

# DIGITAL PANEL METER

## A1000

**NEW!**



### ■ Features

- Low cost
- Bright LED 14.2mm (red)
- AC power and DC power available

### Input Specifications

#### ■ DC Voltage, current

##### • DC voltage measurement (Range 12 to 14)

Range	Measurement Range	Input Impedance	Input Protection	Accuracy (23°C±5°C, 35 to 85%)
12	±1.999V	1MΩ	±100V	± 0.3% of F.S
13	±19.99V		±250V	
14	±199.9V		±500V	

##### • DC current measurement (Range 23 to 25)

Range	Measurement Range	Input Resistance	Input Protection	Accuracy (23°C±5°C, 35 to 85%)
23	±19.99mA	10Ω	±150mA	± 0.5% of F.S
24	±199.9mA	1Ω	±500mA	
25	±1.999A	0.1Ω	±3A	

#### ■ AC Voltage, current

##### • AC voltage measurement (Range 12 to 14 Average)

Range	Measurement Range	Input Impedance	Input Protection	Accuracy (23°C±5°C, 35 to 85%)
12	1.999V	1MΩ	50V	± 0.5% of F.S
13	19.99V		50V	
14	199.9V		500V	

Input Frequency: 40 Hz to 100Hz

Rectifier Circuit: Represents effective value of sine wave by demodulation of mean value

Response time: approx 1 sec (10 to 90%)

##### • AC current measurement (Range 23 to 26 Average)

Range	Measurement Range	Input Resistance	Input Protection	Accuracy (23°C±5°C, 35 to 85%)
23	19.999mA	10Ω	150mA	± 1.0% of F.S
24	199.9mA	1Ω	500mA	
25	1.999A	0.1Ω	3A	
26	5A	1Ω	8A	

Input Frequency: 40 Hz to 100Hz

Rectifier Circuit: Represents effective value of sine wave by demodulation of mean value

Response time: approx 1 sec (10 to 90%)

#### ■ Thermocouple (Range KC, JC)

Range	Sensor Type	Measurement Range	Max Resolution	Accuracy (23°C±5°C, 35 to 85%)
KC	K	0 to +1000°C	1°C	± 0.8% of F.S
JC	J	0 to +400°C	1°C	

Sensor lead Resistance: less than 50Ω

Burn out: Flash -1999

Over input voltage: ±5VDC

Cold Junction Compensator Accuracy:±2°C

#### ■ RTD (Pt100Ω) (Range PA, PJ)

Range	Sensor Type	Measurement Range	Max Resolution	Accuracy (23°C±5°C, 35 to 85%)
PA	Pt100Ω	-100.0 to +199.9°C	0.1°C	± 0.2% of F.S
PJ	Pt100Ω	-200 to +600°C	1°C	± 0.4% of F.S

Current for resistance: 1mA (TYP)

External lead resistance: less than 1 ohm per lead

#### ■ Process (Range 1V, 2A)

Range	Measurement Range	Display	Input Impedance	Input Protection	Accuracy (23°C±5°C, 35 to 85%)
1V	1 to 5V	offset ±1000	1MΩ	±100V	± 0.3% of F.S
2A	4 to 20mA	fullscale ±100 to 1999	51Ω	50mA	± 0.4% of F.S

#### ■ Common Specification

Input bias current: 50 pA (TYP)

Sampling speed: 2.5/sec

Over range indication: When input exceeds the maximum display flash 1999

Max. display: 1999

Display: Red LED 14.2mm height

Dimensions: 96mm (H) X 48mm (W) X 75mm (D) DIN size

Power supply: 90 to 132 VAC

180 to 264 VAC

5 to 24 VDC

Power Consumption: 1.5 VA at AC power

100mA at DC power

Operating Temp.: 0 to 50°C, 35 to 85%RH

Storage Temp.: -10 to 70°C less than 60% RH

Dielectric Strength: Power supply and input, 1500 VAC/1min at AC power

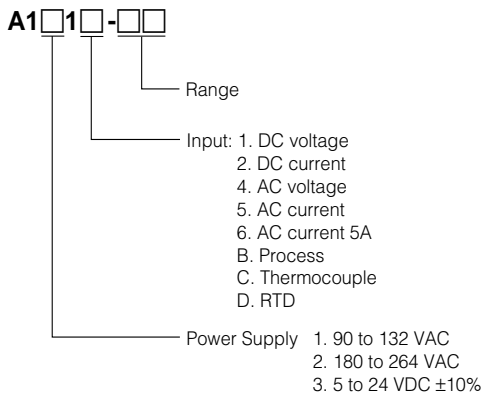
Power supply and input, 500 VDC/1min at DC power

