M4NS/M4YS

▣Features

- ●Loop powered type
- ●Input : 4−20mADC
- ●Max. display : −1999 ~ 9999
- ●Prescale function
- ●Decimal point setting function
- ●Hi / Low limit input correction function
- ●Display peak value monitoring function
- ●Change function of peak value monitoring delay time
- ●Display cycle change function
  (Selectable 0.5sec/1sec/2sec/3sec/4sec/5sec)
- ●Error display function

⚠ **Please read "Caution for your safety" in operation manual before using.**

▣Ordering information

M 4 N S − N A

Input specification	A	4−20mADC
Power supply	N	Loop powered type
Scaling meter	S	Scaling meter
Size	N	DIN Size W48×H24mm
	Y	DIN Size W72×H36mm
Digit	4	4 Digit
Item	M	Meter

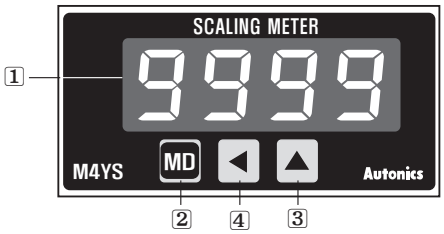
▣Specifications

Model		M4NS-NA	M4YS-NA
Measurement input		4−20mADC	
Power supply		No voltage type	
Power consumption		————	
Display method		7Segment LED Display(4digit)	
Character height		9mm	14.2mm
Display accuracy		0.3% full scale of ±1Digit	
Display cycle		Selectable 0.5sec/1sec/2sec/3sec/4sec/5sec	
Resolution		12,000 resolution	
Max. display range		−1999 ~ 9999	
Setting type		Front S/W key	
Max. allowable input		150% of measurement input	
Self−diagnosis function		Error display function(HHHH/LLLL)	
Insulation resistance		Min. 100MΩ(500VDC)	
Dielectric strength		2000VAC for 1minute	
Vibration	Mechanical	0.75mm amplitude at frequency of −10 ~ 55Hz in each of X, Y, Z directions for 1hour	
	Malfunction	0.5mm amplitude at frequency of −10 ~ 55Hz in each of X, Y, Z directions for 10minute	
Shock	Mechanical	300m/s² (30G) in X, Y, Z directions for 3 times	
	Malfunction	100m/s² (10G) in X, Y, Z directions for 3 times	
Ambient temperature		−10 ~ 50℃(at non−freezing status)	
Storage temperature		−25 ~ 66℃(at non−freezing status)	
Ambient humidity		35~85%RH	
Weight		Approx. 46g	Approx. 88g

▣Front panel identification

●M4NS−NA

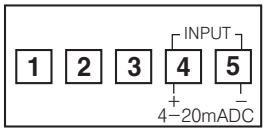
●M4YS−NA



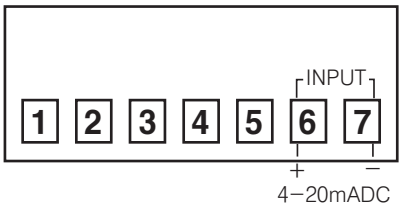
1 Display value, Parameter, Error display
2 MD Key : When enter into Parameter group, return to RUN mode, After completing Parameter setting.
3 ▲ (Up) key : When enter into the status of Parameter setting
4 ◀ (Move) key : When enter into the status of parameter setting and digit moving

