1/32 DIN Digital Panel Meter

AM-215B

Features

★ Compact 1/32 DIN size (24 x 48mm)
★ Display range -9999 to 9999
★ High accuracy 0.03% + 2 digit
★ High-performance Analog output :
1) High accuracy 0.2% of span
2) High response time 100ms
★ 2 setpoints (AL1 and AL2)
★ Wide operating temperature range -10 to 55°C
★ Short depth 72.8mm
★ Reduces wiring man-hours by crossover wiring for power
★ IP65 rating (Front bezel).

Ordering code

AM - 215B - □□ - □□ - □□□ - □□□□

Input	Option output	Comparative output	Scaling	Setting change	Special specification	UL certification	Test report	Suffix code	Decsription	
11									Input	±99.99mVDC
12										±999.9mVDC
13										±9.999VDC
14										±99.99VDC
1V										1~5VDC
2A										4~20mADC
	X								Option output	No output
	4									RS-485 output
	6									Analog output (4~20mA)
	7									Analog output (0~10V)
		R							Comparative output	Relay output
		P								Photocoupler output
			X						Scaling	Standard
			S							With scaling
				X					Setting change	Standard
				S						With setting change
					X				Special specifications	Standard
					S					With special specifications
						X			UL certification	Without UL certification
						U*				With UL certification *Release date : Around Mar, 2018
							X		Test report	Without test report
							T			With test report
								00	Suffix code	Standard
								W0		White front seat

*** UL option cannot select when input range [14]**

Input Specifications

◆DC voltage Input range code 11 12 13 14 1V

Code	Measurement range	Resolution	Impedance	Max. allowable input	Accuracy
11	±99.99mV	10μV	100M Ω or more	±50V	±(0.03% rdg +2 digit)
12	±999.9mV	100μV			
13	±9.999V	1mV	Approx. 1M Ω		
14	±99.99V	10mV		±250V	
1V	1~5V	0.4mV		±50V	

◆DC current Input range code 2A

Code	Measurement range	Resolution	Impedance	Max. allowable input	Accuracy
2A	4~20mA	1.6μA	Approx. 50 Ω	±50mA	±(0.03% rdg +2 digit)

* Accuracy is for (FSC - OFS) / (FIN - OIN) ≤ 1
* Resolution value is at default settings

Common Specifications

◆Common specifications

Display	Red 7 segment LED (8mm height)
Polarity	'-' is displayed automatically at negative polarity
Display range	-9999 to 9999
Scaling	Offset: ±9999, Full scale : ±9999
Over range display	OL' or '-OL'
Decimal point	Able to set to any digit
Zero display	Leading zero suppression
Operating temperature	-5 to 55°C
Operating relative humidity	35 to 85%RH (Non-condensing)
Storage temperature	-20 to 70°C
Storage relative humidity	60%RH or less (Non-condensing)
Power supply	24VDC ±20%
Power consumption	Approx. 2.2W
Weight	Approx. 70g

Dimensions	48mm(W) x 24mm(H) x 72.8mm(D) 1/32 DIN size
Dielectric strength	Case-Power / input / output : 1500VAC per 1min. Power-input / output : 500VDC per 1min. Input-output : 500VDC per 1min.
Insulation resistance	500VDC, 100MΩ or more on the above terminals
Front protection	IP65 rating (Front bezel)
Applicable EN standard	EN61326-1(Input range 14 don't apply), EN IEC 63000
UL file No.	E247481 (Input range 14 don't apply) *Optional *UL option release date : Around Mar, 2018
Sampling rate	Max. 40ms (25 times per second)
Moving average	None / 2 / 4 / 8 / 16 / 32 / 64 selectable
Display update cycle	Max. approx. 40msec (25 times per sec)
Sensor power supply	24VDC ±5% 25mA or less
Standard accessory	3 Unit sticker, Mounting band

Common Specifications

◆External control

Digital zero	Zero display at any time

◆Comparative output specifications

Comparison result	3 setpoints (HH/HI/GO or HI/GO/LO or GO/LO/LL)
Output method	Relay output or photocoupler output
Output rating	**Relay output :** Contact rating : 24VDC 1A (Resistance load) The mechanical life : 5 million times The electrical life : 10 thousand times **Photocoupler output:** Output rating Sink current : 50mA Applied voltage : 30VDC Output saturation : 1.2V or less (When 50mA)
Setting range	-9999 to 9999
Hysteresis	Able to set 1 to 999 digit for each setpoints
Operation speed	Relay : Max. 5ms, Photocoupler : Max. 1ms

■HI/GO/LO

Comparative condition	Result		Comoarative ouput			Relay contact
	AL1	AL2	LO (OUT1)	GO (OUT2)	HI (OUT3)	
Display value > HI	OFF	ON	OFF	OFF	ON	Normal open
HI ≥ Display value ≥LO	OFF	OFF	OFF	ON	OFF	
L > Display value	ON	OFF	ON	OFF	OFF	

■HH/HI/GO

Comparative condition	Result		Comoarative ouput			Relay contact
	AL1	AL2	GO (OUT1)	HI (OUT2)	HH (OUT3)	
Display value > HH	ON	ON	OFF	ON	ON	Normal open
Display value > HI	ON	OFF	OFF	ON	OFF	
HI ≥ Display value	OFF	OFF	ON	OFF	OFF	

■GO/LO/LL

Comparative condition	Result		Comoarative ouput			Relay contact
	AL1	AL2	LL (OUT1)	LO (OUT2)	GO (OUT3)	
Display value ≥ LO	OFF	OFF	OFF	OFF	ON	Normal open
LO > Display value	OFF	ON	OFF	ON	OFF	
LL > Display value	ON	ON	ON	ON	OFF	

