DIN W96×H48mm 12-segment, LCD Display Multi Panel Meter

■ Features

NEW

- Improved visibility with LCD display
- Isolated input and power modules allows powering of multiple units using a single power supply
- Mounting space saving with compact design
  : downsized back length by 78%, compared to another model in same DIN size (length of pannel back: 20mm)
- Various input options (by model)
  - Input options: DC voltage, DC current, AC voltage, AC current
- Max. measuring inputs: 500VDC, 500VAC, DC5A, AC5A
- Display range: -9999 to 9999
- High/Low scale function
- AC frequency measurement (measuring range: 0.100 to 1200Hz)
- Preset output: OUT1, OUT2 (NPN/PNP open collector output)
- Power factor display and output
  : displays input of 1-5V, 4-20mA, etc as -0.50 to 1.00 to 0.50
- Various functions
  : monitoring function for max. and min. display value, display cycle delay function, zero-point adjusment function, high display correction function, etc
- Power supply: 24-240VAC 50/60Hz, 24-240VDC universal

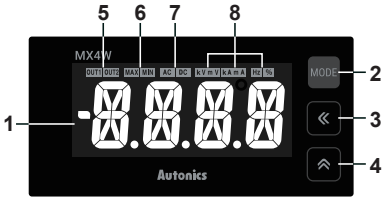
Please read "Safety considerations" in operation manual before using.

■ Ordering Information

MX 4 W – V – F N

Output	**N**	Indicator
	1	NPN open collector output
	2	PNP open collector output
Power supply	**4**	24-240VAC 50/60Hz, 24-240VDC
Measurement Input	**V**	DC/AC voltage
	A	DC/AC current
Size	**W**	DIN W96×H48mm
Digit	**4**	9999 (4-digit)
Item	**MX**	Multi Meter

■ Unit Description



1. Measurement value display part
2. MODE key
: Press the key to enter parameter groups, return RUN mode, move parameters, or save the setting values.
3. « key
: Press the key to move digits, enter parameters, or move parameter setting values.
4. » key
: Press the key to change digit value, enter or change parameters, or chage the parameter setting value.
5. Control output (OUT1/OUT2) indicator (red, indicator model: white)
6. MAX/MIN indicator (green, indicator model: white)
: When input is over/below the range, HHHH or LLLL appears.
7. AC/DC indicator (green, indicator model: white)
8. Unit (V/mV/A/mA/Hz/%) indicator (yellow, indicator model: white)

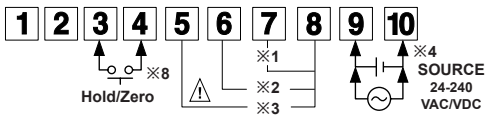
■ Specifications

Model		MX4W-V-F□	MX4W-A-F□
Measurement input		DC/AC voltage	DC/AC current
Max. allowable input		• DC input: approx. -110 to 110% of each measurement input range (when not using minus input: -10 to 110%) • AC input: approx. 110% of each measurement input range	
Power supply		24-240VAC~ 50/60Hz, 24-240VDC⎓	
Allowable voltage range		90 to 110% of the rated voltage	
Power supply		Max. 5VA (24-240VAC~ 50/60Hz), max. 3W (24-240VDC⎓)	
Display method※1		12-segment (measurement value display part: white, character height: 19mm), other display parts (red, green, yellow, indicator model: white) LCD method	
Display accuracy		23℃±5℃ - DC input: ±0.1% F.S. ±2-digit, AC input: ±0.3% F.S. ±3-digit ※The terminal for 5A of current input, ±0.3% F.S. ±3-digit 0℃ to 50℃ - DC/AC input: ±0.5% F.S. ±3-digit ※The terminal for 5A of current input, ±1% F.S. ±3-digit	
Display cycle		0.2 to 5.0 sec (select per 0.1 sec)	
A/D conversion method		Sigma-Delta (∑-△) analog-to-digital converter	
Sampling cycle		DC input: 50ms (resolution 1/20,000), AC input: 16.6ms (resolution 1/20,000)	
Max. display range		-9999 to 9999 (4-digit)	
Preset output※2		NPN/PNP open collector output • Load voltage: max. 30VDC⎓ • Load current: max. 100mA • Residual voltage: max. 1VDC⎓ (NPN), max. 2VDC (PNP)	
AC measurement※3		Select RMS value/AVG value measurement methods	
Frequency measurement※3		Measurement range: 0.100 to 1200Hz (varies depending on the decimal point)	
Insulation resistance		Over 100MΩ (at 500VDC megger)	
Dielectric strength		3,000VAC 50/60Hz for 1 min (between all terminals and case)	
Noise immunity		±2kV the square wave noise (pulse width: 1μs) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours	
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 min	
Shock	Mechanical	100m/s^2 (approx. 10G) in each X, Y, Z direction for 3 times	
	Malfunction	300m/s^2 (approx. 30G) in each X, Y, Z direction for 3 times	
Environment	Ambient temp.	-10 to 50℃, storage: -20 to 60℃	
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH	
Insulation type		Double insulation or reinforced insulation (mark: ⧈, dielectric strength between the measurement input part and the power part: 1kV)	
Approval		CE, cULus	
Weight※4		Approx. 100g (approx. 77g)	