Insulation Resistance : 500 VDC 100MΩ at above terminals

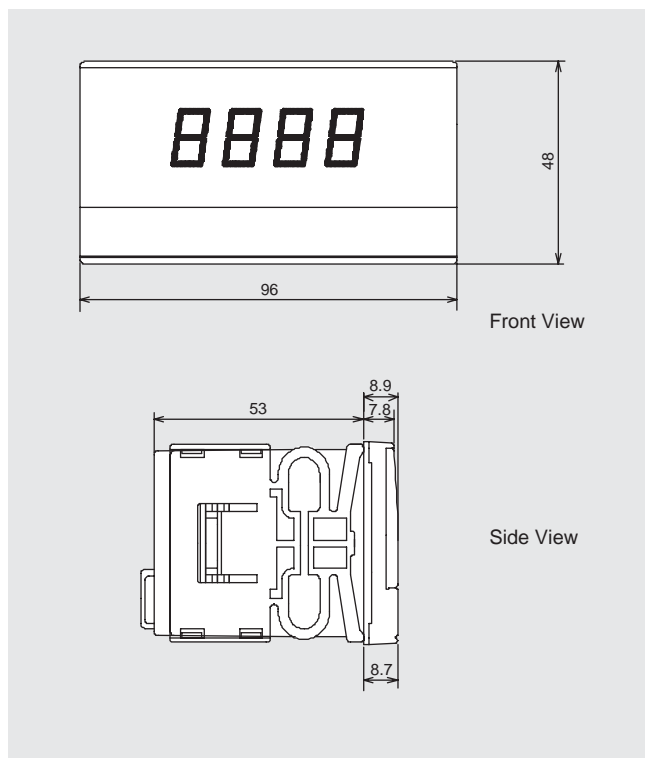
# DIGITAL PANEL METER

## A1000

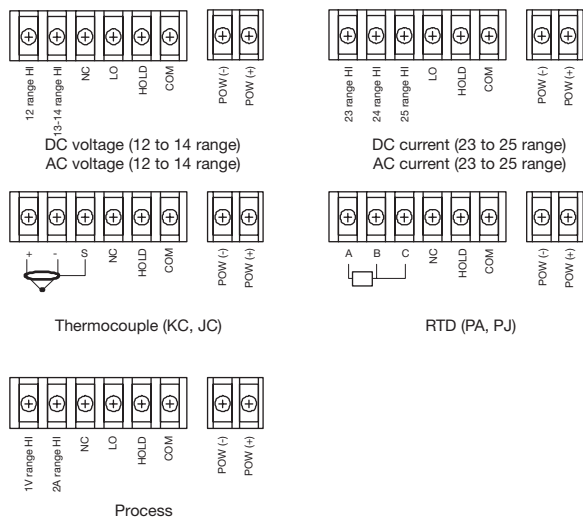
### Model Code



### Dimensions



### Connection Diagram



# DIGITAL PANEL METER

## A2100

**NEW!**



### ■ Features

- LED height 10mm
- Power supply 5VDC or 5 to 24VDC
- 3 1/2 digit

### ■ DC Voltage Measurement

Range	Measurement Range	Input Impedance	Input Protection	Accuracy
11	±199.9mV	100MΩ	±50V	± (0.1% of F.S)
12	±1.999V			
13	±19.99V			
14	±199.9V	1MΩ	±250V	
15	±1.999A			

### ■ DC Current Measurement

Range	Measurement Range	Input Impedance	Input Protection	Accuracy
22	±1.999mA	100Ω	±50mA	± (0.2% of F.S)
23	±19.99mA	10Ω	±150mA	
24	±199.9mA	1Ω	±500mA	
25	±1.999A	0.1Ω	±3A	

### ■ Power supply

#### ● Non-isolation type

Voltage: 5VDC±5%  
Consumption: 60mA

#### ● Isolation type

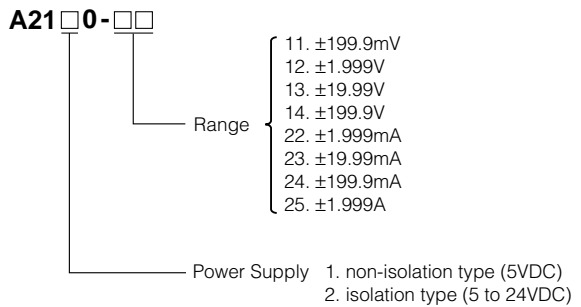
Voltage: 5 to 24VDC  
Consumption: 100mA

### ■ Specification

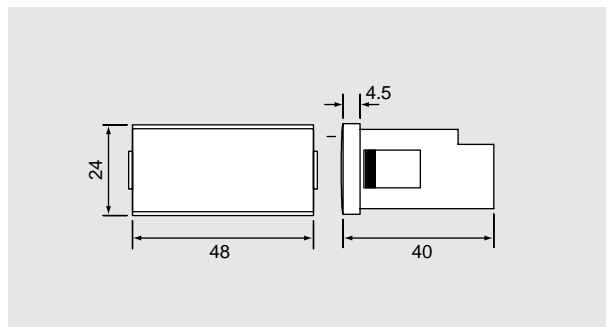
Input configuration: Single Ended  
Conversion rate: 2.5/sec  
Max display: 1999  
Overrange indication : When input exceeds the maximum display, 0000 or -0000 flashes  
Display : Red LED, 10mm  
Polarity : A "-" is displayed automatically  
Decimal point : Settable to any digit position by front SW  
External control : Hold  
Operating Temp. : 0 to 50°C 35 to 85% RH  
Dimensions : 48mm(W)×24mm(H)×39.7mm(D) DIN size  
Weight : 40g  
Dielectric strength : Power supply and input terminal at 500VDC/1min  
Case and each terminals at 1500VAC/1min  
Insulation resistance : 500VDC 100MΩ at the above terminals

\* Replacement for AP-200, AP-201A, AP-202A(no option)

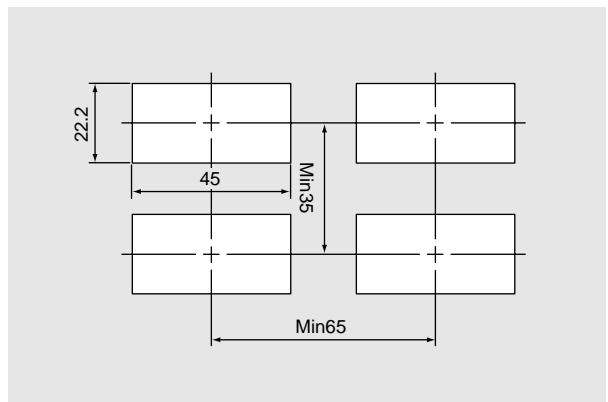
### ■ Ordering Code



### ■ Dimensions



### ■ Panel Cutout



# DIGITAL PANEL METER

~~A2200~~

**A2220**

**NEW!**



## ■ Features

- LED hight 10mm
- Power supply 5 to 24VDC (Isolation)
- 4 1/2 digit

## ■ DC Voltage Measurement

Range	Measurement Range	Input Impedance	Input Protection	Accuracy
12	±1.999V	100MΩ	±50V	± (0.1% of F.S)
13	±19.99V	1MΩ	±250V	
14	±199.9V			

