



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

\* 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	±50V	±(0.03% rdg +2 digit)
12	±999.9mV	100µV	100 or more		
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

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

<b>Dimensions</b>	48mm(W) x 24mm(H) x 72.8mm(D) 1/32 DIN size
<b>Dielectric strength</b>	Case-Power / input / output : 1500VAC per 1min. Power-input / output : 500VDC per 1min. Input-output : 500VDC per 1min.
<b>Insulation resistance</b>	500VDC, 100MΩ or more on the above terminals
<b>Front protection</b>	IP65 rating (Front bezel)
<b>Applicable EN standard</b>	EN61326-1, EN50581 (Input range 14 don't apply)
<b>UL file No.</b>	E247481 (Input range 14 don't apply) *Optional *UL option release date : Around Mar, 2018
<b>Sampling rate</b>	Max. 40ms (25 times per second)
<b>Moving average</b>	None / 2 / 4 / 8 / 16 / 32 / 64 selectable
<b>Display update cycle</b>	Max. approx. 40msec (25 times per sec)
<b>Sensor power supply</b>	24VDC ±5% 25mA or less
<b>Standard accessory</b>	3 Unit sticker, Mounting band

## Common Specifications

### External control

<b>Digital zero</b>	Zero display at any time
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### Comparative output specifications

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

### HI/GO/LO

Comparative condition	Result		Comparative output			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		Comparative output			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		Comparative output			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

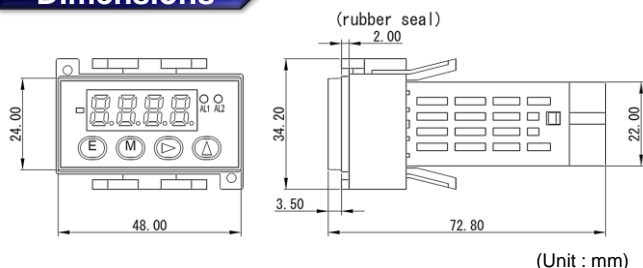
### Analog output specifications

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
<b>Conversion</b>	PWM		
<b>Resolution</b>	13 bit		
<b>Response time</b>	Approx. 100ms		

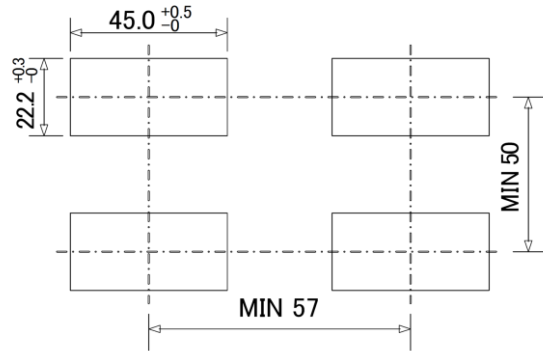
### RS-485 output specifications

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

## Dimensions



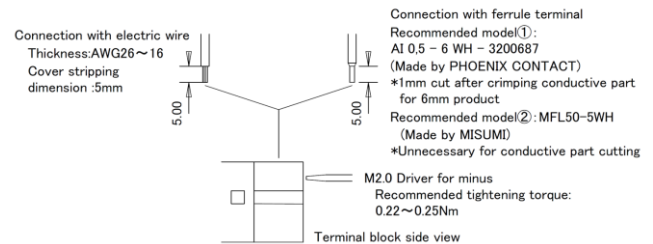
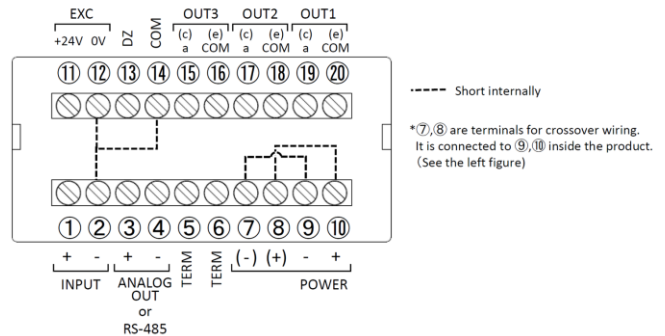
## Panel cut



\*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(+)	Power supply	POWER(+)	Power supply
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(-)	Sensor power supply	EXC(-)	Sensor power supply
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