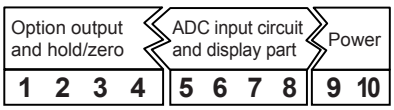
※1: When using the unit at low temperature (below 0℃), display cycle is slow due to characteristics of LCD. Control output operates normally.
※2: Indicator model (MX4W-□-FN) does not have the function.
※3: AC, frequency measurement are available when input type is AC.
※4: The weight includes packaging. The weight in parenthesis is for unit only.
※Environment resistance is rated at no freezing or condensation.

■ Connections and Insulated Block Diagram

• MX4W-V-F□

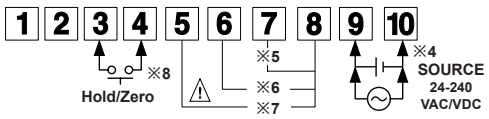


※1: DC±500mV/±200mV/±50mV, AC0-500mV/0-200mV/0-50mV
※2: DC±20V/±5V/1-5V/±2V, AC0-20V/0-5V/0-2V
※3: DC±500V/±200V/±50V, AC0-500V/0-200V/0-110V/0-50V
※4: For using DC power, connect wires regardless of polarity.



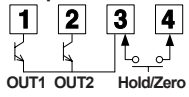
※Input and output are insulated from the power.

• MX4W-A-F□

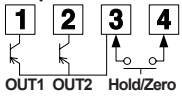


※5: DC±20mA/4-20mA/±5mA/±2mA, AC0-20mA/0-5mA/0-2mA
※6: DC±500mA/±200mA/±50mA, AC0-500mA/0-200mA/0-50mA
※7: DC±5A/±2A, AC0-5A/0-2A
※8: Indicator model does not have the hold/zero terminal.

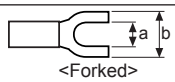
• NPN open collector output



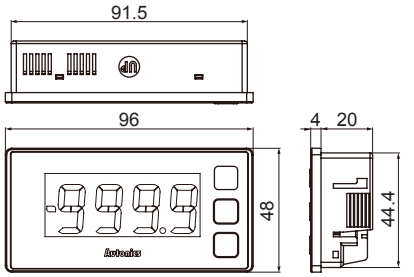
• PNP open collector output



※Use terminals of size specified below.

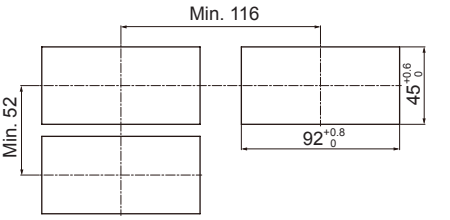
	a	b
 <Forked>	Min. 3.0mm	Max. 6.0mm

▣ Dimensions

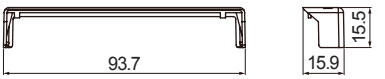


● **Panel cut-out**

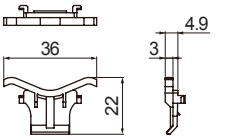
(unit: mm)



