

SETPOINT COMPARATOR

AMH-752

*4000 Time/sec



DC Voltage Measurement

Model	Range	Display Adjustable	Input Impedance	Input Protection
AMH-752-11	±199.9mV	OFFSET ±1999	100MΩ	±250V
AMH-752-12	±1.999V	FULLSCALE ±1999	10MΩ	±500V
AMH-752-13	±19.99V			
AMH-752-14	±199.9V			

Accuracy: ±0.1% ±2 digit(23°C±5°C)(a≤1)(Normal Speed Mode)
±0.1% ±4 digit(23°C±5°C)(a≤1)(High Speed Mode)

DC Current Measurement

Model	Range	Display Adjustable	Internal Resistance	Input Protection
AMH-752-21	±199.9μA	OFFSET ±1999	1kΩ	±10mA
AMH-752-22	±1.999mA		100Ω	±50mA
AMH-752-23	±19.99mA	FULLSCALE ±1999	10Ω	±150mA
AMH-752-24	±199.9mA		1Ω	±500mA
AMH-752-25	±1.999A		0.1Ω	±3A

Accuracy: ±0.2% rdg. ±2 digit(23°C±5°C)(a≤1) } Normal Speed Mode
±0.3% rdg. ±2 digit only for AMH-75X-25 }
±0.2% rdg. ±4 digit(23°C±5°C)(a≤1) } High Speed Mode
±0.3% rdg. ±4 digit only for AMH-75X-25 }

1-5V Measurement

Model	Range	Display Adjustable	Input Impedance	Input Protection
AMH-752-1V	1-5V	OFFSET ±1999 FULLSCALE ±1999	1MΩ	±250V

Accuracy: ±0.1% rdg. ±3digit (23°C±5°C) (a≤1) (Normal Speed Mode)
±0.1% rdg. ±5digit (23°C±5°C) (a≤1) (High Speed Mode)

4-20mA Measurement

Model	Range	Display Adjustable	Input Resistance	Input Protection
AMH-752-2A	4-20mA	OFFSET ±1999 FULLSCALE ±1999	10Ω	±150mA

Accuracy: ±0.1% ±3 digit (23°C±5°C) (a≤1) (Normal Speed Mode)
±0.1% ±5 digit (23°C±5°C) (a≤1) (High Speed Mode)

*a=Scaling Coefficient

Specifications

- Measuring function: Specify one type from among DC voltage, DC current and instrumentation input signal measurements.
- Operation method: Successive approximation type
- No. of input points: 2(A ch. and B ch.)ch.→channel
- Input selection: A, B, A+B, A-B, A & B, and $\{(A-B)/|B|\} \times 100$
- Input circuit: Single-ended type
- Input bias current: 1nA(TYP)
- Conversion Rate: 1.25 times/sec to 4000 times/sec(For 1 ch.)
0.652 times/sec to 2000 times/sec(For 2 ch.)
- Display: LED
Measured-value display unit character height; 10.0mm(red)
Monitor character height ; 8mm(green)
- Display speed: 12.5 times/sec(Only in the normal speed mode)
Display in the high-speed mode ; Displayed only during hold.

Mode	High Speed Mode			
No.	1	2	3	4
Conversion Rate (1ch) per sec.	4000 (1)	2000 (2)	1333.3 (3)	1000 (4)
Conversion Rate (2ch) per sec.	2000	1000	666.7	500

Features

- Conversion Rate 1000/sec~4000/sec
- 2 input computation(A, B)
- 4-sets/4-pattern Setting
- Peak, Valley, Peak-Valley hold(Optional)
- Digital zero(Optional)
- RS-232C Communication(Optional)
- BCD, ANALOG Output(Optional)
- Bright LED 10mm(Red)

Mode	Normal Speed Mode					
No.	5	6	7	8	9	10
Conversion Rate (1ch) per sec.	1000 (5)	500 (10)	250 (20)	125 (40)	100 (50)	50 (100)
Conversion Rate (2ch) per sec.	500	250	125	62.5	50	25

Mode	Normal Speed Mode					
No.	11	12	13	14	15	16
Conversion Rate (1ch) per sec.	25 (200)	12.5 (400)	10 (500)	5 (1000)	2.5 (2000)	1.25 (4000)
Conversion Rate (2ch) per sec.	12.5	6.25	5	2.5	1.25	0.625