▣Connections

●M4NS−NA

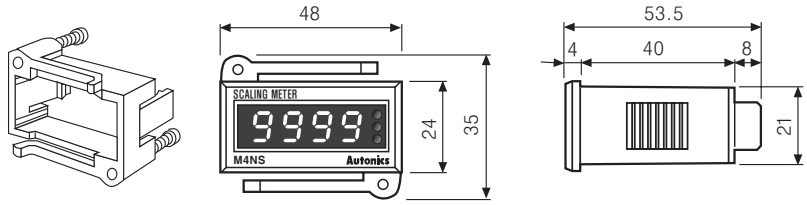


●M4YS−NA

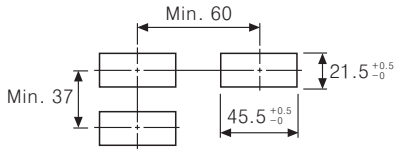


▣Dimensions

●M4NS−NA

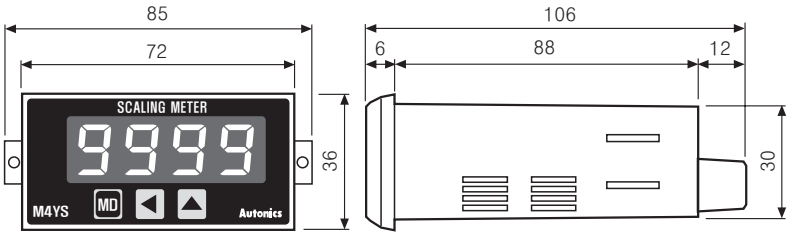


●Panel cut−out

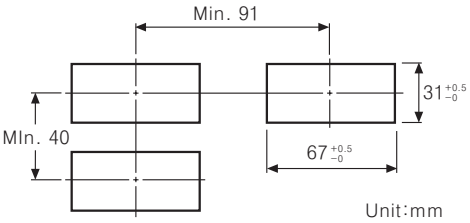


Unit:mm

●M4YS−NA



●Panel cut−out



Unit:mm

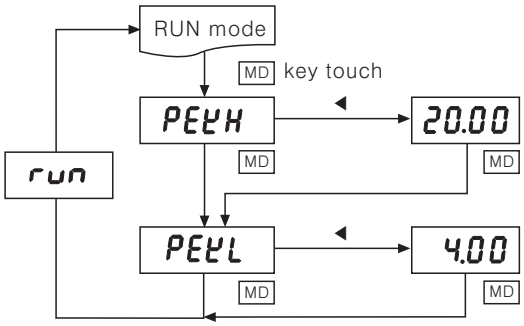
▣Parameter

Display		Function	Setting range
L-SC	Low Scale	Low limit display value for 4mA input	−1.999 ~ 9.999 −19.99 ~ 99.99 −199.9 ~ 999.9 −1999 ~ 9999
H-SC	High Scale	Hi limit display value for 20mA input	
dot	Dot	Set Dot position	0000, 000.0 00.00, 0.000
Inb.L	———	Correct the Low−limit value of display value(%)	−100 ~ 100
Inb.H	———	Correct tje High−limit value of display value(%)	0.900 ~ 1.100
PEv.t	Peak Time	See the peak value monitoring delay time	0 ~ 30sec
dIS.t	Display time	Selectable sampling time(sec)	Selectable 0.5/1.0/2.0/3.0/4.0/5.0sec
E.PCt	Error %	Display the measurement input is out of input range	E.PCt 0, E.PCt 1, E.PCt 2, E.PCt 3, E.PCt 4
LoC	Lock	Set the lock function	Selectable ON, OFF

▣Factory Default setting

Parameter	Parameter display	Factory default
Low limit display value for 4mA input	L-SC	400
Hi limit display value for 20mA input	H-SC	2000
Set Dot position	dot	00.00
Correction of Low limit value input	Inb.L	0000
Correction of Hi limit value input	Inb.H	1.000
Peak value monitoring delay time	PEv.t	01 S
Display cycle	dIS.t	0.5 S
Set % of HHHH/LLLL display range	E.PCt	3
Lock setting	LoC	oFF

▣Parameter 0 group(Monitoring mode for Peak display value)