● **Terminal cover**



● **Bracket**



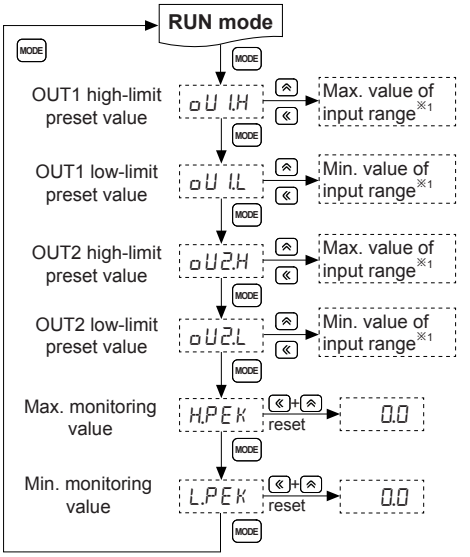
▣ Parameter Group

◎ Parameter (0 to 2 group) setting

1. Each parameter and corresponding setting value will flash alternately every 0.5 sec.
2. Press the [MODE] key to save the setting value and move to the next parameter.
3. If there is no key input for 60 sec, the unit will return to RUN mode.
4. Hold the [MODE] key for 3 sec to return to RUN mode.
5. Press the [«], [»] keys to change the set value. ([«]: moves digits, [»]: changes setting value)

※ [ ]: Dotted parameters may not appear by model type or other parameter settings.
※1: Refer to '▣ Measurement Input.'

◎ Parameter 0 group



