

UNIVERSAL TYPE DIGITAL PANEL METER

A9000



* DIN size (48X96mm)

* BCD output (option)

* Scaling setting function available

Input specifications

● DC voltage measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
11	$\pm 199.99\text{mV}$	Offset	$\pm(0.1\%$ of rdg + 2 digit)	100M Ω	$\pm 50\text{V}$
12	$\pm 1.9999\text{V}$	± 19999		1M Ω	$\pm 250\text{V}$
13	$\pm 19.999\text{V}$	Full scale			
14	$\pm 199.99\text{V}$	± 19999			

● DC current measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
22	$\pm 1.9999\text{mA}$	Offset	$\pm(0.2\%$ of rdg + 3 digit)	10 Ω	$\pm 50\text{mA}$
23	$\pm 19.999\text{mA}$	± 19999		0.1 Ω	$\pm 3\text{A}$
24	$\pm 199.99\text{mA}$	Full scale			
25	$\pm 1999.9\text{mA}$	± 19999			

● DC large voltage measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
15	$\pm 700.0\text{V}$	Offset ± 19999 Full scale ± 19999	$\pm(0.1\%$ of rdg + 3 digit)	10M Ω	$\pm 700\text{V}$

● Process signal measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
2A	4~20mA	Offset ± 19999	$\pm(0.2\%$ of rdg + 3 digit)	10 Ω	$\pm 50\text{mA}$
1V	1~5V	Full scale	$\pm(0.1\%$ of rdg + 3 digit)	1M Ω	$\pm 50\text{V}$
3V	0~ $\pm 10\text{V}$	± 19999	$\pm(0.1\%$ of rdg + 3 digit)	1M Ω	$\pm 50\text{V}$

● AC current measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
23	19.999mA	Offset ± 19999	$\pm(0.5\%$ of rdg + 20 digit) *It applies to the sign wave more than full scale 5%	10 Ω	50mA
24	199.99mA	Full scale ± 19999		0.1 Ω	3A
25	1999.9mA	± 19999			

● AC large voltage measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
15	700.0V	Offset ± 19999 Full scale ± 19999	$\pm(0.2\%$ of rdg + 20 digit) The accuracy is applied to a sine wave that equals or exceeds 5% of the Full scale.	10M Ω	700V

● AC large Current measurements $23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Measurement range	Display	Accuracy	Input impedance	Maximum Permissible Input
26	5A	Offset ± 19999 Full scale ± 19999	$\pm(0.5\%$ of rdg + 20 digit)	CT	8A

● Temperature measurements—thermocouple sensor

$23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	sensor	resolution	Measuring rang	Accuracy	Maximum Permissible Input
KA	K	0.1 $^{\circ}\text{C}$	-50.0 to +199.9 $^{\circ}\text{C}$	$\pm 0.5\%$ of F.S	$\pm 5\text{V}$
KB			-50.0 to +1200.0 $^{\circ}\text{C}$	$\pm 0.2\%$ of F.S	
J			-50.0 to +1000.0 $^{\circ}\text{C}$	$\pm 0.6\%$ of F.S	
T			-50.0 to +400.0 $^{\circ}\text{C}$	$\pm 0.4\%$ of F.S	
S			0.0 to +1700.0 $^{\circ}\text{C}$	$\pm 0.4\%$ of F.S	
R			-100 to +1700.0 $^{\circ}\text{C}$	$\pm 0.4\%$ of F.S	
B	B		1000 to +1800.0 $^{\circ}\text{C}$	$\pm 0.4\%$ of F.S *It applies than 500 $^{\circ}\text{C}$	

● Temperature measurements resistance temperature detector

$23^{\circ}\text{C} \pm 5^{\circ}\text{C}, 35$ to 85%

Range	Sencer	Resolution	Measuring rang	Accuracy
PA	Pt-100 Ω	0.1 $^{\circ}\text{C}$	-100.0 to +199.9 $^{\circ}\text{C}$	$\pm 0.2\%$ of F.S
JPA	JPt-100 Ω			
PB	Pt-100 Ω	1 $^{\circ}\text{C}$	-100 to +600 $^{\circ}\text{C}$	$\pm 0.6\%$ of F.S
JPB	JPt-100 Ω		-100 to +500 $^{\circ}\text{C}$	