## ■ Power supply

### ● Isolation type

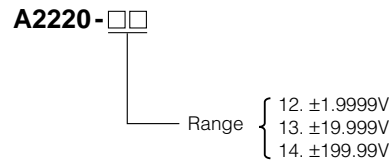
Voltage: 5 to 24VDC  
Consumption: 100mA

## ■ Specification

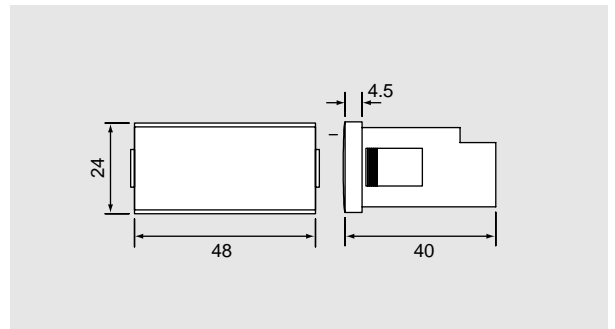
Input configuration: Single Ended  
Conversion rate: 2.5/sec  
Max display: 19999  
Overrange indication : When input exceeds the maximum display, 0000 or -0000 flashes  
Display : Red LED, 10mm  
Polarity : A "-" is displayed automatically  
Decimal point : Settable to any digit position by front SW  
External control : Hold  
Operating Temp. : 0 to 50°C 35 to 85% RH  
Dimensions : 48mm(W)×24mm(H)×39.7mm(D) DIN size  
Weight : 40g  
Dielectric strength : Power supply and input terminal at 500VDC/1min  
Case and each terminals at 1500VAC/1min  
Insulation resistance : 500VDC 100MΩ at the above terminals

\* Replacement for AP-241A, AP-242A, AP-244A(no option)

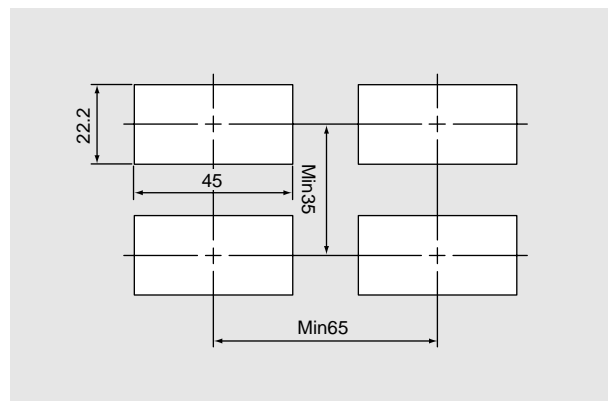
## ■ Ordering Code



## ■ Dimensions



## ■ Panel Cutout



UNIVERSAL TYPE DIGITAL PANEL METER

# A5000 SERIES



Display multi type (A52XX-XX)



Display single type (A51XX-XX)

ASAHI KEIKI CO., LTD.



# Input Specification (A5XXX-□□)

## • DC voltage, current

	Range	Measurement range	Display	Maximum Resolution	Input Impedance	Input Protection	Accuracy
01	11	±99.99 mV	offset ±9999 full scale 0 to ±9999	10 µV	100 MΩ	±100 V	±(0.1% of FS)
	12	±999.9 mV		10 µV			
02	13	±9.999 V	offset ±9999 full scale 0 to ±9999	1 mV	1 MΩ	±100 V	±(0.1% of FS)
	14	±99.99 V		10 mV	10 MΩ	±250 V	±(0.1% of FS)
	15	±600 V		100 mV	10 MΩ	±600 V	±(0.15% of FS)
03	23	±9.999 mA	offset ±9999 full scale 0 to ±9999	1 µA	10 Ω	±100 mA	±(0.2% of FS)
	24	±99.99 mA		10 µA	1 Ω	±500 mA	±(0.2% of FS)
	25	±999.9 mA		100 µA	0.1 Ω	±3 A	±(0.3% of FS)

Input configuration : Single ended  
 Measuring method : ΔΣ type  
 Normal mode rejection : More than NMR 50dB (50/60 Hz)

## • AC voltage, current (Average)

	Range	Measurement range	Input Frequency	Display	Maximum Resolution	Input Impedance	Input Protection	Accuracy
04	11	99.99 mV	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	10 µV	more than 1 MΩ	100 V	±(0.2% of rdg + 10 digit)
	12	999.9 mV			100 µV		100 V	±(0.2% of rdg + 10 digit)
	13	9.999 V			1 mV		250 V	±(0.2% of rdg + 10 digit)
05	14	99.99 V	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	10 mV	more than 1 MΩ	250 V	±(0.2% of rdg + 10 digit)
	15	600 V			100 mV		600 V	±(0.3% of rdg + 10 digit)
08	23	9.999 mA	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	1 µA	10 Ω	100 mA	±(0.5% of rdg + 10 digit)
	24	99.99 mA			10 µA	1 Ω	500 mA	±(0.5% of rdg + 10 digit)
	25	999.9 mA			100 µA	0.1 Ω	3 A	±(0.5% of rdg + 10 digit)
09	26	5 A	50 Hz or 60 Hz	offset ±9999 full scale 0 to ±9999	1 mA	CT	8 A	±(0.5% of rdg + 10 digit)

## • AC voltage, current (TRUE-RMS)

	Range	Measurement range	Input Frequency	Display	Maximum Resolution	Input Impedance	Input Protection	Accuracy
06	11	99.99 mV	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	10 µV	more than 1 MΩ	100 V	±(0.2% of rdg + 20 digit)
	12	999.9 mV			100 µV		100 V	±(0.2% of rdg + 20 digit)
	13	9.999 V			1 mV		250 V	±(0.2% of rdg + 20 digit)
07	14	99.99 V	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	10 mV	more than 1 MΩ	250 V	±(0.2% of rdg + 20 digit)
	15	600 V			100 mV		600 V	±(0.3% of rdg + 20 digit)
10	23	9.999 mA	40 Hz to 1 kHz	offset ±9999 full scale 0 to ±9999	1 µA	10 Ω	100 mA	±(0.5% of rdg + 20 digit)
	24	99.99 mA			10 µA	1 Ω	500 mA	±(0.5% of rdg + 20 digit)
	25	999.9 mA			100 µA	0.1 Ω	3 A	±(0.5% of rdg + 20 digit)
11	26	5 A	50 Hz or 60 Hz	offset ±9999 full scale 0 to ±9999	1 mA	CT	8 A	±(0.5% of rdg + 20 digit)