Does not appear when OUT1 preset output operation mode [oU1t] of parameter 2 group is set as oFF/LoW.
Setting range: -9999 to 9999

Does not appear when OUT1 preset output operation mode [oU1t] of parameter 2 group is set as oFF/HIGH.
Setting range: -9999 to 9999

Does not appear when OUT2 preset output operation mode [oU2t] of parameter 2 group is set as oFF/LoW.
Setting range: -9999 to 9999

Does not appear when OUT2 preset output operation mode [oU2t] of parameter 2 group is set as oFF/HIGH.
Setting range: -9999 to 9999

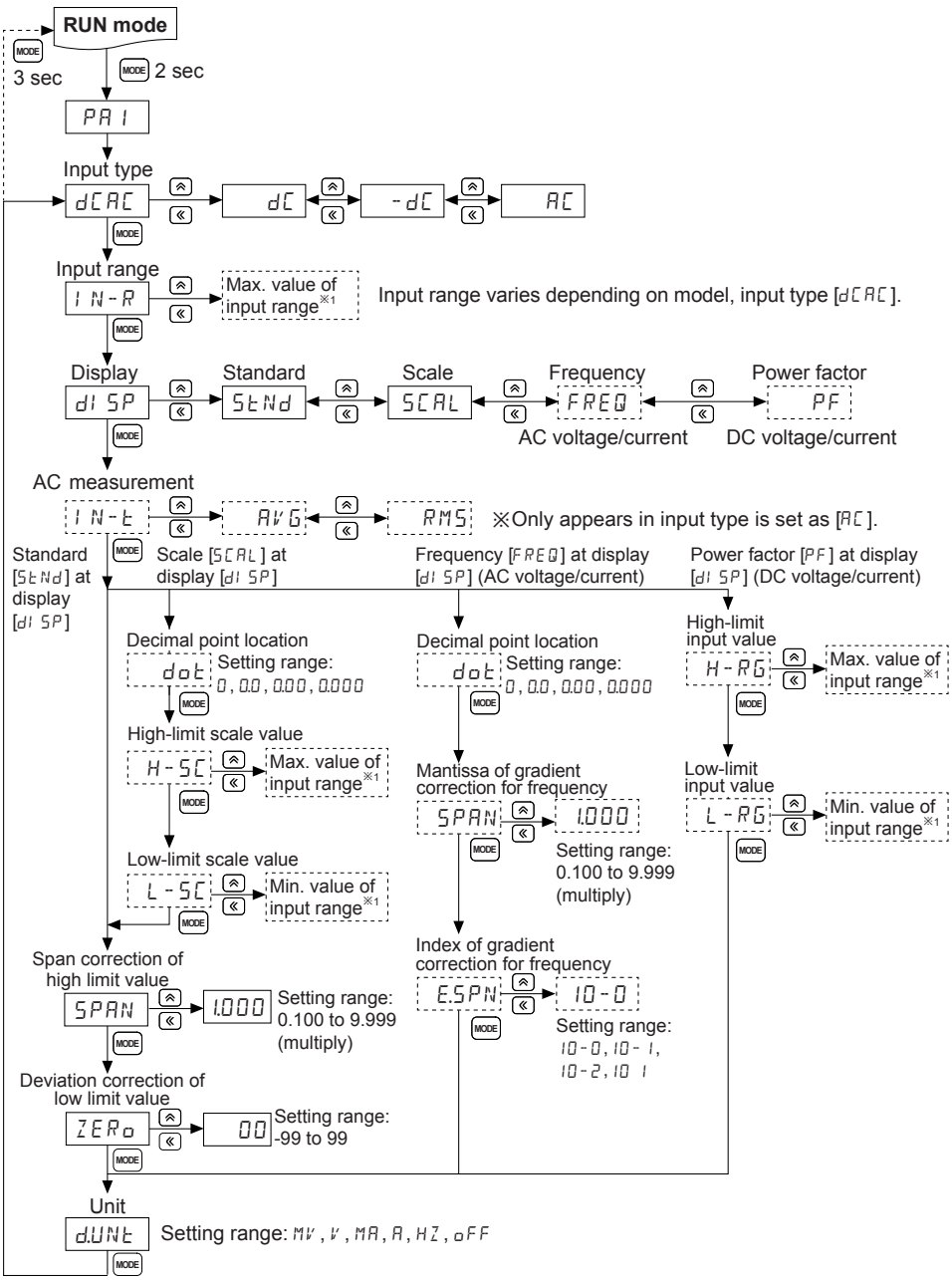
Do not appear when monitoring delay time [PEAK] of parameter 2 group is set as 00 sec [00 S]. Hold the [«]+[»] for over 1 sec, to reset the parameter.

