AJ FLOW TOTALIZER

Features

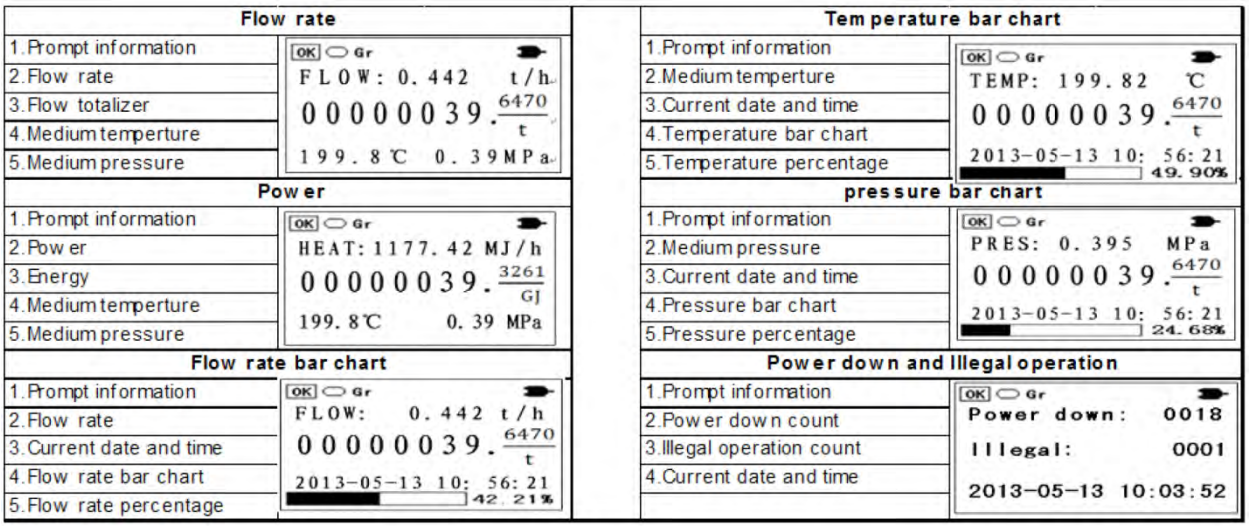
- Suitable for flow (Heat) displaying, calculating and controlling of all kinds of liquids, single or mixed gases and vapor.
- Input multiple flow sensor signals (Such as VSF, Turbine, Electromagnetic, Roots, Elliptical gear, Duplex rotor, Orifice plate,V-cone, Annubar, and Thermal flowmeter, etc.).
- Flow input channel: Receive frequency and multiple current signals.
- Pressure and temperature input channel: Receive multiple current signals.
- Provide 24VDC and 12VDC power supply with short circuit protection, simplify the system and save investment.
- Fault-tolerance: When the compensation measurement signals of temperature, pressure or density are abnormal, compensate with the manual setting of the corresponding operation.
- Circular display: Provide convenience to monitor multiple process variables.
- The update cycle of output current signal is 1 second, which can meet the requirements of the automatic control.
- Configure with Instrument clock, automatic meter reading and print function, provide convenience for metering management.
- Self-test and self diagnosis makes the instrument easier to use and maintain.
- 3 -level password to prevent unauthorized personnel to modify parameters.
- There are no potentiometer, code switch and other adjustable devices, that can improve the vibration resistance, stability and reliability of the instrument;
- Communication
  - RS485
  - RS232
  - GPRS/CDMA (English Version is not available)
  - Ethernet (English Version is not available)
- Configure with temperature, pressure, and density compensations, and it also has compressibility coefficient compensation for general gas and flow nonlinear compensation.
- Perfect function of vapor’s density compensation, automatic recognition of saturated vapor and superheated vapor and moisture content calculation of wet vapor.
- Special function for trade settlement.
  - Power down record
  - Timing meter reading
  - Query function on some illegal operations.
  - Printing
- Display unit can be modified according to different requirements.
- Large storage function.
  - Day record can be stored in 5 years