Input configuration : Single ended  
 Response time : Approx. 1 sec.  
 Crest factor : 4:1 at fullscale (only for TRUE-RMS)  
 Dead zone : 0 to 99 digit

## • Resistance

	Range	Measurement range	Display	Maximum Resolution	Current	Accuracy
12	11	99.99 Ω	offset ±9999 full scale 0 to ±9999	10 mΩ	5 mA	±(0.2% of FS)
	12	999.9 Ω		100 mΩ	0.5 mA	±(0.1% of FS)
	13	9.999 kΩ		1 Ω	50 µA	±(0.1% of FS)
	14	99.99 kΩ		10 Ω	5 µA	±(0.1% of FS)

## • Thermocouple

	Range	Sensor type	Measurement range	Maximum Resolution	Accuracy
13	KA	K	-50.0 to 199.9°C	0.1°C	±(0.5% of FS)
	KB	K	-50 to 1200°C	1°C	±(0.2% of FS)
	J	J	-50 to 1000°C	1°C	±(0.2% of FS)
	T	T	-50 to 400°C	1°C	±(0.6% of FS)
	S	S	0 to 1700°C	1°C	±(0.4% of FS)
	R	R	-10 to 1700°C	1°C	±(0.4% of FS)
	B	B	100 to 1800°C	1°C	±(0.4% of FS) over 500°C

available Fahrenheit display  
 Cold junction compensator accuracy : ±1°C (10 to 40°C)  
 Sensor lead resistance : less than 50Ω  
 Linearizing method : Digital linearizing  
 Burn out alarm : -----

## • RTD

	Range	Sensor type	Measurement range	Measurement range	Maximum Resolution	Accuracy
14	PA	PT100Ω	-100.0 to 199.9°C	-100.0 to 199.9°C	0.1°C	±(0.15% of FS)
	PB	PT100Ω	-100 to 600°C	-100 to 600°C	1°C	±(0.3% of FS)

available Fahrenheit display

Current for resistance : Approx. 1 mA  
 External lead resistance : Less than 10 Ω/lead  
 Linearizing method : Digital linearizing  
 Burn out alarm : -----

## • Frequency

Range	Measurement range	Display	Maximum Resolution	Display Renewal time	Accuracy
11	0.1 to 200 Hz	Prescale : 0.001 to 5 1 to 100	0.1 Hz	1 to 10 s	±(0.2% of FS)
12	1 to 2000 Hz		1 Hz	1 s	±(0.2% of FS)
13	0.01 to 20 kHz		10 Hz	100 ms	±(0.2% of FS)
14	0.1 to 200 kHz		100 Hz	100 ms	±(0.2% of FS)

	Input type	Input voltage level	Input Protection
15	Open collector	L: less than 1 V (5 V, 2.2 kΩ) pullup	30 V
	Logic	L: less than 1 V, HI: 2.5 to 15 V	15 V
	Magnet	0.3 to 30 V P-P	15 V

	Input type	Input voltage level	Input Protection
16	Voltage	50 to 500 V rms	500 V

## • Strain gauge

	Power supply for sensor	Zero adjustment range	Span adjustment range	Maximum Resolution	Accuracy
17	5 V	-0.3 to +2 mV/V	1 to 3 mV/V	0.5 μV/digit	±(0.1% of FS) +2 digit
	10 V			1 μV/digit	

Sensor : 350 Ω  
 Power supply for sensor : 5 V±5% (less than 15 mA)  
 10 V±5% (less than 30 mA)

## • Process

	Range	Measurement range	Display	Input Impedance	Display Renewal time	Accuracy
18	1 V	1 to 5 V	offset ±9999	1 MΩ	±100 V	±(0.2% of FS)
	2 A	4 to 20 mA	full scale 0 to ±9999	10 Ω	±100 mA	±(0.2% of FS)

# Output Specification

## • HI & LO setpoint output (A5XX1-XX)

Indication > High setpoint	HI
High setpoint ≥ Indication ≥ Lo setpoint	GO
Indication < Lo setpoint	LO

Setting range : -9999 to 9999  
 Hysteresis : 1 to 999 digit for each setpoints  
 Relay contact capacity : AC240V 8A resistive load  
 DC30V 8A resistive load

## • Analog output (A5XX2-XX)

Output	Resistive load	Accuracy
0 to 1 V	more than 10 kΩ	±(0.5% of FS)
0 to 10 V	more than 10 kΩ	
1 to 5 V	more than 10 kΩ	
4 to 20 mA	less than 550 Ω	

Output method : PWM method  
 Scaling : Digital scaling

## • RS-232C (Conforming to EIA RS-232C) (A5XX3-XX)

Communication method	: Full duplex
Transmission speed	: 2400/4800/9600/19200/38400 bps
Start bit	: 1 bit
Data length	: 7 bit/8 bit
Parity	: Even parity/odd parity
Stop bit	: 1 bit/2 bit
Character code	: ASCII code
Transmission control process	: Ignored process

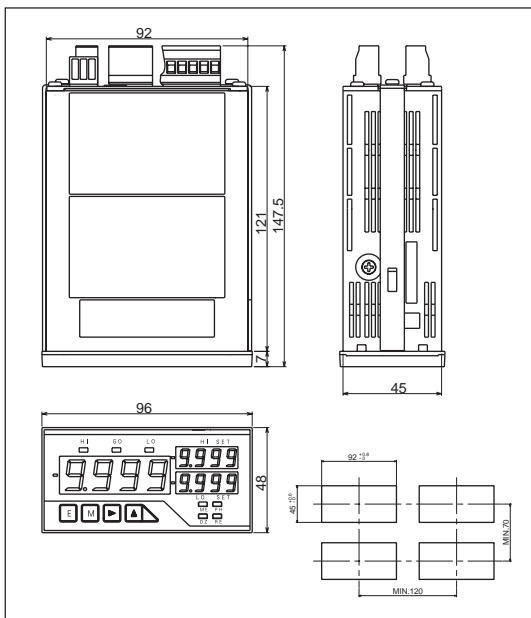
## • RS-485 (Conforming to EIA RS-485) (A5XX4-XX)

