AI–708H/808H INTELLIGENT FLOW TOTALIZER

PRODUCT INTRODUCTION

AI-708H/808H intelligent flow totalizer is designed for a service life of over 10 years and has 3-year free warranty. Suitable for measuring flow of various kinds of liquid, general gas natural gas and etc by using various types of flowmeters such as orifice flowmeter, vortex flowmeter, turbine flowmeter and electromagnetic flowmeter.

FUNCTIONS AND FEATURES

- Accumulate mass, volume or length of medium, provide batch control over the accumulation. As batch controller, it has 4-bit accumulator for control and 12-bit accumulator for total sum individually.
- Modularized and configurable inputs. The flow input can be 1-5V, 0-5V, 0-10mA, 4-20mA or frequency signal, special defined input is also available. Temperature input can be configured to RTD(Pt100), thermocouple(K, E, J type) or standard current signal. Pressure input can be standard voltage or current signal.
- AI-808H has temperature and pressure compensation, using for calculation for temperature and pressure compensation for general gas, saturated steam, superheated steam and liquid. The compensation calculation with the method of table look-up has high accuracy in the steam measurement application. Special function can be carried out by enhancing the compensation formula upon customers' requirements.
- Advanced computation algorithm assures high accuracy in the application of flow measurement even if the input frequency is very low.

TECHNICAL SPECIFICATIONS

- Measuring accuracy: 0.2%FS for temperature, pressure, frequency and instantaneous flow(without temperature-pressure compensation)
- Temperature shift: ≤0.01%FS/℃(typical value is 50ppm/℃) for temperature, pressure, frequency and instantaneous flow(without temperature-pressure compensation)
- Temperature and pressure compensation mode:
  - General Gas: temperature-pressure compensation(calculate by equation for ideal gas state)
  - Saturated Steam: temperature compensation(table look-up, temperature range: 100℃-276℃)
  - Saturated Steam: pressure compensation(table look-up, absolute pressure range: 0.1-3.2MPa)
  - Superheated Steam: temperature-pressure compensation(table look-up, temperature and pressure range: 150℃-590℃, 0.1-22MPa)
  - General liquid: only use temperature compensation, PA as compensation factor
  - Expand formula: special calculation formula available
- Calculation accuracy for temperature-pressure compensation: calculation error is less than 0.3%FS, and less than 0.5%FS after compensation
- Accumulation accuracy: the error is less than 0.01%FS (just caused by the frequency error produced by crystal oscillator)
- Power consumption: ≤5W

OVERALL DIMENSIONS

A (96*96mm)

A2 (96*96mm)

A6 (96*96mm)

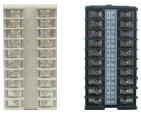
B (160*80mm)

B6 (160*80mm)

C (80*160mm)

C3 (80*160mm)

E (48*96mm)



E5 (DIN rail mounted)

F (96*48mm)

MODEL SELECTION AND SPECIFICATIONS

AI– □ □ □ □ □ □ □ □									Specifications
Model	708H								without temperature-pressure compensation
	808H								with temperature-pressure compensation
Panel size		A							96*96*100mm
		A2							96*96*100mm, with 25 segments and 4 levels of luminosity
		A6							96*96*100mm, LCD display
		B							160*80*100mm
		B6							160*80*100mm, LCD display
		C							80*160*100mm
		C3							80*160*100mm, with 50 segments and 2 levels of luminosity
		E							48*96*100mm
		E5							48*96*100mm, DIN rail mounted type
		F							96*48*100mm
Temperature-pressure input (M1)			I0						temperature: thermocouple, RTD or mV signal; pressure: 0-5V or 1-5V
			J4						2-channel current input, 0-10mA, 0-20mA or 4-20mA
			J51						2-channel 2-wire transmitter input (provide 24VDC feed supply)
Flow input (M2)				I2					frequency/ digital input (provide 12VDC power supply)
				I3					0-5V/1-5V input (provide 24VDC feed supply)
				I4					0-20mA/ 4-20mA input (provide 24VDC feed supply)
Output (OUTP)					L0				large volume relay contact output (250VAC/2A) (Chinese brand)
					L1				large volume relay contact output (250VAC/2A) (Chinese brand)
					L2				small volume relay contact output (250VAC/1A) (Omron brand)
					L4				small volume relay contact output (250VAC/2A) (Omron brand)
Alarm (ALM)						L0			large volume relay contact output (250VAC/2A) (Chinese brand)
						L2			small volume relay contact output (250VAC/1A) (Omron brand)
						L3			dual channel N/O relay contact output (250VAC/2A) (Chinese brand)
						L4			small volume relay contact output (250VAC/2A) (Omron brand)
Auxiliary output (AUX)							X3/X5		linear current 4-20mA output (X5 has own isolated power)
Communication (COMM)								S/S4	RS485 communication interface (S4 has own isolate power supply)

ATTENTION:

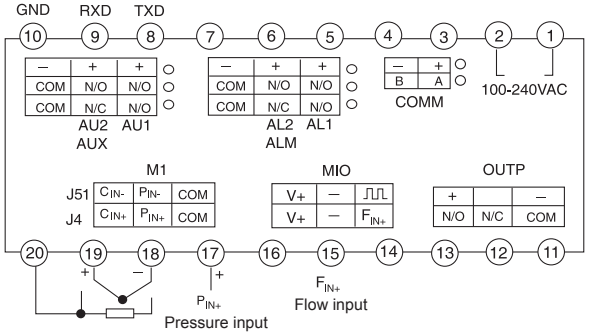
AI-808H can be used as calorimeter when installing J21 in M1 slot.

MODEL SELECTION

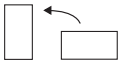
AI-808HB6I0I2L2X3S4, main model for instrument is AI-808H, intelligent flow totalizer with temperature-pressure compensation; front panel size B6 160*80mm with LCD display; I0 means temperature input: thermocouple or RTD, pressure input: 0-5V or 1-5V; I2 means flow input: frequency; L2 means batch control relay output; X3 means linear current 4-20mA retransmission output; S4 means supports RS485 communication with isolate power supply.

WIRING DIAGRAM

AI-708H/808H



The graph suits for horizontal instruments with size B, B6, F



Note: For instruments with size A, A2, A6, C, C3, E, E5, please clockwise rotate the graph 90 degree and the numbers of terminals keep same.