() Average time

- Polarity display: Automatic "-" display when the computation result is minus
- Overrange warning: Overflow display when input signal exceeds measuring range
LED(red)flashes.(Display:Value just before overflow occurs)
- Zero display: Leading "zero" suppression
- Decimal point: Settable to any position(by dip switch at the front).
- Maximum display: ±1999
- External control: Start/hold(start hold A type)
Start→Start terminal open(or 5 V)
Hold→Shorting between digital common and hold terminals(or 0 V)
*:Sample hold(start hold B type)
Only one measurement is performed from rise of positive or negative pulse of more than 500μs and the result is out-put.
*:Digital zero
Function of making the mechanical initial value such as of pressure sensor, potentiometer, etc.
to zero electrically. By shorting between the digital common and digital zero (for A ch. or B ch.) terminals, or at 0V:The displayed value just after the above shorting made or voltage is set to 0 V is changed to "zero" and the value at that time is stored.
(A ch. and B ch. can be independently controlled.)
*:Peak hold, valley hold and peak valley hold
•Peak hold: Display of maximum value measured
•Valley hold:Display of minimum value measured
•Peak valley hold: Display of the difference between maximum and minimum value measured
The respective display function works with the common and above terminals shorted or at 0 V.
(However, only display is made, and comparison output is always in accordance with voltage or current value applied between input Hi and Lo.)
*:Settable on the sheet key at the front.

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■ Comparison Section

1. Control method: Computation by microcomputer
2. Setting range: High/low limit setting including polarity(2/4-step setting)-1999 to 0 to +1999

3. Comparison conditions (display):

Comparison condition	Comparison result
	AMH-752
Measured value > High/high limit set-value	HH (HI)
High/high limit set-value - Measured-value > High limit set-value	HI
High limit set-value - Measured-value < Low limit set-value	GO
Low limit set-value < Measured-value < Low/low limit set-value	LO
Low/low limit set-value > Measured-value	(LO) LL

4. Comparison display: As a comparison result, the respective light emitting diode lights.

5. Comparison relay output:

HH, HI, GO, LO, and LL (1 "a", each)

6. Relay output cycle:

Approx. 12.5ms

At 1ch. input

- Conversion Rate: When the speed is slower than 80 times/sec, output for each sampling.
Conversion Rate: When the speed is faster than 80 times/sec, outputs the result at that time at about 12.5 msec intervals. (Excluded at start/hold.)

7. Relay contact capacity: 250V AC, 0.1A Resistive load

120V AC, 0.5A Resistive load

28V DC, 1A Resistive load

8. Photo-Coupler output: Sink current; 20mA max. (less than 30 V) (NPN open-collector)

9. Photo-Coupler output cycle:

Approx. 250µs at the sampling speed of 4000 times/sec for 1ch. input
For others; Depending on each sampling speed

10. Hysteresis:

Settable from 1 to 999 digits for each comparison set-value.

11. External control:

Comparison output reset with the reset and digital common terminals shorted (or at 0 V)

■ Common Specifications

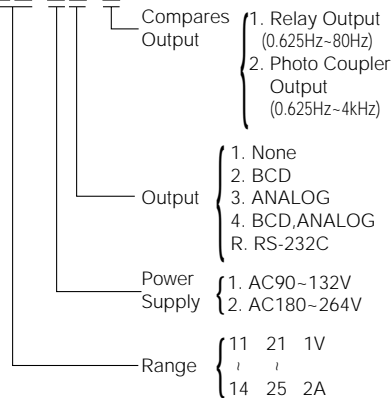
1. Memory backup: Set data can be reserved for about 10 years using EEPROM.
2. Operating temperature and humidity: 0 to 50°C, 35 to 85% RH
3. Power supply: 90 to 132V AC 50/60Hz
180 to 264V AC 50/60Hz (Internal jumper wire selection)
4. Power consumption: Approx. 5VA (at 100V)
5. Dimensions: 48mm(H) × 96mm(W) × 158mm(D), DIN size
6. Dielectric strength: Between input and grounding(E) terminals, 500V DC
Between input and digital common/relay output/transistors output; 500V DC, each
Between power supply terminal and input terminal/grounding(E)/digital common/relay output/transistor output; 1 min at 1500V AC, each.
7. Insulation resistance: Between each terminal described above, more than 100MΩ at 500V DC
8. Weight: Approx. 600g (mainframe)
9. Accessories: Input/output screw terminals, 2 pcs.
Instruction manual
Data output plug (Amphenol 57-30360)
10. Others: For unit display, contact us.