Communication method	: Full duplex
Transmission speed	: 2400/4800/9600/19200/38400 bps
Start bit	: 1 bit
Data length	: 7 bit/8 bit
Parity	: Even parity/odd parity
Error detection	: BCC
Stop bit	: 1 bit/2 bit
Character code	: ASCII code
Transmission control process	: Ignored process
Signal name	: + non reversal output - reversal output
Maximum No. of meter connected	: 31
Line length	: Up to 500 m in total

# Common Specification

Display	: Main display Red LED 14.2 mm height Sub display Green LED 8 mm height	
Conversion rate	: 12.5 times/sec.	
Maximum display	: 9999	
Overrange indication	: When input exceeds the maximum display, display OL or -OL	
Zero display	: Leading zero suppression	
Decimal point	: Settable to any digit position	
External control	: Start/Hold, Peak Hold, Digital Zero	
Operating temp.	: 0 to 50°C 35 to 85% RH	
Storage temp.	: -10 to 70°C less than 60% RH	
Power supply	: AC 100 to 240V±10%(AC main unit) DC 9 to 60 V (DC main unit)	
Power consumption	: approx 4 VA (at 100 V)	
Dimensions	: 96 mm X 48 mm (H) X 147.5 mm (D) DIN size	
Weight	: approx. 450 g	
Dielectric strength (AC)	: Power supply/input terminal/output terminal Input terminal/output terminal Case/power supply/input terminal output terminal	AC2000 V/1 min. DC500 V/1 min. AC2000 V/1 min.
Dielectric strength (DC)	: Power supply/input terminal/output terminal Input terminal/output terminal Case/power supply/input terminal output terminal	DC500 V/1 min. DC500 V/1 min. AC2000 V/1 min.
Insulation resistance	: DC500 V more than 100 MΩ at the above terminals	

## Dimensions



## Ordering Code

A 5 □ □ □ - □ □

Input	01. DC voltage (±99.99 mV) 02. DC voltage (±999.9 mV to ±600V) 03. DC current (±9.999 mA to ±999.9 mA) 04. AC voltage AVG (99.99 mV to 9.999 V) 05. AC voltage AVG (99.99 V to 600 V) 06. AC voltage RMS (99.99 mV to 9.999 V) 07. AC voltage RMS (99.99 V to 600 V) 08. AC current AVG (9.999 mA to 999.9 mA) 09. AC current AVG (5 A) 10. AC current RMS (9.999 mA to 999.9 mA) 11. AC current RMS (5 A) 12. Resistance (99.99 Ω to 99.99 kΩ) 13. Temperature (Thermocouple) 14. Temperature (RTD) 15. Frequency (Open collector, Logic, Magnet) 16. Frequency (50 to 500 Vrms) 17. Strain gauge 18. 1 to 5 V, 4 to 20 mA
Output	0. None 1. HI & LO setpoint 2. Analog output 3. RS-232C 4. RS-485 5. HI & LO setpoint + analog output 6. HI & LO setpoint + analog output + RS-232C 7. HI & LO setpoint + analog output + RS-485
Display board	1. Single 2. Multiple
Main board	1. AC100 - 240 V (±10%) 2. DC9 - 60 V

We reserve the right to change specifications without notice.



**ASAHI KEIKI CO., LTD.**

33-6, YAGUCHI 2-CHOME, OHTA-KU,  
TOKYO 146-8505, JAPAN  
FAX : (03)3757-2989  
PHONE : (03)3579-3893  
http:// www.asahikeiki.co.jp  
E-mail: dpm-overseas@asahikeiki.co.jp

UNIVERSAL TYPE DIGITAL PANEL METER

# A7000

## SERIES



w . a s a h i

ASAHI

7000

**ASAHI KEIKI CO., LTD.**

9 0000 0000 A7000 0000 6

www.asahi-keiki.co.jp

# Input Specifications

## ■ DC voltage,current

### • A7X11-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
11	±99.99 mV	offset ±9999 full scale ±9999	±50 V	±(0.03% of rdg + 1digit)
12	±999.9 mV		±50 V	
13	±9.999 V		±250 V	
14	±99.99 V		±250 V	
15	±700 V		±700 V	

Conversion rate: 1000times/sec

### • A7X12-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
21	±99.99 uA	offset ±9999 full scale ±9999	±10 mA	±(0.1% of rdg + 2 digit)
22	±999.9 uA		±50 mA	
23	±9.999 mA		±50 mA	
24	±99.99 mA		±700 mA	

Conversion rate: 1000times/sec

### • A7X13-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
25	±999.9 mA	offset ± 9999	±3 A	±(0.1% of rdg + 2 digit)
26	±2.000 A	full scale ±9999		

Conversion rate: 1000times/sec

## ■ AC voltage, current (TRUE-RMS)

### • A7X14-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
11	99.99 mV	offset ±9999 full scale ±9999	50 V	±(0.2% of rdg + 20 digit)
12	999.9 mV		50 V	
13	9.999 V		250 V	
14	99.99 V		250 V	
15	700.0 V		700 V	

Minimum display 50 digits  
Frequency range: 40Hz to 1kHz  
Response time: Approx 1 sec(10% to 90%)  
Conversion rate: 1000times/sec

### • A7X15-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
21	99.99 uA	offset ±9999 full scale ±9999	10 mA	±(0.5% of rdg + 20 digit)
22	999.9 uA		10 mA	
23	9.999 mA		50 mA	
24	99.99 mA		500 mA	

Minimum display 50 digits  
Frequency range: 40Hz to 1kHz  
Response time: Approx 1 sec(10% to 90%)  
Conversion rate: 1000times/sec

