

Dear clients, thanks for choosing IBEST FA8 Series Flow Indicator! Before installing and operating the panel meters, please read this instruction manual carefully. For any questions, please contact our sales people immediately.

**PREREAD INSTRUCTIONS**

**SAFETY CAUTIONS:**

- Make sure the power is at "OFF" status before connecting the wires to avoid electric shock and strictly follow the connection diagram given out by the factory.
- Make sure the power OFF when cleaning the product.
- Working beyond the stated power supply (90-260V AC) is prohibited so as to avoid damage to the product or cause fire.
- Make sure the OUTPUT RELAY is used at the rated load and electrical life, if the contact of the output reply works against the electrical life, it may melt or burned or even cause fire.

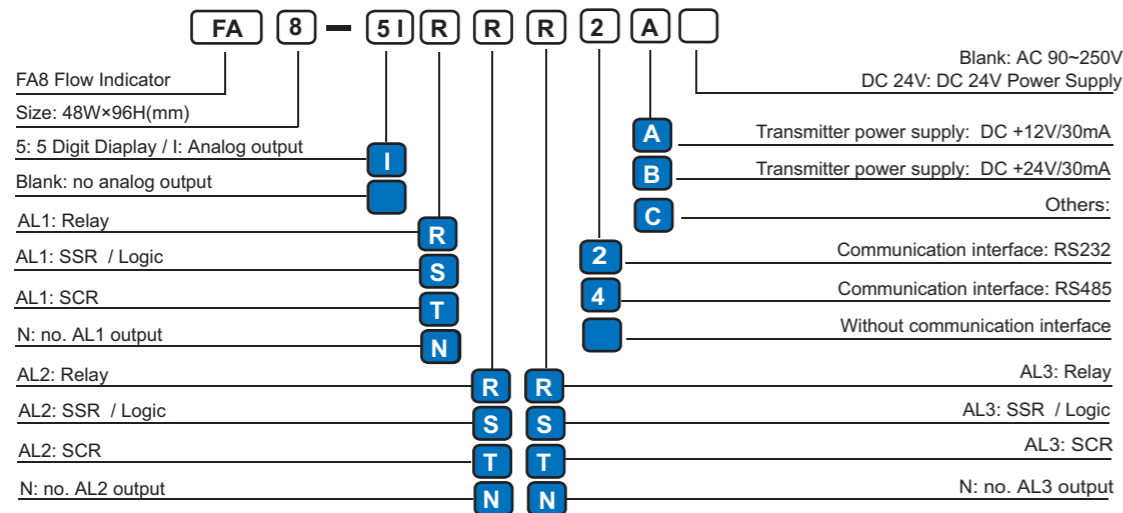
**INSTALLATION NOTICE:**

- The product can not be installed outdoors, otherwise will shorten the operation life or cause electrical shock accidents.
- Ambient temperature: 0°C(32F) ~ 50°C(122F)
- Avoid to use the product in the such conditions as the dusty, flammable, explosive gas, vapor, water and oil spray environments.
- Prevent from strong surge & impact, high interference or other bad influences conditions.
- The product does not include a switch or fuse, if necessary, user needs to install by themselves, suggested spec. of fuse: rated voltage: 250V AC, rated current: 0.5A, with delay function.
- The output is active after the power ON for 10s, please consider this when configuring control loop.
- Safety devices must be configured when the product is used in the conditions such as nuclear energy control, medical treatment devices, autos, trains, aviation, entertainment...etc, for more details, please contact us.