■ Optional Specifications

1. BCD output: Tri-state, Parallel BCD output, Fan out 2 (TTL level)
Polarity output → At minus value; "1"
Overflow output → At overflow; "1"
P.C output: At the end of A/D conversion, plus pulse in approx. 500µs width
*Only in the normal speed mode
Bidirectional (Full duplex)
2. RS-232C: (Conformance)
3. Analog output: Output voltage; ±0 to 2.5V
Resolution: 0.25mV/digit
Accuracy: 0.5% FS (23°C ± 5°C)
External resistance: More than 20kΩ
Overvoltage: Approx. ±3.5V, less than 5V
*Any of high speed and normal speed modes is available.
4. Absolute value display comparison: Function of outputting absolute value regardless input single polarity

■ Ordering Code

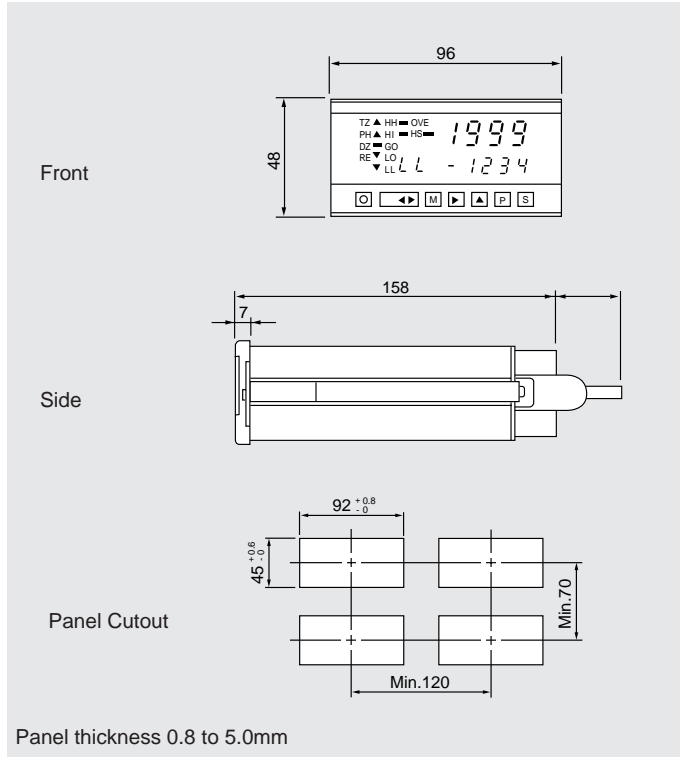
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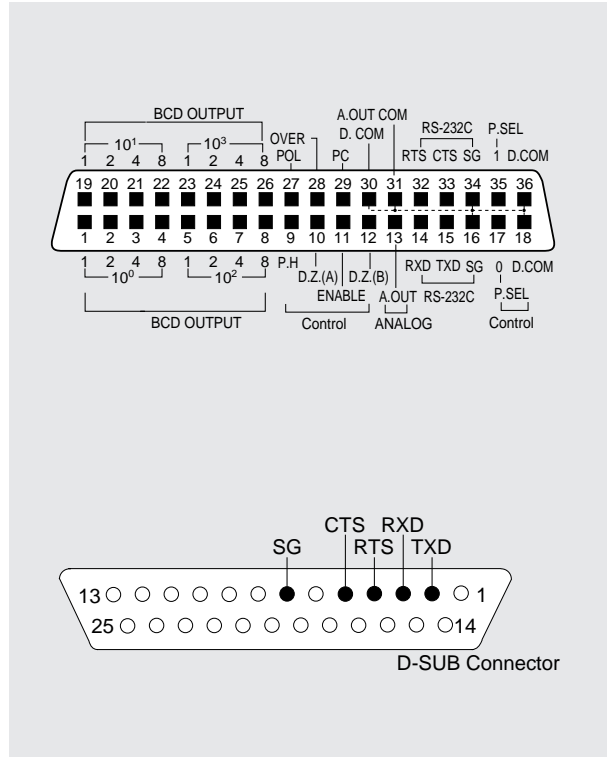
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■ Dimensions



■ Data Output



■ Connection Diagram