### • A7X16-X

Range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
25	999.9 mA	offset ±9999	3 A	±(0.7% of rdg + 20 digit)
26	5 A	full scale ±9999	8 A	

Minimum display 50 digits  
Frequency range: 40Hz to 1kHz  
Response time: Approx 1 sec(10% to 90%)  
Conversion rate: 1000times/sec

## ■ Resistance

### • A7X17-X

Range	Measurement Range	Display	Current	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
11	99.99 Ω	offset ±9999 full scale ±9999	5 mA	±(0.1% of rdg + 4digit)
12	999.9 Ω		0.5 mA	
13	9.999 KΩ		50 uA	
14	99.99 kΩ		5 uA	

Conversion rate: 100times/sec  
Measurement method: Two or Four wire (internal socket changable)

## ■ Thermocouple • RTD

### • A7X18-X

Range	Sensor type	Measurement Range	Maximum Resolution	Accuracy (23°C ± 5°C, 35 ~ 85% RH)
KA	K	-50.0 to 199.9°C	0.1°C	±(0.5% of FS)
KB	K	-50 to 1200°C	1°C	±(0.2% of FS)
J	J	-50 to 1000°C	1°C	±(0.2% of FS)
T	T	-50 to 400°C	1°C	±(0.6% of FS)
S	S	0 to 1700°C	1°C	±(0.4% of FS)
R	R	-10 to 1700°C	1°C	±(0.4% of FS)
B	B	100 to 1800°C	1°C	±(0.4% of FS)
PA	PT100 Ω	-100.0 to 199.9°C	0.1°C	±(0.15% of FS)
PB	PT100 Ω	-100 to 600°C	1°C	±(0.3% of FS)

available Fahrenheit display  
Cold junction compensator accuracy : ±2°C (10 to 40°C)  
Sensor lead resistance : less than 50 Ω  
Linearizing method : Digital linearizing  
Burn out alarm : - - - -  
Conversion time : 2.5times/sec

## ■ Frequency

### • A7X19-X

Range	Measurement Range	Accuracy (23°C ±5, 35 ~ 85% RH)
11	0.1 to 999.9 Hz	±(0.2% of FS)
12	1 to 9.999 kHz	
13	10 to 99.99 kHz	

Input type	Input voltage level	Input Protection
Open collector	L: less than 1.5 V (5V, pullup)	30 V
Logic	L: less than 1 V, HI: 2.5 to 15 V	15 V
Magnet	0.3 to 30 V P-P	30 V
Voltage	30 V rms to 500 V rms	500 V

Prescale : 0.01 ~ 10.00  
 PPR : 1~100  
 Power supply for sensor : 12 VDC ±10%

## ■ Strain gauge

### • A7X1A-X

sensor	Zero adjustment range	Span adjustment range	Measurement range	Accuracy
5 V	-1 to + 1 mV/V	1 to 3mV/V	-4 ~ + 4 mV/V	±(0.1% of FS) + 2 digit
10 V				

Sesnor : 350 Ω  
 Power supply for sensor : 5 V ± 5% (less than 15 mA)  
 10 V ± 5% (less than 30 mA)  
 Conversion speed : 1000/sec

## ■ Process

### • A7X1B-X

sensor	Measurement Range	Display	Accuracy
1 V	1 to 5 V	offset: ±9999 full scale 0 to ±9999	±(0.03% of rdg + 2digit) ±(0.1% of rdg + 3digit)
2 V	±5 V		
2 A	4 to 20 mA		
3 A	±20 mA		

Conversion rate : 1000times/sec  
 Excitation power supply : 12 VDC ±5%  
 24 VDC ±5% 25 mA

# Output Specification

## • HH, HI & LO, LLsetpoints output

Comparative condition:

Indication > High High setpoint	HH
High High setpoint ≧ Indication > High setpoint	HI
High setpoint ≧ Indication ≧ Lo setpoint	GO
Low setpoint > Indication ≧ Low Low setpoint	LO
Low Low setpoint > Indication	LL

Setting range : -9999 to 9999  
 Hysteresis : 1 to 999 digit for each setpoints  
 Relay contact capacity : AC125 V 0.3 A resistive load  
 DC30 V 1 A resistive load  
 Photocoupler capacity : DC30 V 50 mA

## • BCD output

Type of output : Open collector or TTL  
 Logic : Changeable  
 Output rate : DC30 V 10 mA (open collector)  
 Funout 2 (TTL)

## • Analog output (PWM)

output	Load resistance	Accuracy	Ripple
0 to 1 V	more than 10 kΩ	±(0.5% of F.S)	±50 mV p-p
0 to 10 V			
1 to 5 V			
4 to 20 mA	less than 550 Ω		±25 mV p-p

Output method : PWM method  
 Scaling : Digital scaling  
 Resolution : 13 bit  
 Reponse time : approx 0.5 sec

## • RS232C (Conforming to EIA RS-232C)

Communication method : Full duplex  
 Transmission speed : 4800/9600/19200/38400 bps  
 Start bit : 1 bit  
 Data length : 7 bit/8 bit  
 Parity : Even parity/ odd parity  
 Stop bit : 1 bit/2 bit  
 Character code : ASCII code  
 Transmission control process : Ignord process

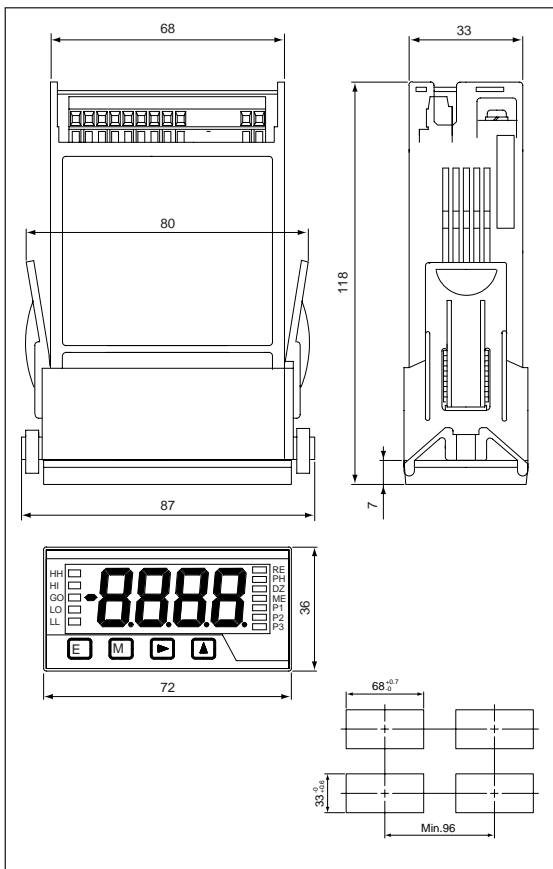
## • RS-485 (conforming to EIA RS-485)

