

Direct current multiplication ammeter

FAH-510SH

Specifications Manual



Forest Co., Ltd.

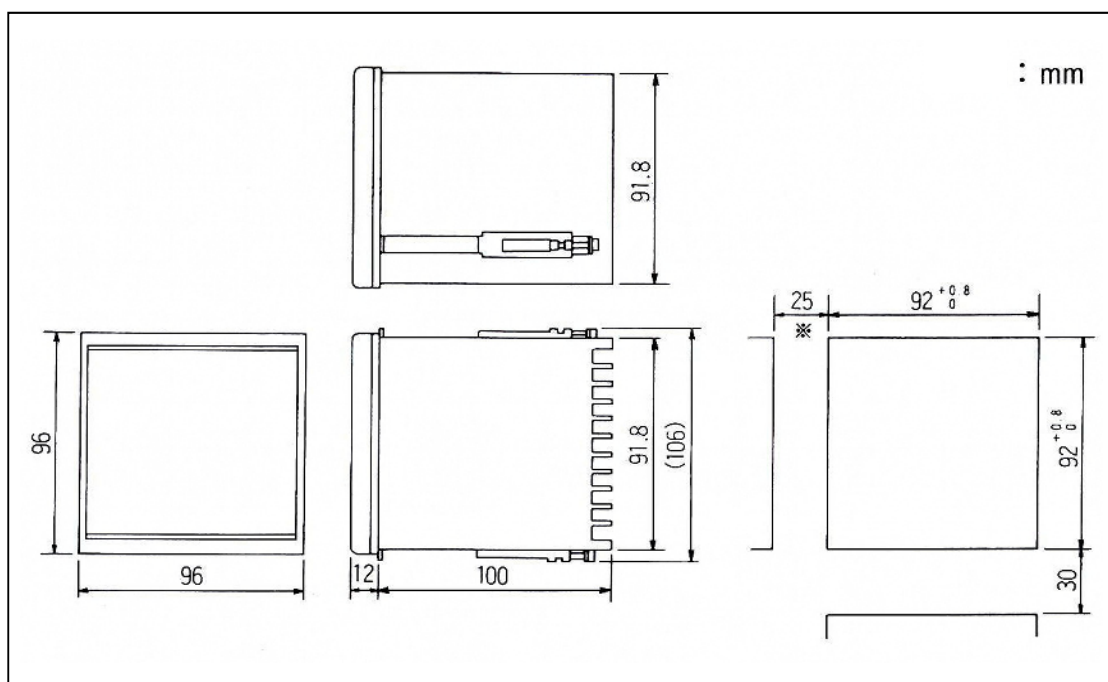
FAH-510SH

Direct current multiplication ammeter

■Feature

- It is goods for RoHS
- With self resetting function
- It corresponds to range 1A-36000A of the current setting and wide-ranging direct current.
- The analog output function (option) is provided as a monitor of the measurement current or the amount of the multiplication current.