◎ Factory defaults

Parameter	MX4W-V (DC)	MX4W-V (±DC)	MX4W-V (AC)	MX4W-A (DC)	MX4W-A (±DC)	MX4W-A (AC)
oU1.H※1	500.0	500.0	500.0	5.000	5.000	5.000
oU1.L※1	000.0	-500.0	000.0	0.000	-5.000	0.000
oU2.H※1	500.0	500.0	500.0	5.000	5.000	5.000
oU2.L※1	000.0	-500.0	000.0	0.000	-5.000	0.000
H.PEK	0.0	0.0	0.0	0.0	0.0	0.0
L.PEK	0.0	0.0	0.0	0.0	0.0	0.0

※1: Does not appear in indicator models.

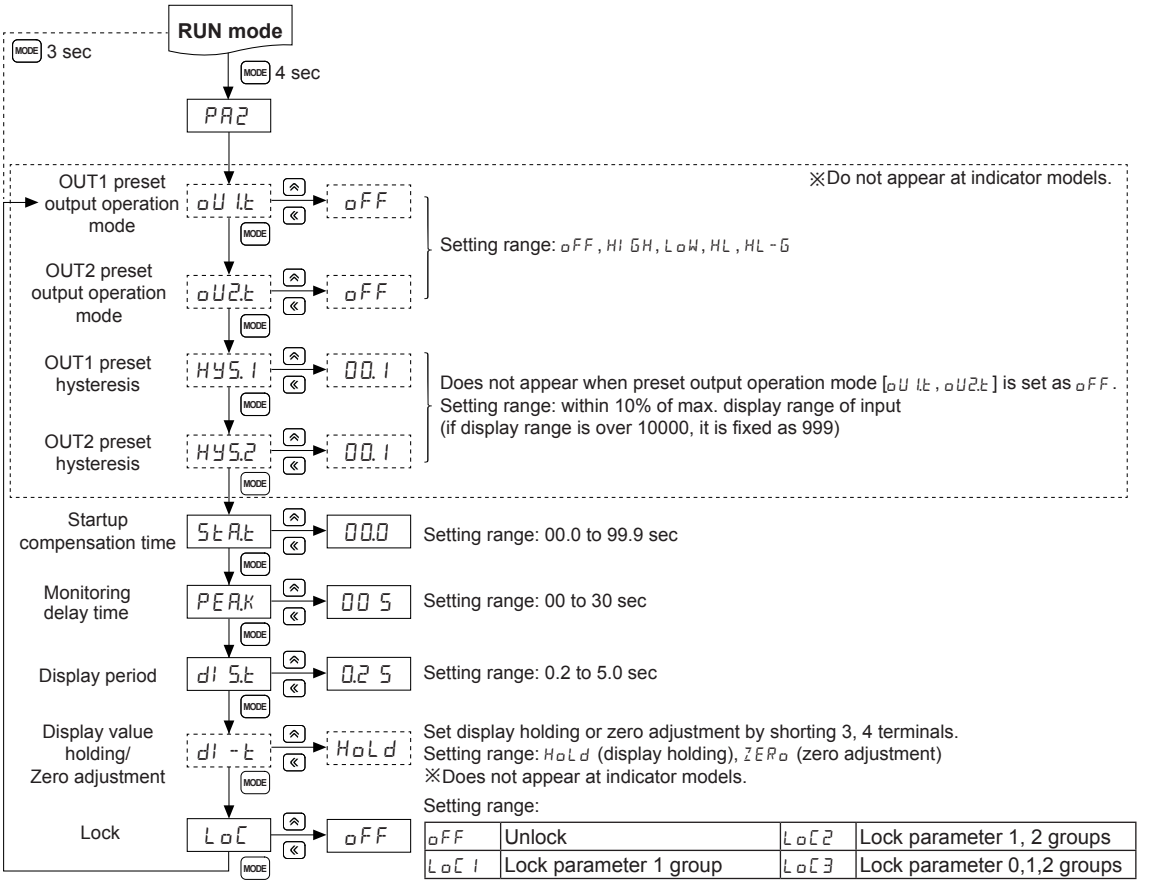
◎ Parameter 1 group



◎ Factory defaults

Parameter	MX4W-V (DC)	MX4W-V (±DC)	MX4W-V (AC)	MX4W-A (DC)	MX4W-A (±DC)	MX4W-A (AC)
dCAC	dC	-dC	AC	dC	-dC	AC
IN-R	500.0	-500.0	500.0	5.000	-5.000	5.000
diSP	StNd	StNd	StNd	StNd	StNd	StNd
IN-t	—	—	AVG	—	—	AVG
dot	000.0	000.0	000.0	0.000	0.000	0.000
H-SC	500.0	500.0	500.0	5.000	5.000	5.000
L-SC	000.0	-500.0	000.0	0.000	-5.000	0.000
SPAN	1.000	1.000	1.000	1.000	1.000	1.000
ZERo	00	00	00	00	00	00
E.SPN	—	—	10-0	—	—	10-0
H-RG	500.0	500.0	—	5.000	5.000	—
L-RG	000.0	-500.0	—	0.000	-5.000	—
d.UNt	V	V	V	A	A	A

◎ Parameter 2 group



◎ Factory defaults

Parameter	MX4W-V (DC)	MX4W-V (±DC)	MX4W-V (AC)	MX4W-A (DC)	MX4W-A (±DC)	MX4W-A (AC)
oUt1 ※1	oFF	oFF	oFF	oFF	oFF	oFF
oUt2 ※1	oFF	oFF	oFF	oFF	oFF	oFF
HYS.1 ※1,2	00.1	00.1	00.1	0.001	0.001	0.001
HYS.2 ※1,2	00.1	00.1	00.1	0.001	0.001	0.001
STA.t	00.0	00.0	00.0	00.0	00.0	00.0
PEAK	005	005	005	005	005	005
dIS.t	0.25	0.25	0.25	0.25	0.25	0.25
dI-t	Hold	Hold	Hold	Hold	Hold	Hold
LoC	oFF	oFF	oFF	oFF	oFF	oFF

※1: Does not appear in indicator models.
※2: It will vary depending on input range [IN-R] setting.