Common specification

Operating Type	: $\Delta \Sigma$ conversion type
Input Circuit	: Single Ended Type
Sampling speed	: Maximum 25 times per second
Over range alarm	: Display O.L./-O.L. applying to max. display for input
Display	: red 7 segment LED (character height 14.2mm)
Display range	: -19999~19999
Maximum display	: 19999
Zero display	: Leading zero suppress
Built-in EEPROM	
Number of rewriting	: 1,000,000 times(min)
Operating temperature, humidity	: $0 \sim 50^{\circ}\text{C} 35 \sim 85\%$ RH
Storage temperature, humidity	: $-10 \sim 70^{\circ}\text{C}$ not less than 60% RH
Dimensions	: 96mm(H) \times 48mm(W) \times 75mm(D)
Weight	: 160g (TYP)(AC power)/150g(TYP)(DC power)
Dielectric voltage	: AC power : AC1500V 1min. Between Power-Input-Output DC power : DC500V 1min. Between Power-Input-Output Common : DC500V 1min. Between Input-Output AC1500V 1min. Between Case-Each terminals
Insulated resistance	: Built-in rewriting EEPROM, in the case of digital zero "OFF" to "ON", setup "ON", digital zero "OFF" to "ON". Please be sure that number of rewriting not surpassing the above number of cases

● AC current (A9111-0□,A9112-0□)

Power supply voltage range: AC100~240V $\pm 10\%$

Consuming VA: 4.5VA

● DC power supply (A9311-0□,A9312-0□)

Power supply voltage range: DC5~5%~12V $\pm 10\%$

Electric power consumption: 1.5W

● DC power supply(A9411-0□,A9412-0□)

Power supply voltage range: DC12~24V $\pm 10\%$

Electric power consumption: 1.5W

External control

Hold	"Hold terminal or COM terminal" short, or hold "ON" with the "0" level
Digital zero	"DZ terminal or COM terminal" short or digital zero "ON" with the "0" level
Peak hold	"PH terminal or COM terminal" short or peak hold function "ON" with the "0" level
Pattern select	By the combination of P.SEL0 terminal, P.SEL1 terminal open/short(or "1" level/"0" level),select the scaling pattern
Attention	"0" level : 0~1.5V apply to COM, "1" level : 3.5~5V apply to COM

Option specification

● BCD output

◎ At TTL (A9□11-02,A9□1-02)

Output logic Available for switching

Output signal TTL level, funout 2 CMOS 5V

◎ At open collector

Output logic Available for switching

Transistor output capacity Applied voltage 30V max

Current 10mA max

Saturated output voltage, less than 1.2V at 10mA

● ENABLE

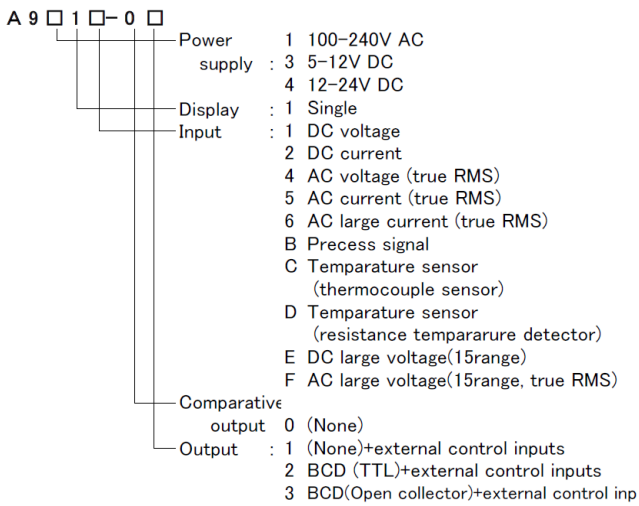
Function Shorted Enable and COM terminals, Transistor OFF.

