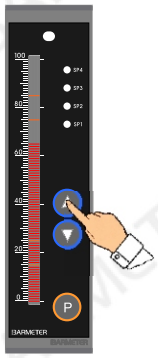
### 2. The Cursor and Setting

The cursors have memory function and brighter than normal segments.

In the measurement state, press the ▲ button repeatedly, the cursor will disappear or reappear.



cursor disappear



cursor reappear

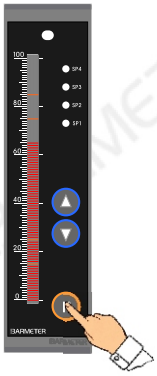
**The meter will enter into the cursor setting state when press and hold the Ⓟ button for 3 seconds in the measurement state.**

**Step A**

Press and hold the Ⓟ button for 3 seconds to enter into the cursor setting state.

Press the Ⓟ button to switch the cursor which need to set.

The selected cursor will blink.

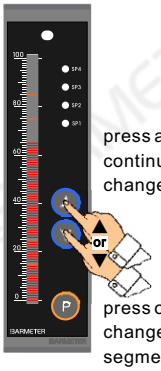


**Step B**

Press the ▲ or ▼ button to set the cursor's position.

Each cursor can be set from bottom to top. And they must meet the following conditions.

SP1<SP2<SP3<SP4




press and hold, continuously change

press once, change one segment

### Step C

Press and hold the Ⓟ button for 3 seconds or no key operation for 10 seconds to enter into the measurement state.

## 3. The retardation of alarm exit and setting

### 3. 1 Retardation of alarm exit

**The bar will blink and the LED annunciators will activate to alarm at the moment of the measured value out of range of the set point. Recovery from the alarm status is ‘alarm exit’.**

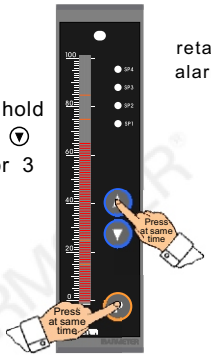
**The alarm exit can delay some value to operate , and that is the ‘retardation of alarm exit’. Each cursor has 4 grades retardation to choose. They can be set separately according to the needs.**

### 3.2 Retardation of alarm exit setting

**The module will enter into the Retardation of Alarm Exit Setting state when press and hold the Ⓟ and ▲ button for 3 seconds in the measurement state.**

### Step A

Press and hold the Ⓟ and ▼ buttons for 3 seconds.



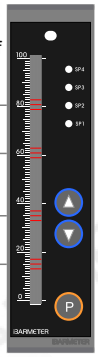

retardation of alarm exit of

SP4

SP3

SP2

SP1



Each setpoint has 4 grades retardation.*

From low to high, the grade of retardation elevated.

the bar will present

* They are 0th, 1st, 2nd, 3rd grade,each grade represent the retardation of one segment, 0th grade means alarm exit without delay.

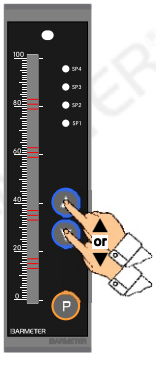
### Step B

Press the Ⓟ button to switch the setpoint which need to set.

The toppest segment of selected part will blink.

Press the ▲ or ▼ button to elevate or reduce grades.

Select setpoint




Select grade

Example

The retardation of SP1 and SP4 is on the 3rd grade, SP2 is on the 0th grade, SP3 is on the 2nd grade.

### Step C

Press and hold the Ⓟ button for 3 seconds or no key operation for 10 seconds to enter into the measurement state.

## 4. Measure and Control Output

**In the measurement state, the bar go up and down in accordance with the input analog signal. When the measured value out of range of the setpoint, meter will enter into the alarm state.**

**In the alarm state, the bar will blink, the relevant LED annunciators will bright on and the relevant relay will activate.**

Input signal higher than SP4

Input signal lower than SP2

## 5. Return to the default state

**The meter will ready to restore default state when press the Ⓟ button and turn on the power simultaneously. Meanwhile, the whole bar will light up and blink. Then press the Ⓟ button for 3 seconds, system will return to the default state.(The meter will quit and go into the measurement state if there are no key operate for 10 seconds.) The default state is that the brightness of bar is on the 4th grade, four cursors located on 15th, 25th, 75th and 85th, retardation of alarm exit are all on the 0th grade.**

default state