▣ Measurement Input

DC voltage				DC current			
Measurement input range	Display	Input impedance	Display range [SEnd]	Measurement input range	Display	Input impedance	Display range [SEnd]
0.0-500.0V	500.0	4.062MΩ	0.0 to 500.0	0.000-5.000A	5.000	0.02Ω	0.000 to 5.000
0-500V	500		0 to 500	0.00-5.00A	5.00		0.00 to 5.00
0.0-200.0V	200.0		0.0 to 200.0	0.000-2.000A	2.000		0.000 to 2.000
0-200V	200		0 to 200	0.00-2.00A	2.00		0.00 to 2.00
0.00-50.00V	50.00	162kΩ	0.00 to 50.00	0.0-500.0mA	500.0	0.87Ω	0.0 to 500.0
0.0-50.0V	50.0		0.0 to 50.0	0-500mA	500		0 to 500
0.00-20.00V	20.00		0.00 to 20.00	0.0-200.0mA	200.0		0.0 to 200.0
0.0-20.0V	20.0		0.0 to 20.0	0-200mA	200		0 to 200
0.000-5.000V	5.000		0.000 to 5.000	0.00-50.00mA	50.00		0.00 to 50.00
0.00-5.00V	5.00		0.00 to 5.00	0.0-50.0mA	50.0		0.0 to 50.0
1.000-5.000V	1-5A		1.000 to 5.000	0.00-20.00mA	20.00	21.87Ω	0.00 to 20.00
1.00-5.00V	1-5b		1.00 to 5.00	0.0-20.0mA	20.0		0.0 to 20.0
0.000-2.000V	2.000		0.000 to 2.000	4.00-20.00mA	4A20		4.00 to 20.00
0.00-2.00V	2.00		0.00 to 2.00	4.0-20.0mA	4b20		4.0 to 20.0
0.0-500.0mV	500.0	4kΩ	0.0 to 500.0	0.000-5.000mA	5.000		0.000 to 5.000
0-500mV	500		0 to 500	0.00-5.00mA	5.00		0.00 to 5.00
0.0-200.0mV	200.0		0.0 to 200.0	0.000-2.000mA	2.000		0.000 to 2.000
0-200mV	200		0 to 200	0.00-2.00mA	2.00		0.00 to 2.00
0.00-50.00mV	50.00		0.00 to 50.00	-5.000-5.000A	-5.000	0.02Ω	-5.000 to 5.000
0.0-50.0mV	50.0		0.0 to 50.0	-5.00-5.00A	-5.00		-5.00 to 5.00
-500.0-500.0V	-500.0	4.062MΩ	-500.0 to 500.0	-2.000-2.000A	-2.000		-2.000 to 2.000
-500-500V	-500		-500 to 500	-2.00-2.00A	-2.00		-2.00 to 2.00
-200.0-200.0V	-200.0		-200.0 to 200.0	-500.0-500.0mA	-500.0	0.87Ω	-500.0 to 500.0
-200-200V	-200		-200 to 200	-500-500mA	-500		-500 to 500
-50.00-50.00V	-50.00	162kΩ	-50.00 to 50.00	-200.0-200.0mA	-200.0		-200.0 to 200.0
-50.0-50.0V	-50.0		-50.0 to 50.0	-200-200mA	-200		-200 to 200
-20.00-20.00V	-20.00		-20.00 to 20.00	-50.00-50.00mA	-50.00		-50.00 to 50.00
-20.0-20.0V	-20.0		-20.0 to 20.0	-50.0-50.0mA	-50.0		-50.0 to 50.0
-5.000-5.000V	-5.000		-5.000 to 5.000	-20.00-20.00mA	-20.00	21.87Ω	-20.00 to 20.00
-5.00-5.00V	-5.00		-5.00 to 5.00	-20.0-20.0mA	-20.0		-20.0 to 20.0
-2.000-2.000V	-2.000		-2.000 to 2.000	-5.000-5.000mA	-5.000		-5.000 to 5.000
-2.00-2.00V	-2.00		-2.00 to 2.00	-5.00-5.00mA	-5.00		-5.00 to 5.00
-500.0-500.0mV	-500.0	4kΩ	-500.0 to 500.0	-2.000-2.000mA	-2.000		-2.000 to 2.000
-500-500mV	-500		-500 to 500	-2.00-2.00mA	-2.00		-2.00 to 2.00
-200.0-200.0mV	-200.0		-200.0 to 200.0				
-200-200mV	-200		-200 to 200				
-50.00-50.00mV	-50.00		-50.00 to 50.00				
-50.0-50.0mV	-50.0		-50.0 to 50.0				

※Display range of [SCAL] will vary depending on the decimal point. (-9999 to 9999, -999.9 to 999.9, -99.99 to 99.99, -9.999 to 9.999)
※When changing measurement input type, oU□.H/oU□.L/H.PEK/L.PEK/dISPIN-t/dot/H-SC/L-SC/SPAN/ZERo/E.SPN/H-RG/L-RG/dUNt/oU□.t/HYS.□ parameters are reset.
※Frequency measurement range (AC voltage/current): 0.100 to 1200Hz
※Check the unit indicator when selecting measurement input type.
※Parameter setting order of input range [IN-R] is followed by the above table.
E.g.) AC current: 5.000 → 5.00 → 2.000 → … → 2.000 → 2.00
※When "HHHH" or "LLLL" is flashes with a certain measurement input, disconnect power supply and then check the cables.
※Connect to the input terminals whose 30% to 100% of the input range includs the max. value of the input range to measure.
When the max. input value is under the 30% of the input terminal range, display accuracy is degraded. When the max. input value is over the 100%, it may result in input terminal damage.