■Externals size and panel cutting size



FAH-510SH

Direct current multiplication ammeter

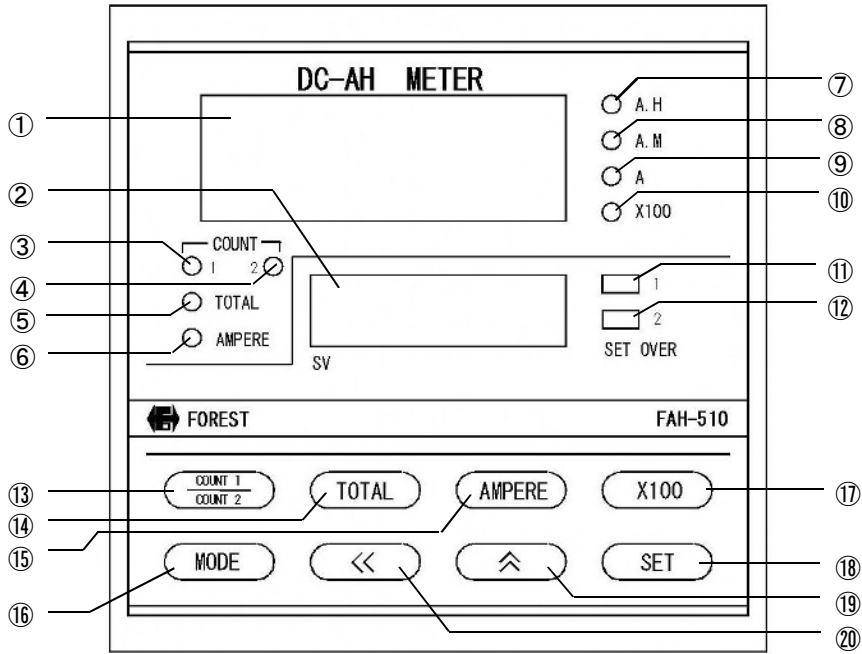
■ Specification

Model	:	Standard set goods=FAH-510SH-N With analog output function=FAH-510SH-1
Meter power supply	:	AC90~264V(The power supply variation is contained)50/60Hz
Kind of input	:	1~36000A DCShant(Branch machines of 60mV or 50mV)
Range of taking of input	:	DC2~60mV or DC2~50mV(Key setting) The current is not taken in the input of 2mV or less.
Input line resistance	:	Below 10Ω (input impedance = About 10kΩ)
Accuracy	:	±0.5% (at 7~60mV) It is within ±2% in 2~6mV
The maximum multiplication current value	:	9999999.99 (AH/AM)
Measurements indicator	:	Six digit seven segments LED · Preset multiplication value1<Call it with the $\frac{\text{COUNT1}}{\text{COUNT2}}$ key > · Preset multiplication value2<Call it with the $\frac{\text{COUNT1}}{\text{COUNT2}}$ key > · Total multiplication value<Call it with the TOTAL key > · Current value<Call it with the AMPERE key >
Set value indicator	:	Six digit seven segments LED<It selects it with the MODE key> · Preset setting value1 · Preset setting value2 · AH/AM and time and the unit is specified · Specification of Shant rated voltage · Specification of ratings current value · Selection of the auto reset function · Selection of analog output function(selection with FAH-510SH-1 Type)
SET OVER output	:	Relay point of contact 1ab(AC200V 3A MAX)
Analog output signal	:	DC4~20mA Below load resistance 600Ω <Non-insulation input circuit>
Reset input signal	:	Wireless pressure point of contact input It is a short-circuit of 50mSec or more and RESET
Memory function	:	Number of multiplication and various set values (backup with the lithem battery: It is at25°C for about ten years.)
Power consumption	:	8 V A M A X
Permissible ambient temperature	:	- 1 0 ~ 5 0 ° C
Allowance and surroundings humidities	:	3 5 ~ 8 5 % R H
Installation method	:	Panel burial
Weight	:	4 0 0 g