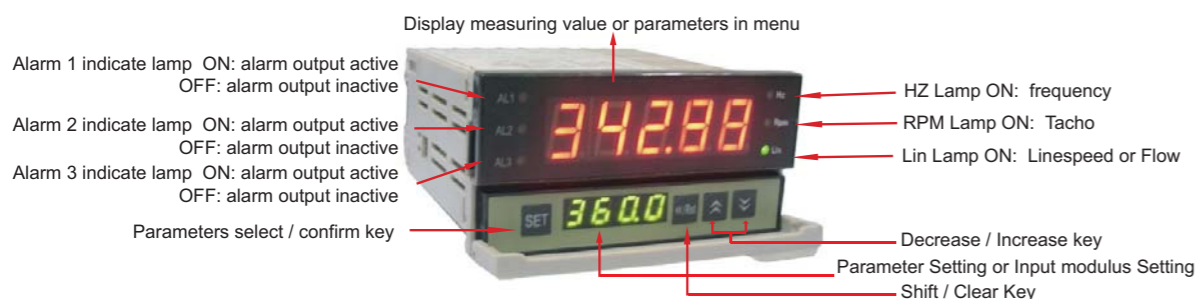
**1.FEATURES**

- Digital flow indicator, instrument dimension: 48H\*96W\*100Lmm.
- Display: dual line; Upper: 5 digit; Lower: 4 digit LED displaying.
- To monitor flow by input of frequency, tacho, linespeed and pulse.
- 3 relay for alarm is optional; Relay contact capacity: AC 250V/3A or DC 30V/3A (resistance load).
- Analog output is optional, 4~20mA or 0~10V.
- Input and output are optic isolated, high anti-interference.
- Transmitter power supply: DC 24V or DC12V / 30mA max.
- Product power supply: AC 90~260V 50/60HZ, power consumption<5VA.

**2.ORDERING CODE**



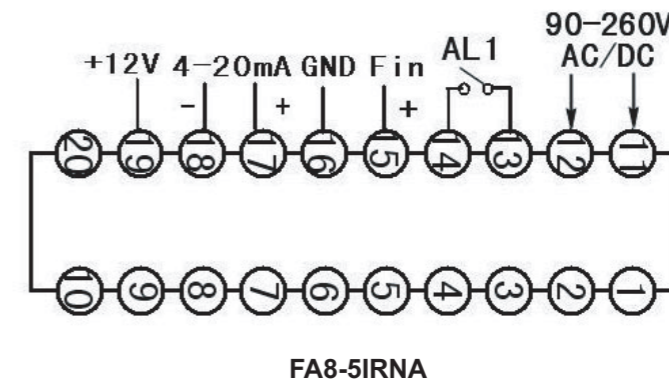
**3. PANEL ILLUSTRATIONS**



**4. TECHNICAL SPECIFICATIONS**

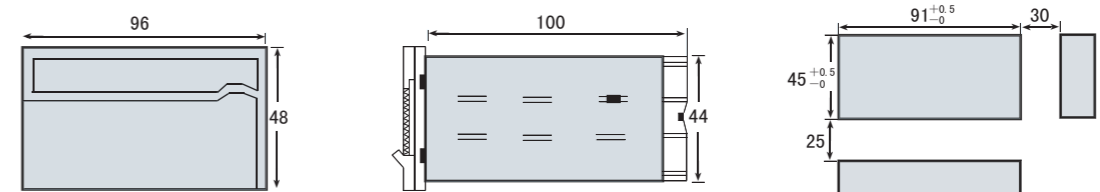
Power supply:	90-260V AC 50/60HZ (± 10%) ; Power consumption: ≤ 5VA
Accuracy:	0.1% F.S ±2 digit (under normal conditions)
Sampling rate:	Twice / S
Input:	Pulse, square wave, 5V≤ H ≤30V,0V≤ L ≤2V
Measuring range:	0.01 Hz ~ 10K Hz (>10K Hz need to be special made)
Alarm output:	Relay: NO., contact capacity: AC 250V /3A or DC 30V /3A Cosφ=1
Analog output:	4~20mA or 0~10V, zero point and full scale configurable by software
Withstand Voltage:	AC 1500V 1min (between connection terminals and housing)
Insulation Strength:	≥ 20M ohm (DC500V between connection terminals and housing)
Transmitter supply:	Isolated DC 24V/30mA or DC 12V/30mA
Communication:	RS485 or RS232 interface (Modbus RTU protocol)
Ambient temperature:	0~50 °C 35%~80% RH

**5. ELECTRICAL CONNECTION DRAWING**



Note: if the connection drawing doesn't correspond to the drawing on the product, please according to the drawing on the product.