(High impedance status at TTL)

"0" level : applying to COM 0~1.5V

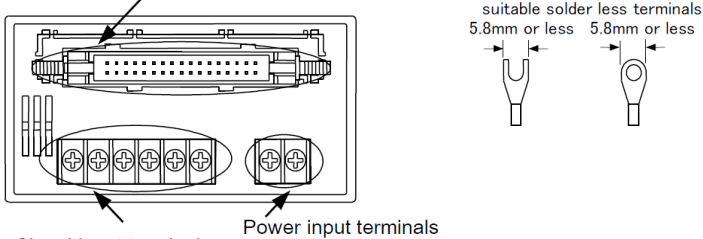
"1" level : applying to COM 3~5V

Ordering Code

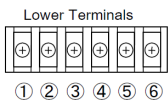


Connection diagram

BCD output / External control input connector

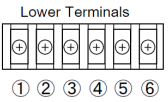


DC voltage/current measurement



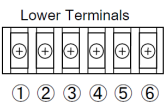
- ① Input terminal HI (11,12range,22,23range + side input) terminal)
- ② Input terminal HI (13,14range,24,25range + side input) terminal)
- ③ Input terminal LO (-side input terminal)
- ④⑤⑥ NC terminal

DC voltage measurement 15 range



- ① Input terminal HI (15 range + side terminal)
- ③ Input terminal LO(15 range - side input terminal)
- ②④⑤⑥ :NC terminal

Process signal measurement



- ① Input terminal HI (2A range +seide input terminal)
- ② Input terminal HI(1V range + seide input terminal)
- ③ Input terminal HI(3V range + seide input terminal)
- ④ Input terminal LO(minus side input terminal)
- ⑤⑥ NC terminal

Power supply



- ⑦ ⑧ Please do not connect to the NC
- ⑦ Power supply terminal(In the case of DC power supply 0V)
- ⑧ Power supply terminal(In the case of DC power supply +V)

This panel meter has no power supply switch so that if connecting to power supply directly to operating condition.

Power supply

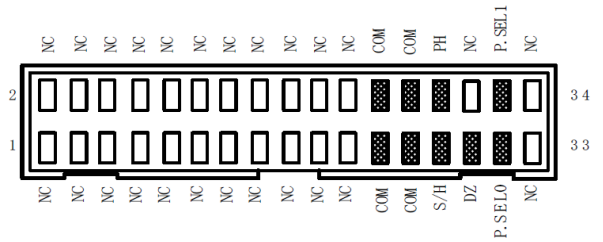


- ⑦ ⑧ Please do not connect to the NC
- ⑦ Power supply terminal(In the case of DC power supply 0V)
- ⑧ Power supply terminal(In the case of DC power supply +V)

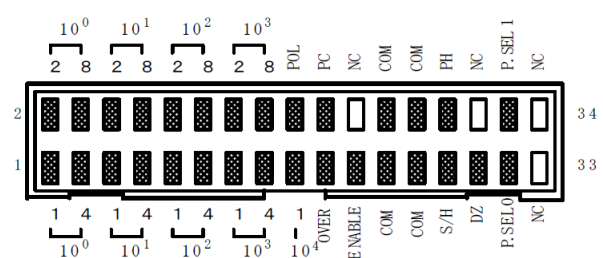
This panel meter has no power supply switch so that if connectir to power supply directly to operating condition.

BCD output * external control

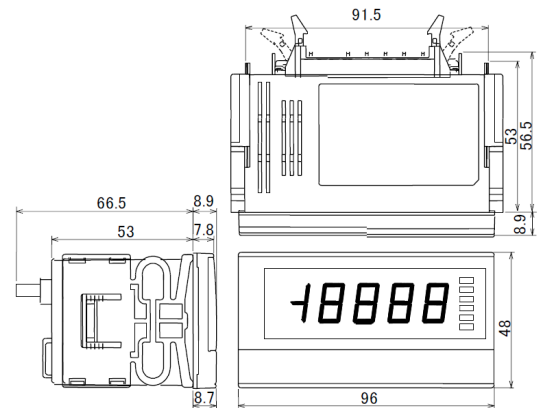
Upper terminals (without BCD outputs)



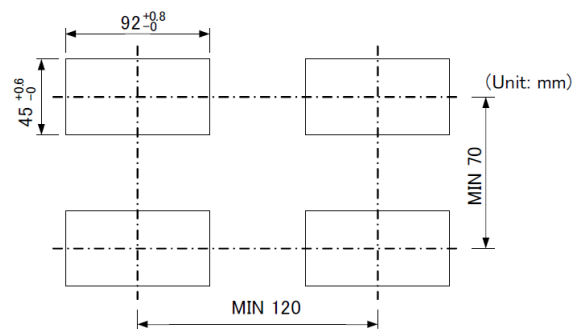
Upper terminals (with BCD outputs)



Dimensions



Panel cut diagram



※Recommended panel thickness 0.8 to 5 mm