▣ Measurement Input

AC voltage				AC current			
Measurement input range	Display	Input impedance	Display range [SENd]	Measurement input range	Display	Input impedance	Display range [SENd]
0.0-500.0V	500.0	4.062MΩ	0.0 to 500.0	0.000-5.000A	5.000	0.02Ω	0.000 to 5.000
0-500V	500		0 to 500	0.00-5.00A	5.00		0.00 to 5.00
0.0-200.0V	200.0		0.0 to 200.0	0.000-2.000A	2.000		0.000 to 2.000
0-200V	200		0 to 200	0.00-2.00A	2.00		0.00 to 2.00
0.0-110.0V	110.0		0.0 to 110.0	0.0-500.0mA	500.0	0.87Ω	0.0 to 500.0
0-110V	110		0 to 110	0-500mA	500		0 to 500
0.00-50.00V	50.00	162kΩ	0.00 to 50.00	0.0-200.0mA	200.0		0.0 to 200.0
0.0-50.0V	50.0		0.0 to 50.0	0-200mA	200		0 to 200
0.00-20.00V	20.00		0.00 to 20.00	0.00-50.00mA	50.00		0.00 to 50.00
0.0-20.0V	20.0		0.0 to 20.0	0.0-50.0mA	50.0		0.0 to 50.0
0.000-5.000V	5.000		0.000 to 5.000	0.00-20.00mA	20.00	21.87Ω	0.00 to 20.00
0.00-5.00V	5.00		0.00 to 5.00	0.0-20.0mA	20.0		0.0 to 20.0
0.000-2.000V	2.000		0.000 to 2.000	0.000-5.000mA	5.000		0.000 to 5.000
0.00-2.00V	2.00		0.00 to 2.00	0.00-5.00mA	5.00		0.00 to 5.00
0.0-500.0mV	500.0	4kΩ	0.0 to 500.0	0.000-2.000mA	2.000		0.000 to 2.000
0-500mV	500		0 to 500	0.00-2.00mA	2.00		0.00 to 2.00
0.0-200.0mV	200.0		0.0 to 200.0				
0-200mV	200		0 to 200				
0.00-50.00mV	50.00		0.00 to 50.00				
0.0-50.0mV	50.0		0.0 to 50.0				

※Display range of [SCAL] will vary depending on the decimal point. (-9999 to 9999, -999.9 to 999.9, -99.99 to 99.99, -9.999 to 9.999)
※When changing measurement input type, oU□.H/oU□.L /H.PEK/L.PEK/dI SP/I N-t/dot/H-SC/L-SC/SPAN/ZERo/E.SPN/H-RG/L-RG/d.UNt/oU□.t/HYS.□ parameters are reset.
※Frequency measurement range (AC voltage/current): 0.100 to 1200Hz
※Check the unit indicator when selecting measurement input type.
※Parameter setting order of input range [I N-R] is followed by the above table.
E.g.) AC current: 5.000 → 5.00 → 2.000 → ··· → 2.000 → 2.00
※When "HHHH" or "LLLL" is flashes with a certain measurement input, disconnect power supply and then check the cables.
※Connect to the input terminals whose 30% to 100% of the input range includs the max. value of the input range to measure.
When the max. input value is under the 30% of the input terminal range, display accuracy is degraded. When the max. input value is over the 100%, it may result in input terminal damage.