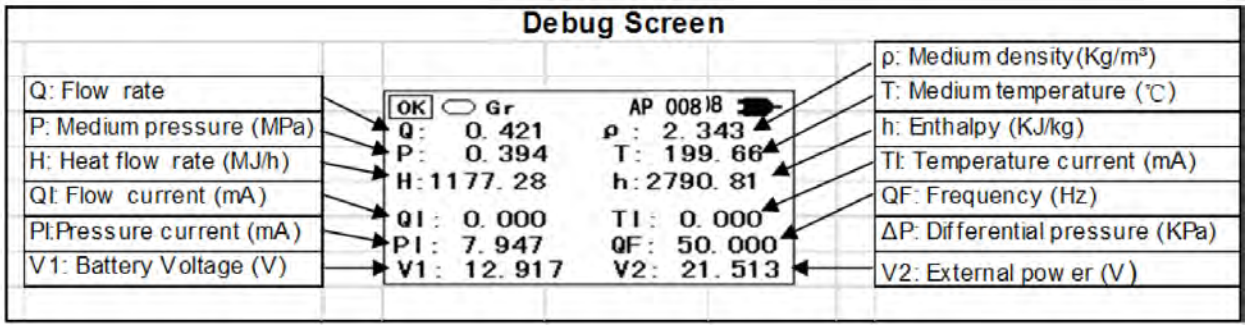
- Month record can be stored in 5 years
- Year record can be stored in 16 years

Specifications

<table>
<tr><th>Description</th><th colspan="4">Specifications</th></tr>
<tr><td rowspan="4">Input Signal</td><td colspan="2">Analog Input</td><td colspan="2">Pulse Input</td></tr>
<tr><td colspan="2">Thermocouple: K, E, B, J, N, T, S</td><td colspan="2">Waveform: Rectangular, Sine and Triangle wave</td></tr>
<tr><td colspan="2">Pt100</td><td colspan="2">Amplitude: more than 4V</td></tr>
<tr><td colspan="2">Current: 0-10mA, 4~20mA
Input impedance≤250Ω</td><td colspan="2">Frequency: 0~10KHz
Special requirements please contact us</td></tr>
<tr><td rowspan="3">Output Signal</td><td>Analog Output</td><td>Communication Output</td><td>Switch Output</td><td>Feed Output</td></tr>
<tr><td>DC 0~10mA(load resistance≤750Ω)</td><td>RS232, RS485, Ethernet</td><td>Relay with hysteresis</td><td>DC24V (load current≤100mA)</td></tr>
<tr><td>DC 4~20mA (load resistance≤500Ω)</td><td>Baud rate: 600, 1200, 2400, 4800, 9600bps,8 data bits, 1stop bit, and 1 start bit</td><td>AC220V/3A;
DC24V/6A(Resistive load)</td><td>DC12V (load current≤200mA)</td></tr>
<tr><td>Accuracy</td><td colspan="4">0.2%FS±1d or 0.5%FS±1d
Accuracy for frequency conversion: ±1 pulse (LMS), better than 0.2%</td></tr>
<tr><td>Measuring Range</td><td colspan="4">-999999~999999 for flow rate and compensation value
0~99999999.9999 for totalizer</td></tr>
<tr><td>Display</td><td colspan="4">Backlit 128*64 lattice LCD
Display flow totalizer, flow rate, energy, power, medium temperature, medium pressure, medium density, medium heat enthalpy, differential pressure, current, frequency, date, time, Alarm status</td></tr>
<tr><td>Control/ Alarm</td><td colspan="4">Optional relay upper limit and lower limit control (Alarm) output, LCD and LED output indication;
Control (Alarm) with hysteresis (The number of alarm relay is up to 2)
Alarm type: flow upper and lower limit, temperature upper and lower limit, pressure upper and lower limit;</td></tr>
<tr><td>Print</td><td colspan="4">Through RS232 interface to Serial thermal printer
Real-time print or timing print, Up to 8 times timing print in one day.</td></tr>
<tr><td rowspan="2">Protection</td><td colspan="4">Totalizer will be remained for more than 20 years after power off
Reset automatically when Power supply is low
Reset automatically when abnormal working (Watch Dog)
Self-healing fuse
Short circuit protection</td></tr>
<tr><td colspan="4">Password protection for important data</td></tr>
<tr><td>Operating environment</td><td colspan="4">Ambient temperature : -20~60℃; Relative humidity: ≤85%RH, Far from strong corrosive gas</td></tr>
<tr><td>Power supply</td><td colspan="4">Normal Type: AC 220V % (50Hz±2Hz)
Special Type: AC 80~265V (Switch power)
DC 24V±1V (Switch power) (AC 36V 50Hz±2Hz)
Back-up power: +12V, 20AH, it will last 72 hours</td></tr>
<tr><td>Power consumption</td><td colspan="4">≤10W</td></tr>
</table>