Communication method : Full duplex  
 Transmission speed : 4800/9600/19200/38400 bps  
 Start bit : 1 bit  
 Data length : 7 bit/ 8 bit  
 Parity : Even parity/ odd marity  
 Error detection : BCC  
 Stop bit : 1 bit/2 bit  
 Character code : ASCII code  
 Transmission control process : Ignord process  
 Signal name : +non reversal output  
 -reversal output  
 Maximum no of meter connected : 31  
 Line length : up to 500m in total

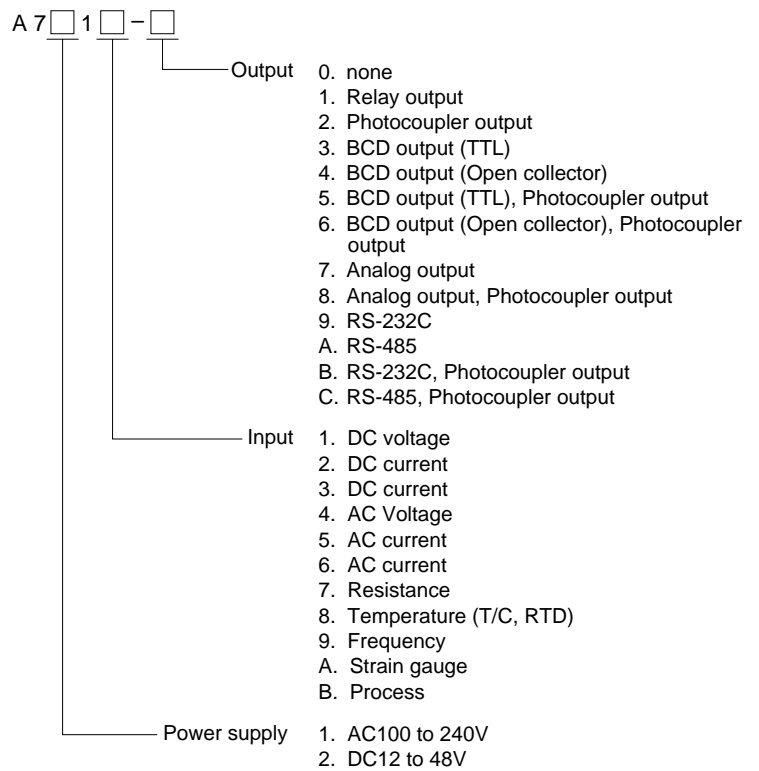
# Common Specification

Maximum display	: 9999	
Overrange indication	: When input exceed the maximum display display OVER or -OVER	
Zero display	: Leading zero suppression	
Decimal point	: Settable to any digit position	
Operating temp	: 0 to 50°C (35 to 85% RH)	
Storage temp.	: -10 to 70°C less than 60%RH	
Power supply	: 100 to 240VAC ± 10%	
	: 12 to 48VDC	
Power consumption	: 8VA (At AC) 7W(At DC)	
Dimensions	: 72mm (W) × 36mm (H) × 118mm (D)	
Weight:approx	: 160g	
Dielectric strength (AC)	: Power supply/input terminal/output terminal	AC1500 V/min
	(DC) : Power supply/input terminal/output terminal	DC500 V/min
	: Input terminal/output terminal	DC500V/min
Insulation resistance	: DC500V more than 100MΩ at the above terminals	

## Dimensions



## Ordering Code



We reserve the right to change specifications without notice.



## ASAHI KEIKI CO., LTD.

33-6, YAGUCHI 2-CHOME, OHTA-KU,  
 TOKYO 146-8505, JAPAN  
 FAX : (03)3757-2989  
 PHONE: (03)3579-3893  
 http:// www.asahikeiki.co.jp  
 E-mail: dpm-overseas@asahikeiki.co.jp

# UNIVERSAL TYPE DIGITAL PANEL METER

## A8000

**NEW!**



### Input Specifications

#### DC voltage , current

##### ● A83□1-0□ (DC voltage)

range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 to 85%RH)
11	± 199.99mV	offset ± 19999 full scale ± 19999	± 50V	± (0.1% of rdg + 2 digit)
12	± 1.9999V		± 50V	
13	± 19.999V		± 250V	
14	± 199.99V		± 250V	

##### ● A83□2-0□ (DC current)

range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 to 85%RH)
22	± 1.9999mA	offset ± 19999 full scale ± 19999	± 50mA	± (0.2% of rdg + 2 digit)
23	± 19.999mA		± 50mA	
24	± 199.99mA		± 3A	
25	± 1999.9mA		± 3A	

#### AC voltage, current (TRUE-RMS)

##### ● A83□4-0□ (AC voltage)

range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 to 85%RH)
11	199.99mV	offset ± 19999 full scale ± 19999	50V	± (0.2% of rdg + 20 digit)
12	1.9999V		50V	
13	19.999V		250V	
14	199.99V		250V	

Frequency range : 40Hz to 1kHz

Response time : Approx 1 sec (10% to 90%)

Dead band : 100 digit

##### ● A83□5-0□ (AC current)

range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 to 85%RH)
23	19.999mA	offset ± 19999 full scale ± 19999	50mA	± (0.5% of rdg + 20 digit)
24	199.99mA		3A	
25	1999.9mA		3A	