Option Specifications

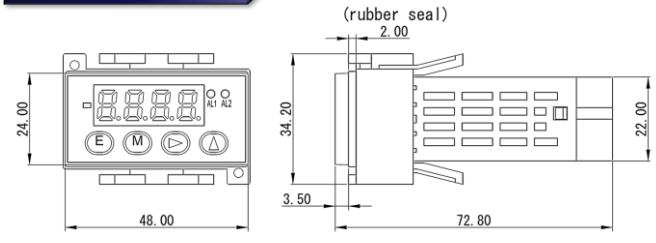
◆Analog output specifications

Analog output	Load resistance	Accuracy	Ripple
4 to 20mA	510Ω or less	±0.2% of span	±25mVp-p
0 to 10V	5kΩ or more		±50mVp-p
Conversion	PWM		
Resolution	13 bit		
Response time	Approx. 100ms		

◆RS-485 output specifications

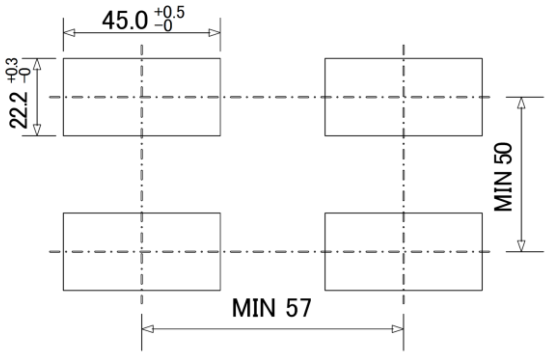
	RS-485
Synchronous system	Asynchronous mode
Communication method	2-wire half duplex
Communication speed	38400 / 19200 / 9600 / 4800 / 2400bps
Start bit	1bit
Data length	7bit, 8bit
Parity bit	None, Odd, Even
Error detection	BCC checksum
Stop bit	1bit, 2bit
Chraracter code	ASCII
Transmission control	Non-procedure
Signal name	Non-inverting (+), inverting (-)
No. of connectable units	31 units
Line length	Max. 500m (Total) *Not more than 30m if EN compliance
Delimiter	CR + LF / CR
Terminating resistance	200Ω (Turn ON by short circuit between No. 5~6 terminals)

Dimensions



(Unit : mm)

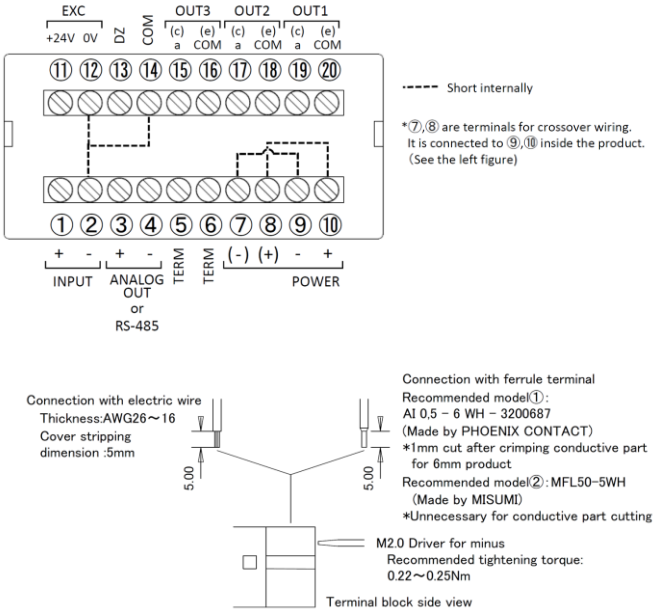
Panel cut



*Recommended panel thickness:1～8mm

(Unit : mm)

Terminal connections



◆Lower side terminal

(Input, power supply, option output)

No.	RS-485 (Option output code 4)			Analog output (Option output code 6, 7)		
	Name	Description		Name	Description	
1	HI	Input	(+)	HI	Input	(+)
2	LO		(-)	LO		(-)
3	RS-485(+)	Non-inverting output		A.OUT(+)	Analog output	(+)
4	RS-485(-)	Inverting output		A.OUT(-)		(-)
5	TERM	Terminator		NC	No connection	
6						
7	POWER(-)	Power supply	(+)	POWER(-)	Power supply	(+)
8	POWER(+)	*For connecting wire	(-)	POWER(+)	*For connecting wire	(-)
9	POWER(-)	Power supply	(+)	POWER(-)	Power supply	(+)
10	POWER(+)		(-)	POWER(+)		(-)

*Note : If option code 1 (No output), terminal 3 to 6 will be NC (No connection)

◆Upper side terminal

(Comparative output, sensor power supply, external control)

No.	Relay output (Comparative output code R)			Photo coupler output (Comparative output code P)		
	Name	Description		Name	Description	
11	EXC(+)	Sensor power supply	(+)	EXC(+)	Sensor power supply	(+)
12	EXC(-)		(-)	EXC(-)		(-)
13	DZ	External control		DZ	External control	
14	COM	External control (COM)		COM	External control (COM)	
15	OUT3-a	OUT3 Normal open		OUT3-c	OUT3 Collector	
16	OUT3-COM	OUT3 Common terminal		OUT3-e	OUT3 Emitter	
17	OUT2-a	OUT2 Normal open		OUT2-c	OUT2 Collector	
18	OUT2-COM	OUT2 Common terminal		OUT2-e	OUT2 Emitter	
19	OUT1-a	OUT1 Normal open		OUT1-c	OUT1 Collector	
20	OUT1-COM	OUT1 Common terminal		OUT1-e	OUT1 Emitter	

＊ Specification is subject to change without notice