Display Screen



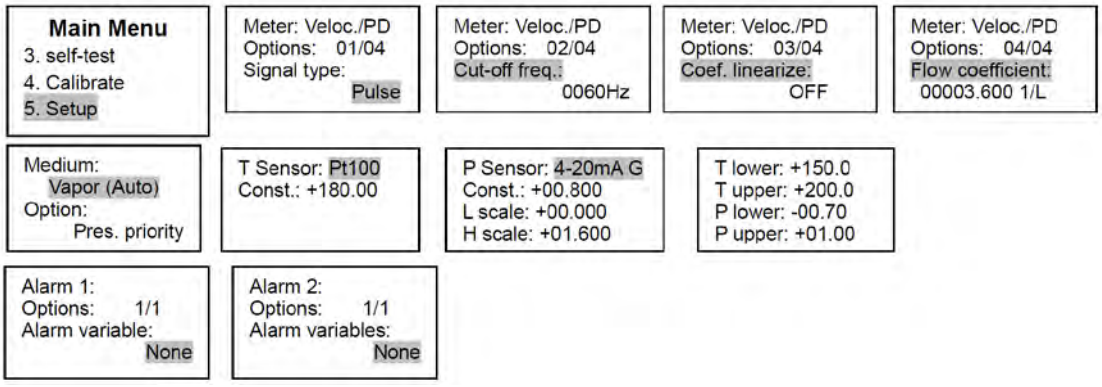


Example Configuration

Sample 1

DN50 Vortex flow sensor, measure vapor; average flow coefficient is 9.4132/l; temperature and pressure compensation; temperature sensor Pt100; pressure transmitter 0-1,6MPa; 4-20mA output; No alarm; low frequency cut-off is 60Hz; temperature range +150~200℃ (If temperature is out if the range, use 180℃ setting temperature); pressure range 0.7~1.0MPa (If pressure is out if the range, use 0.8MPa setting pressure).

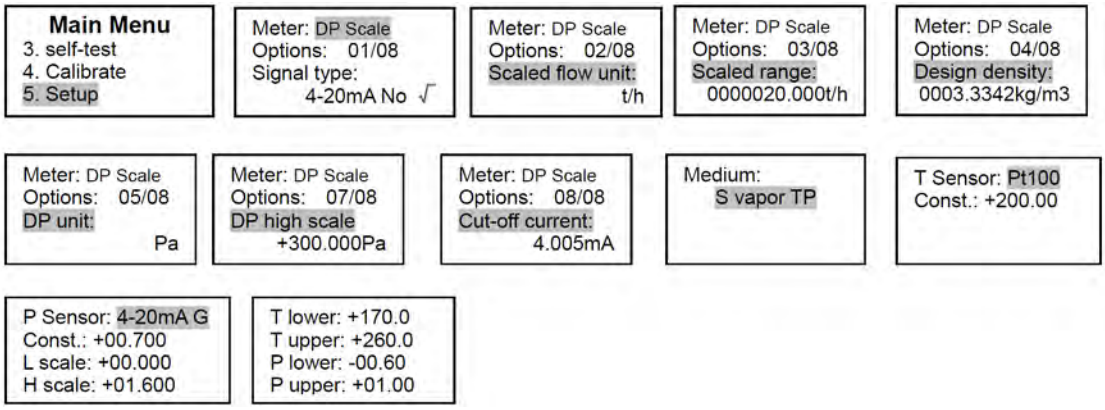
Parameter Configuration



Sample 2

V-cone flowmeter, measure vapor mass; Rosemount 3051 differential pressure transmitter, Pt100 and pressure transmitter; differential pressure transmitter range 0 ~ +300Pa; output 4-20mA No ; flow range 20t/h; design density 3.3342kg/m3;pressure transmitter range 0 ~ 1.6MPa; temperature range +170~+260℃; common temperature: +200℃; pressure range 0.6~1.0MPa; common pressure: +0.7MPa; low current cut-off 4.005mA.

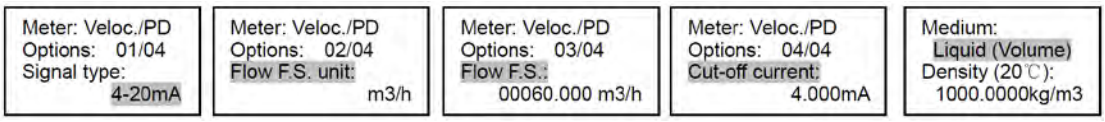
Parameter Configuration



Sample 3

Magnetic flowmeter, measure liquid; output 4-20mA; range 0-60m3/h.

