

Universal Type Digital Panel Meter

A7000 SERIES



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	±(0.1% of rdg + 2digit)

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	±(0.3% of rdg + 20 digit)

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 10 V	-1 to + 1 mV/V	1 to 3mV/V	-4 ~ + 4 mV/V	±(0.1% of FS) + 2 digit

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

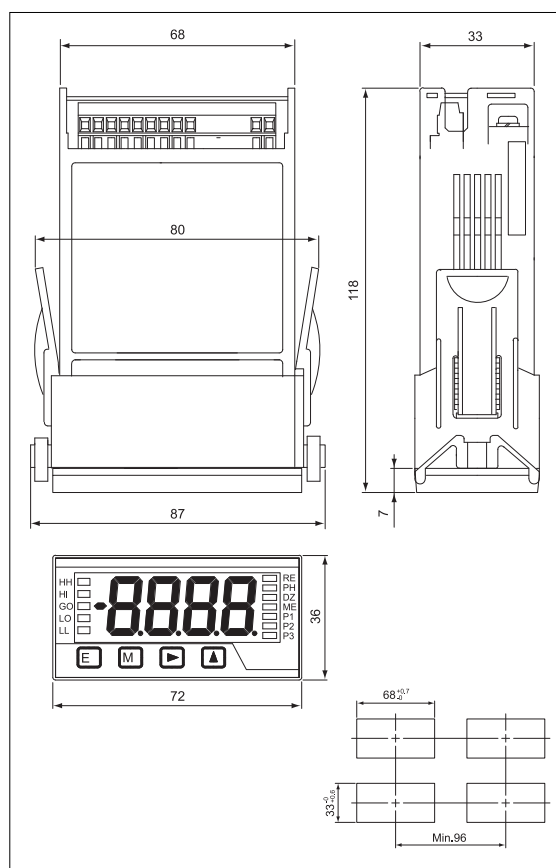
• RS-485 (conforming to EIA RS-485)

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
 Transmsion 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 100M at the above terminals	

Dimensions



Ordering Code

A 7 1 -	Output	0. none 1. Relay output 2. Photocoupler output 3. BCD output (TTL) 4. BCD output (Open collector) 5. BCD output (TTL), Photocoupler output 6. BCD output (Open collector), Photocoupler output 7. Analog output 8. Analog output, Photocoupler output 9. RS-232C A. RS-485 B. RS-232C, Photocoupler output C. RS-485, Photocoupler output
	Input	1. DC voltage 2. DC current 3. DC current 4. AC Voltage 5. AC current 6. AC current 7. Resistance 8. Temperature (T/C, RTD) 9. Frequency A. Strain gauge B. Process
	Power supply	1. AC100 to 240V 2. DC12 to 48V

We reserve the right to change specifications without notice.

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