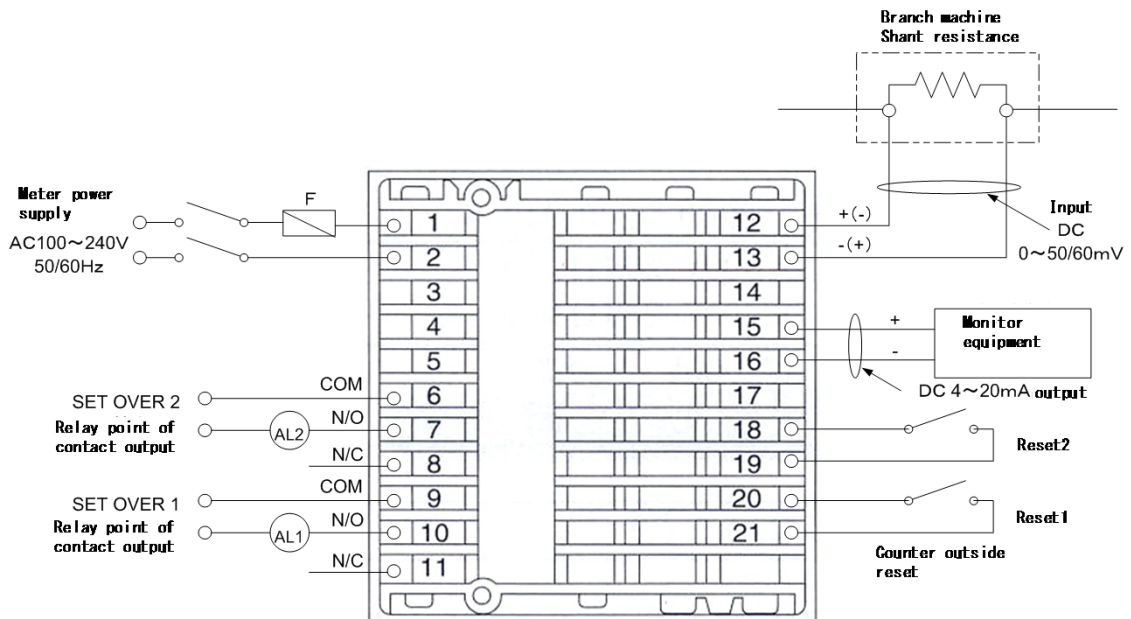
FAH-510SH

Direct current multiplication ammeter

■Name of each part



■Chart of terminal connecting wires



- ① Measurements indicator (green) : Preset multiplication value1 (AH, AM)
Six digit display : Preset multiplication value2 (AH, AM)
Total multiplication value (AH, AM)
Current value (A)
Set mode character display
- ② Set value (SV) Indicator (red) : Preset setting value1 (AH, AM)
Six digit display : Preset setting value2 (AH, AM)
Various set values
- ③ COUNT1 Indicator lamp (green) : It lights while displaying the preset1 multiplication value.
- ④ COUNT2 Indicator lamp (green) : It lights while displaying the preset2 multiplication value.
- ⑤ TOTAL Indicator lamp (green) : It lights while displaying the total multiplication value.
- ⑥ AMPERE Indicator lamp (green) : It lights while displaying the current.
- ⑦ AH Indicator lamp (green) : It lights at the ampere or hour the display of the integrated value etc.
- ⑧ AM Indicator lamp (green) : It lights when the display of the integrated value etc. is an ampere or minute.
- ⑨ A Indicator lamp (green) : The unit (ampere) is lit while displaying the current.
- ⑩ x100 Indicator lamp (green) : It will light up in the case of a 100-fold display mode.
- ⑪ SET OVER1 Indicator (red) : When the preset1 multiplication value reaches the preset setting value1, it lights.
- ⑫ SET OVER2 Indicator (red) : When the preset1 multiplication value reaches the preset setting value2, it lights.
- ⑬ $\frac{\text{COUNT1}}{\text{COUNT2}}$ Key : Preset integrated value1 to ①display by pressing this key, It will display the preset setting1 to ②indicator. Preset integrated value2 to again ①display by pressing this key, It will display the preset setting value2 to ②indicator.
- ⑭ TOTAL Key : When this key is pushed, the total multiplication value is displayed.
- ⑮ AMPERE Key : When this key is pushed, the current value that flows to the Shant resistance is displayed.
- ⑯ MODE Key : A set screen changes if this key is pushed.
- ⑰ x100 Key : It becomes 100 time mode if this key is pushed, and a display low rank value becomes the place of 100.
- ⑱ SET Key : When this key is pushed at the setting change mode (set value blinking display), a set value under the < attention > Please note becoming the value before it changes if the MODE key is pushed without pushing the SET key in the setting change mode.
- ⑲ \curvearrowright Key : When this key is pushed at the setting change mode, the value of a set digit is INC . It does.
- ⑳ \ll Key : If this key is pushed at a set screen, the entering setting value becomes a setting change mode with the blinking display.

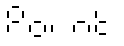
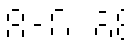



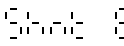
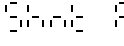
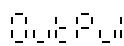



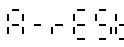
■ Operation explanation

1. Operation of set screen

When shipping it, it is shipped by an initial value. Please change the value of a set listed below, screen according to use conditions before it uses it.

- The switch of a set screen becomes a switch pushing the "MODE" key.
- Please push the "◀◀" key to the setting change. A set value becomes a blinking display, and it becomes a possible setting change.
- Please operate the "⤴" key about a numeric change.
Please operate "◀◀" and the "⤴" key about the setting of the preset setting value and the Shant current rating.
- Please push the "SET" key when the setting change of each set screen is completed. The changed value is registered.

< set screen composition >

Character display	Name	Setting range	Explanation	Initial value
Preset multiplication display	Preset setting value1/2	0.00~9999.99	Setting range of decimal point positional "0.01"	0.00
		0.0~99999.9	Setting range of decimal point positional "0.1"	
		0~999999	Setting range of decimal point positional "1"	
	Specification of decimal point position	0.01	Please specify the decimal point position of the multiplication count and the preset setting value.	0.01
		0.1		
		1		
	Selection of unit		The unit of the multiplication count : during ampere/hour.	
			The unit of the multiplication count is ampere/minute.	
	Specification of Shant rated voltage	50	The Shant resistance 50mV goods are used.	60 (mV)
		60	The Shant resistance 60mV goods are used.	
	Specification of Shant current rating	1~36000	Please specify the current rating of the Shant resistance.	60 (A)
 ※1	Kind selection of analog output		It is an analog output for input value (current value) monitor.	
			The amount of the preset multiplication is analog output.	
	Auto reset function	0~10	0 setting = function is not provided. 1-10 setting = After set time passes, it becomes an automatic reset.	0 (秒)

※1 As for kind selection screen of the analog output, only the "FAH-510SM-1" model product is displayed

2. Operation of measurement screen

2-1. When you press the $\frac{\text{COUNT1}}{\text{COUNT2}}$ key, COUNT1 lamp is preset integrated value 1 is displayed in the measured value indicator lights, preset setting value of 1 is displayed in the SV display. When you press again $\frac{\text{COUNT1}}{\text{COUNT2}}$ key, COUNT2 lamp is preset integrated value 2 is displayed in the measured value indicator lights, preset setting value 2 is displayed on the SV display. If you want to preset integrated value to the value in the middle of the integrated "0" please press and hold the $\frac{\text{COUNT1}}{\text{COUNT2}}$ key for 5 seconds. Preset integrated value is set to "0".