Parameter Configuration



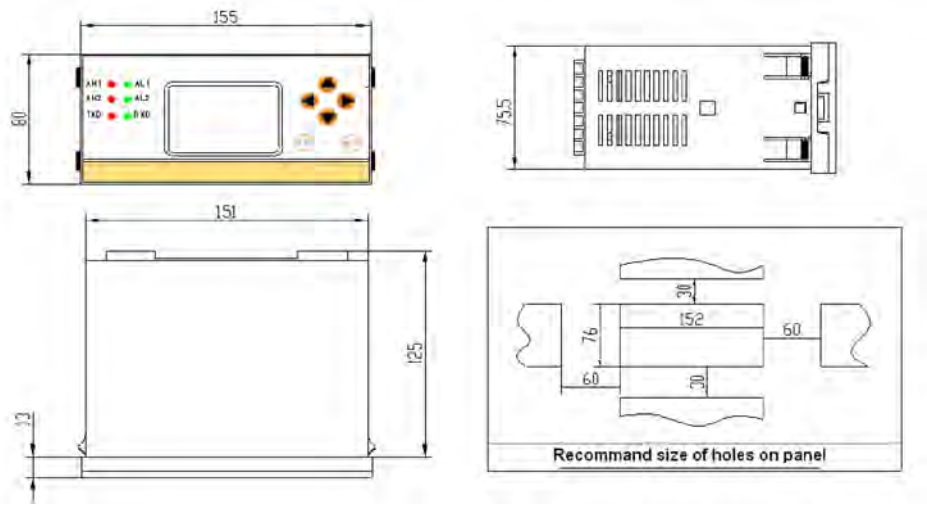
Model Selection

Item	Code	Description
General	AJ	AJ series Flow Totalizer
Dimension	8	160×80mm (horizontal)
Communication	00	No communication function
	01	RS-485 communication
	02	RS-232 communication
	03	Ethernet (English is unavailable)
Alarm 1	1NO	Switching signal of relay output
	2NC	
Alarm 2	1NO	
	2NC	
Output	1	Current Output
	2	Pulse output
Input	1	Thermocouple
	2	Pt100
	3	Pt1000
	4	Current: 0-10mA

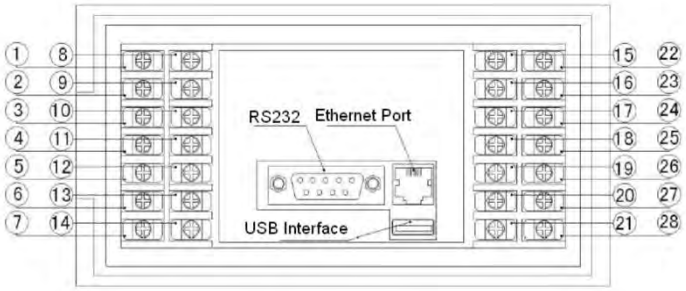
	5	Current: 4-20mA
Feed Output	1	DC +5V
	2	DC +12V
	3	DC +24V
Power Supply	1	AC 220V
	2	AC 36V
	3	DC 24V
Extended Function	1	USB interface, using to download the data in meter
	2	Current: 4-20mA
	3	16 Bit A/D convertor module
	4	Wireless remote control function.*1

*1 Mainly used in dangerous occasion and condition of no opening the meter.

Dimensions



Wiring Terminals



Warning! The left figure only be used as an example, All wirings of instrument should be refer to the marks on instrument.

No.	Definition	No.	Definition	No.	Definition	No.	Definition
1	Flow current input	8	Pressure current input	15	Temp. current input	22	Current output +
2	Blank	9	Blank	16	Blank	23	Current output -
3	RS-485 (A)	10	24V (+) output	17	Battery +	24	Pulse output +
4	RS-485 (B)	11	Public GND	18	Battery -	25	Pulse output -
5	Pt100, A	12	12V (+) Output	19	GND	26	Alarm 1 normally-closed contact
6	Pt100, B	13	Flow pulse input	20	**220V N**	27	Alarm 1 normally-open contact
7	Pt100, B	14	Public GND	21	**220V L**	28	Alarm 1 common contact