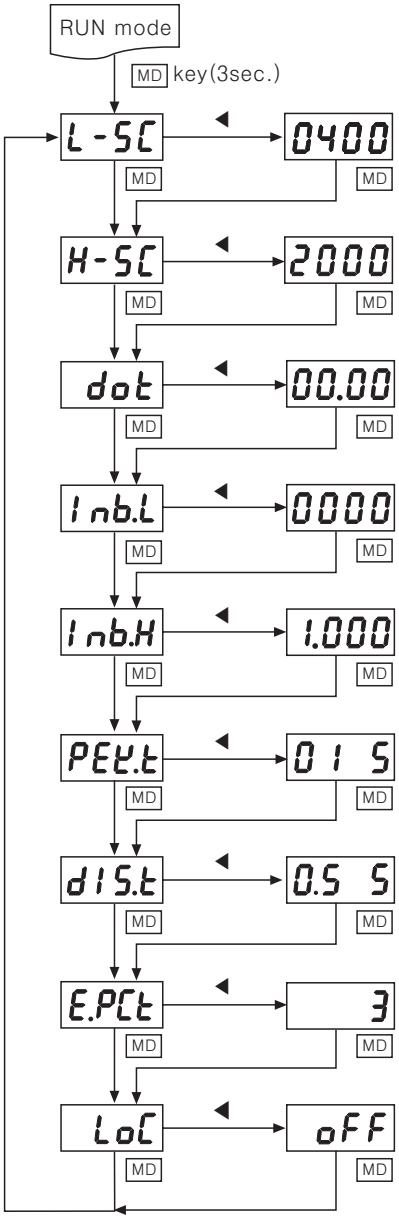


◀ If pressing the key once, it displays High peak value.
◀ If pressing the key one more time, the peak value will be initialized.

◀ If pressing the key once, it displays Low peak value.
◀ If pressing the key one more time, the peak value will be initialized.

※When not using monitoring function, please set **PEAt** as **00 S** setting in parameter 1 group.

▣Parameter 1 group



Display the Low limit value for 4mA. (Setting range : −1999~9999)
◀ key : Move the setting digit, ▲ key : Change the setting value

Display the Low limit value for 4mA. (Setting range : −1999~9999)
◀ key : Move the setting digit, ▲ key : Change the setting value

Change the Dot position by ◀ or ▲ key.
Selectable 00.00 ⇄ 0.000 ⇄ 0000 ⇄ 000.0 (▲/◀)

Change the Low limit corrected value. (Setting range : −100~100)
◀ key : Move the setting digit, ▲ key : Change the corrected value

Change the High limit corrected value. (Setting range : −100~100)
◀ key : Move the setting digit, ▲ key : Change the corrected value

Set Peak value monitoring delay time. (Setting range : 00 ~ 30sec)
◀ key : Setting the delay time, ▲ key : Set "00" sec.

Set the delay cycle by ▲ or ◀ key
Selectable 0S ⇄ 1.0 ⇄ 2.0 ⇄ 3.0 ⇄ 4.0 ⇄ 5.0sec (▲/◀)

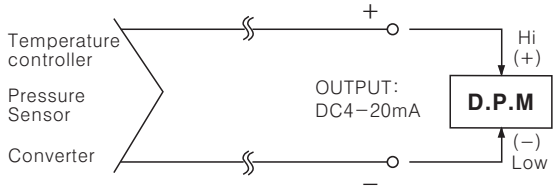
Select the number of error display by ▲ or ◀ key
Selectable 3 ⇄ 4 ⇄ 0 ⇄ 1 ⇄ 2 (▲/◀) (See E−12 Page)

Key lock setting by ▲ or ◀ key
Selectable oFF ⇄ on (▲/◀)

- oFF : Able to change or set Parameter
- on : Disable to change or set Parameter but enable to check the setting value in Parameter group. Disable to enter into the status of change setting value by pressing ◀/▲.

※Pressing MD key to complete the setting and move to next Parameter in status of changing setting value.
※Pressing MD key for 3 sec. to move to RUN mode after displaying run .
※If no key touched for 60sec., it will return to RUN mode.