2-2. When you press the "TOTAL" key, TOTAL lamp appears total accumulated value to the measured value indicator lights. Keep pushing the "TOTAL" key for five seconds so that be an over scale (Display it blinking by the total multiplication value) or may do to the value of "0" while multiplying the total multiplication value. The total multiplication value becomes "0".

- 2-3. AMPERE The AMPERE lamp lights when the key is pushed and the value of a real current is displayed. The unit is "A". Please confirm whether a set value of Shnt E · Shnt A is proper when a real current and the display value are different. Moreover, please amend it by a set value of Shnt A when it takes and there is an error margin about the Shant resistance error margin etc.
- < example >
- | | |
|------------------------------------------------------|-------------|
| Shant resistance ratings current specification value | =1000A/60mV |
| Measurement result of measurement current | =1010A/60mV |
- Please "1010" A and set change the Shnt A setting value.

■Function explanation

1. Preset function

The SET OVER lamp lights by preset setting value \leq preset multiplication value and the SET OVER output signal is turned on.

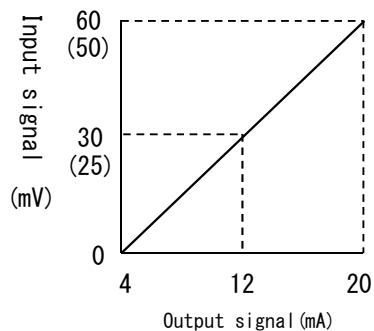
As for the preset multiplication value, the continuance count is done until the reset treatment is done.

2. Reset function

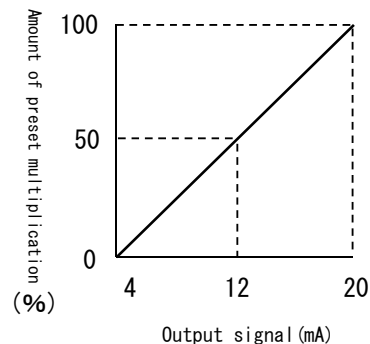
- External reset : The amount of the preset multiplication is cleared by the close as for external reset signal 50mSec or more (wireless pressure point of contact signal).
- Auto Reset : After set time passes from SET OVER by the setting of 1-10 seconds on a set screen, the amount of the preset multiplication is cleared. Please change to "0" setting when you use the external reset signal.

3. Analog output function<The input circuit is non-to insulate it >

· OUTPUT setting = (PV)



· OUTPUT setting = (COUNT)



■Correspondence at trouble

Trouble situation	Check and treatment method
Nothing is displayed	Please confirm whether the power-supply voltage of the meter is correctly supplied
The counter doesn't advance as 0A in real current display	Please confirm it whether the input voltage is the range of DC2-50mV or DC2-60mV.
The counter value does the blinking display	It exceeds it to the range of the counter display. "x100" Please do the continuance multiplication in 100 time mode pushing the key or operate the count clearness.
Error display generation [E1, E2] ~ [E7, E8]	The backup battery capacity has decreased. It becomes an error display if it uses it as it is. The battery exchange is necessary. Please request the repair.
Error display generation [E1, E2] ~ [E7, E8]	Please turn it on again after meter power supply is turned off and three seconds or more pass. The meter is abnormal when becoming an error display again. Please request the repair.

Business line

Automatic temperature control meter

Various temperature detection edges

Direct-current ampere-hour meter

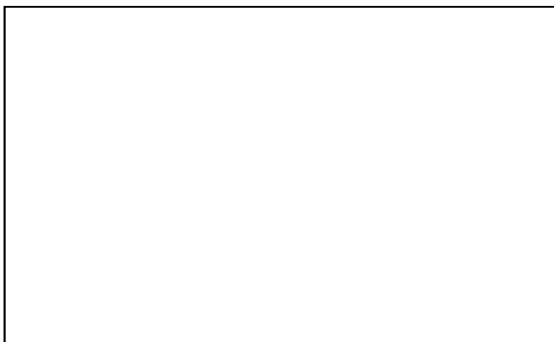
Direct-current ampere-hour meter by microcomputer control

Thyristor power controller

Heater disconnection alarm

In addition, electronic application apparatus

※The description contents is changed without for the improvement the refusal. Please acknowledge it.



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