Frequency range : 40Hz to 1kHz

Response time : Approx 1 sec (10% to 90%)

Dead band : 100 digit

#### Process

##### ● A83□B-0□

range	Measurement Range	Display	Input Protection	Accuracy (23°C ± 5°C, 35 to 85%RH)
1V	1 to 5V	Offset : ± 19999 Fullscale ± 9999	± 50V	± (0.1% of rdg + 3digit)
2V	4 to 20mA		± 50mA	

Excitation power supply : 24VDC ± 10% 30mA

#### Features

- Power Supply : 5V to 12VDC, 12V to 24VDC
- BCD Output (option)
- 4 1/2 digit

#### Thermocouple • RTD

##### ● A83□C-0□ (Thermocouple)

range	Sensor type	Measurement Range	Maximum Resolution	Accuracy (23°C ± 5°C, 35 to 85%RH)
KA	K	-50.0 to 199.9°C	0.1°C	± (0.5% of FS)
KB	K	-50 to 1200°C	1°C	± (0.2% of FS)
J	J	-50 to 1000°C	1°C	± (0.2% of FS)
T	T	-50 to 400°C	1°C	± (0.6% of FS)
S	S	0 to 1700°C	1°C	± (0.4% of FS)
R	R	-10 to 1700°C	1°C	± (0.4% of FS)
B	B	100 to 1800°C	1°C	± (0.4% of FS) applied over 500°C

Cold junction compensator accuracy : ± 2°C (10 to 40°C)

Sensor lead resistance : less than 50Ω

Linearizing method : Digital linearizing

Burn out alarm : - - - -

##### ● A83□D-0□ (RTD)

range	Sensor type	Measurement Range	Maximum Resolution	Accuracy (23°C ± 5°C, 35 to 85%RH)
PA	PT100Ω	-100.0 to + 199.9°C	0.1°C	± (0.15% of FS)
PB	PT100Ω	-100 to + 600°C	1°C	± (0.3% of FS)

available Fahrenheit display

### Output Specification

##### ● BCD output

Type of output: Open collector or TTL  
 Logic: Changeable  
 Output rate: DC30V 10mA (open collector)  
 Funout 2 (TTL)

##### ● External Control

Hold: Shorted HOLD terminal and COM terminal or equipotential, Hold ON  
 Digital Zero: Shorted DZ terminal and COM terminal or equipotential, Digital zero ON  
 Peak Hold: Shorted PH terminal and COM terminal or equipotential, Peak hold ON

#### Common Specification

Display: Red LED 10mm height  
 Maximum display: -19999 to 19999  
 Conversion rate: 20times/sec  
 Overrange indication: When input exceed the maximum display display OL or -OL  
 Zero display: Leading zero suppression  
 Decimal point: Settable to any digit position  
 Operating temp: 0 to 50°C (35 to 85% RH)  
 Storage temp: -10 to 70°C less than 60%RH  
 Power supply: 5V to 12VDC, 12V to 24VDC  
 Power consumption: Appro x 1.5W  
 Dimensions: 48mm (W) x 24mm (H) x 96mm (D)  
 DIN size  
 Weight (unit only) : Appro x 100g  
 Dielectric strength: Power supply/input terminal/output terminal/external control DC500V/min  
 Input terminal/output terminal/external control DC500V/min  
 Case/each terminal AC1500V/min  
 Insulation resistance: DC500V more than 100MΩ at the above terminals

# UNIVERSAL TYPE DIGITAL PANEL METER

## A8000

### Ordering Code

A8 □ □ □ - 0 □

Option

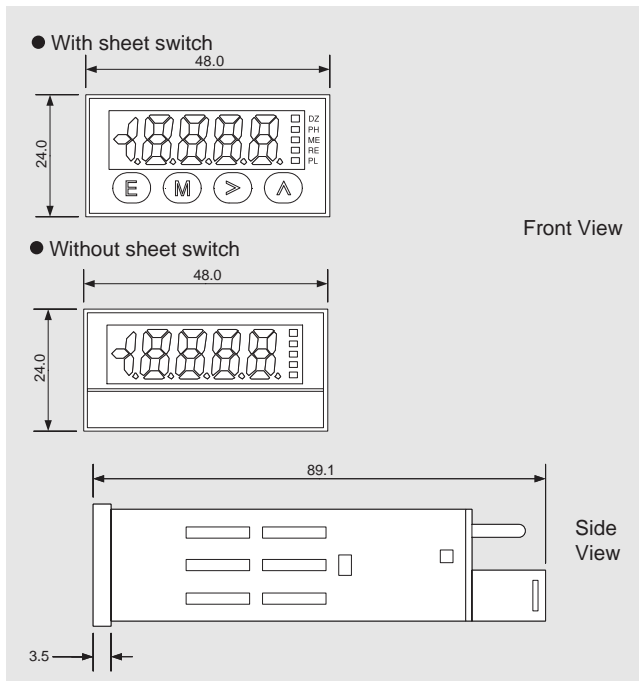
Input

Front sheet

Power supply

- 1. none
- 2. BCD (TTL), external control
- 3. BCD (Open collector), external control
- 1. DC voltage
- 2. DC current
- 4. AC voltage
- 5. AC current
- B. Process
- C. Thermocouple
- D. RTD
- 1. with sheet switch
- 2. without print sheet switch
- 3. 5V to 12VDC
- 4. 12V to 24VDC

### Dimensions



We reserve the right to change specifications without notice.



**ASAHI KEIKI CO.,LTD.**

3rd Fl., Ehara Bldg., 5-7, Kaji-cho 1-chome,  
Chiyoda-ku, Tokyo 101-0044, Japan  
TEL:+81-3-3251-5576  
FAX:+81-3-3251-5567  
[http:// www.asahikeiki.co.jp](http://www.asahikeiki.co.jp)  
E-mail: [dpm-overseas@asahikeiki.co.jp](mailto:dpm-overseas@asahikeiki.co.jp)

Printed in Japan, Jun. 2005 (KP)

**ASAHI KEIKI CO.,LTD.**