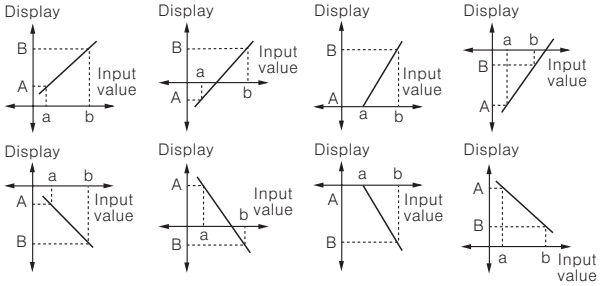
▣Application of connections



▣Function

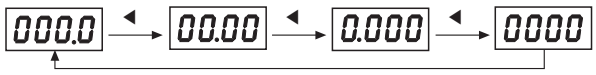
◎Prescale function[L-SC/H-SC Mode]

This function is to display the value with setting certain Hi/Low limit value against 4−20mADC input. For example if set a=4mADC, b=20mADC and A, B as display value, it will be displayed a=A, b=B.



◎Decimal point setting function[dot Mode]

This function is to set the decimal point position of display value(Set in Parameter setting group)



Ability to use ◀(Shift) or ▲(Up) for moving decimal point.

◎Correction function[I nb.H/I nb.L Mode]

This function is to adjust the error of display value after calculating scale value for measuring input and also correct the input error of sensor etc.

I nb.L : −100 to 100 [Adjust deviation of Low value], I nb.H : 0.900 to 1.100 [Correct gradient(%) of High value]

Ex) When display value is 0.0 to 500.0 against 4−20mA input

If the display value is "1.2" for 4mA input, set −12(Ignore the decimal point) as I nb.L value to display "0.0" So enable to remove offset of Low display value.

※Correct the high value

When completed above Low value setting then apply 20mA, if the display value is "500.5, the correction value will be 0.999(5005/5000=0.999), set 0.999 as I nb.H value then enable to correct High value (50005 × 0.999= 5000).

Ignore the decimal point.

◎Display cycle delay function

It is difficult to display when the measuring input value is fluctuating. In this case it is able to make display value stable by delaying display cycle.

Display cycle can be changed in dIS.t mode of Parameter 2(Selectable 0.5s/1.0s/2.0s/3.0s/4.0s/5.0s). If select 5.0s, it will be the measuring input value on an average for 5sec., then display it every 5sec.

◎Error display function[E.PCt Mode]

●Type of error sign

Error code	Error description
E.PCt 0	LLLL / HHHH are displayed when it is over 0% out 4−20mADC range
E.PCt 1	LLLL / HHHH are displayed when it is over 1% out 4−20mADC range
E.PCt 2	LLLL / HHHH are displayed when it is over 2% out 4−20mADC range
E.PCt 3	LLLL / HHHH are displayed when it is over 3% out 4−20mADC range
E.PCt 4	L-SC / H-SC are displayed always when it is out of 4−20mADC range

※Caution:LLLL / HHHH will not be displayed when the differences are under 50 between L-SC and H-SC.

●Error display

① In case of selection "E.PCt 3"

It is the case that input current is lower or higher than 3% in 4−20mADC, therefore, the deviation value of current will be the scale value of measurement input range (16mA)×3%=0.48mA.

∴When input current is lower than 4mA−048mA =3.52mA, LLLL is displayed. On the contrast, when input current is 20mA+0.48mA=20.48mA, HHHH is displayed.

②When it is beyond limit Low scale(L-SC) or limit High scale(H-SC), the LLLL and HHHH signals are displayed.

●Turn Error display off

LLLL and HHHH are displayed when input is out of measuring range, therefore, it will be disappeared automatically when input returns to measuring range.

◎Display peak value monitoring function [PEUH/PEUL Mode]

This function is to monitor Max/Min value of display and display that data on PEUH mode and PEUL mode of parameter setting group.

For Max. value monitoring, set delay time at PEU.t mode in order to initial overcurrent.

Delay time range is 0~30sec, and start monitoring after setting time.