**6 PANNEL DIMENSIONS AND INSTALLING HOLE DIMENSIONS**

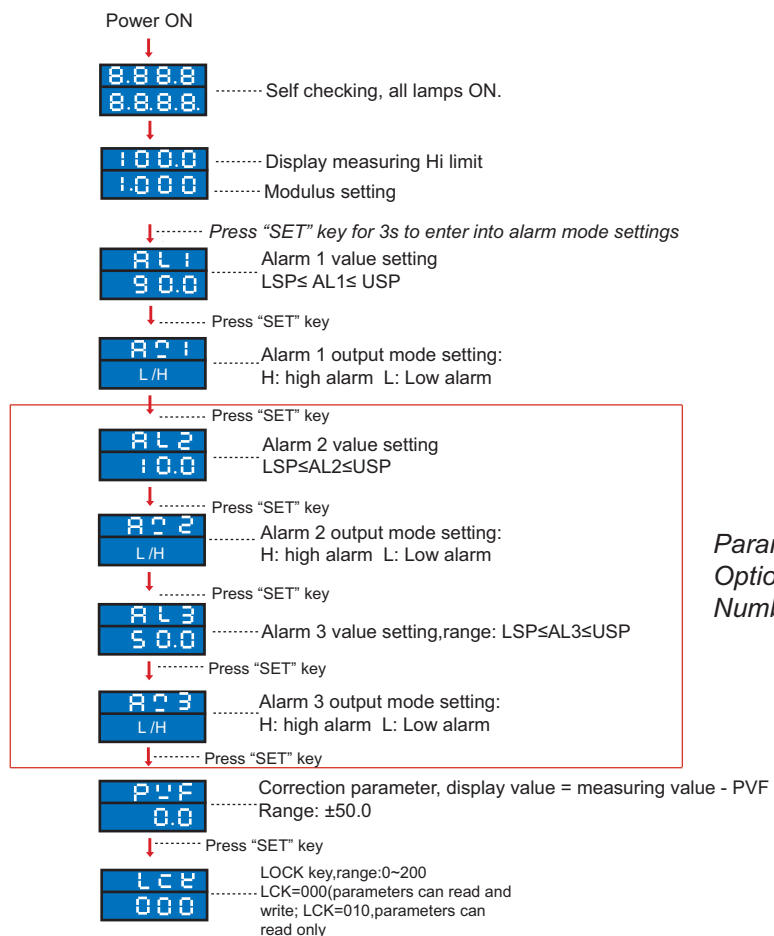


**7.OPERATION INSTRUCTIONS:**

- Modify set value: at measuring status, press "<</RST" key, lower LED flashes; press "▲" / "▼" key to modify set value; finally to press SET key to confirm.
- When measuring frequency, modulus is value of frequency division, used as unit impulse value for flow.
- When measuring tacho, modulus is to be set according to the number of impulse per rotation, e.g., N= No. of impulse per rotation, to set modulus= N; internal menu has fixed a modulus 60, displaying unit is RPM/min.
- When measuring linespeed, modulus is same to be set according to the number of impulse per rotation, e.g., a circle=1M has 10 impulse, each impulse= 1/10=0.1M.
- Convert displaying: at measuring estate, please SET key can convert displaying.
- In the alarm mode setting menu, select parameter "LCK", set LCK=000, the parameters can read and write; set LCK=010, parameters can read only.
- At the setting estate, no key operation within 25s will go back to the processing estate.

8.PARAMETERS MENU:

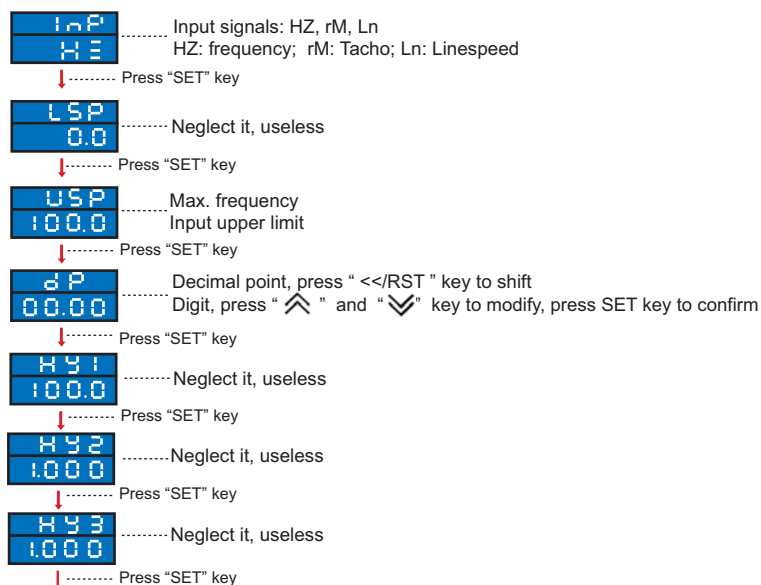
ALARM MODE PARAMETERS MENU



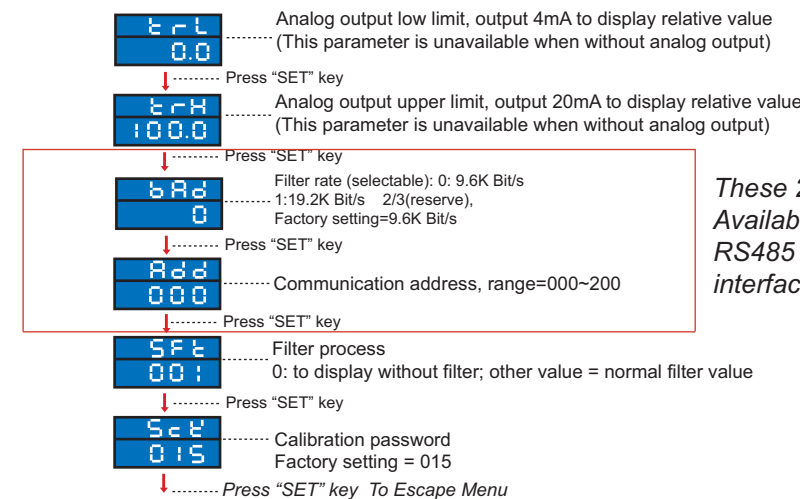
Parameters in red frame are Option according to the item Numbers

2ND GRADE CONTROL PARAMETERS MENU

Press "▲" and "▼" Key for 3s to enter



GO ON WITH NEXT PAGE



These 2 parameters are only Available with model of RS485 Communication interface

9.Application Examples

A device with roller and belt, circumference of roller =0.5cm, sensor is rotary encoder with 10 impulses per rotation:

- a.Request meter to display frequency of roller: modulus = 0.1 (1/10)
- b.Request meter to display tacho of roller: modulus = impulse per rotation=10  
 Tacho = (measuring value + no. of pulse per rotation) × 60 = (measuring value× 60) + 10
- c.Request meter to display the speed of belt, e.g, the linespeed per minute, unit meter/minute)  
 Modulus = (roller circumference ÷ no. of pulse per rotation) = 0.5 ÷ 10=0.05  
 Linespeed = measuring value × modulus × 60s = measuring value × 0.05 × 60 = 3 (Viz.: modulus = 3)  
 User can set and adjust the value of modulus according to the real application.

10.Product maintenance notice:

- a.The instrument should be power ON for 15 minutes before operating.
- b.The instrument ambient temperature is 0~50℃; relative humidity: 85%
- c.The instrument calibration period is 12 months.
- d.Avoid shock and impact, prevent operation from heavy dust and poisonous chemical materia medica & gas environment.
- e.If the input signals have high-frequency interference, the wires must configure a high-frequency filter.
- f.The input wires should not be too long. If the distance between the signal input terminal and the product can not be shortened, please use shielded twisted-pair cable and the shielded layer connected with the signal low end.
- g.Keep from the direct sunlight, stock temperature is -10~70℃/60%(RH). Do not contact the organic solvent and oil.
- h.To stock in long terms without operation, please connect to power ever 3 months for min. 4 hours each time.

11.Others:

- a.The complete product contains: product with connection diagram, instruction manual, installing brackets (1 set), inspection QC lable and packing box with product label.
- b.Guarantee: any defected products under normal operation within 12 months can be returned and replaced by us. Damage by user's wrong operation can not be returned; In case repair is necessary, buyer should take charge of the freight fee, on condition large quantities need to be repaired, repair fee should be considered