▣ Functions

◎ AC frequency measurement [PA 1 group: dI SP]

It measures input signal frequency when it is AC input.
It uses fixed decimal point [**PA1**: dot], measured range can be changed by setting and measured range of decimal point position is as below chart. It is available to adjust the upper gradient at [**PA 1**: SPAN]and [**PA 1**: E.SPN]. In order to measure frequency normally, input signal, over 10% F.S. of the measured range, should be supplied. Please select the proper point of

① Measuring range

Decimal point position	0.000	0.00	0.0	0
Measurement range	0.100 to 9.999Hz	0.10 to 99.99Hz	0.1 to 999.9Hz	1 to 1200Hz

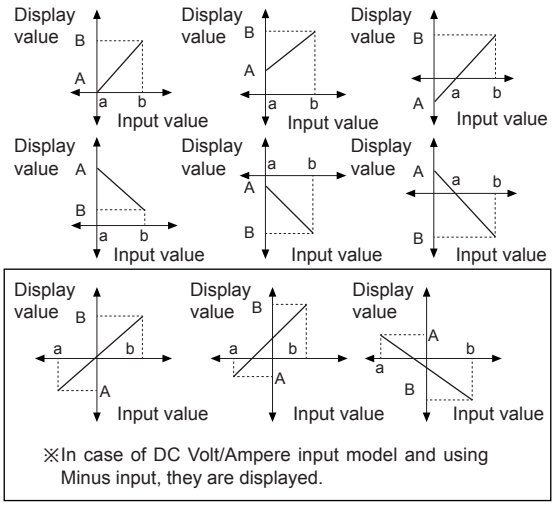
※Accuracy of frequency measurement:
Below 1kHz, F.S. ±0.1rdg ±2-digit.
From 1kHz to 10kHz, F.S. ±0.3rdg ±2-digit.
② SPAN : 0.100 to 9.999 [Gradient adjustment of high value]
③ E.SPN 10^{-2}, 10^{-1}, 10^{0}, 10^{1} [Index adjustment of SPAN]

◎ Error correction [PA 1 group: SPAN / ZERo]

It corrects display value error of measured input.
ZERo : -99 to 99 [Adjust deviation of low value]
SPAN : 0.100 to 9.999 [Correct gradient of high value]
Display value= (measured value × SPAN) + ZERo
E.g.) When the measured range is 0 to 500V, and the display range is 0 to 500.0. If the low display value is "12" to 0V input, set -12 as ZERo value to display "0.0" by adjusting offset of the low value. The display value to 500V measured input varies by adjusting the offset of low value. If this display value is "501.0", calculate 500.0/501.0 (desired display value/the display value), and set the 0.998 correction value as the SPAN to display 500.0 by adjusting gradient of high value.
※The offset correction range of ZERo is within -99 to 99 for D^{-0}, D^{-1} digit regardless of decimal point.
※**High limit error correction function is available as "Gradient correction function"and low limit error correction function is available as "Zero adjustment function".**

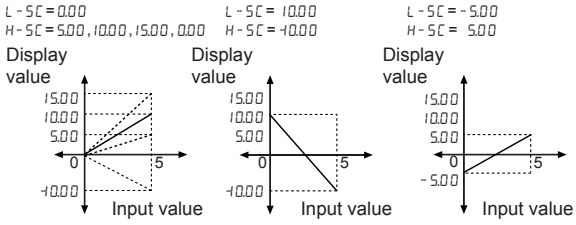
◎ Display scale [PA 1 group: H-SC/L-SC]

This function is to display setting (-1999 to 9999) of particular High/Low-limit value in order to display High/Low-limit value of measured input. If measured inputs are 'a' and 'b' and particular values are 'A' and 'B', it will display a=A, b=B as below graphs.



Display scale function is able to change display value for min./max. measured input by setting high limit scale H-SC and low limit scale L-SC in parameter 1 group.

E.g.) High limit scale value and low limit scale value setting (input range = 0 to 5V)

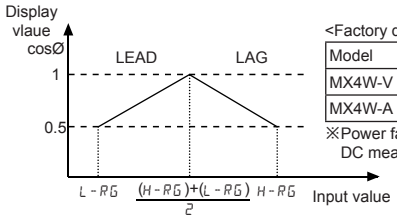


※When changing measured input, high limit scale value and low limit scale value are automatically changed as the default display range of the changed measured input.

◎ Power factor (PF) display [PA 1 group: H-RG/L-RG]

- This function displays LEAD and LAG by analog output signal from the power factor transducer.
- It is available to accept several outputs of the power factor transducer by high-limit [H-RG]/low-limit [L-RG] analog output value setting in the power factor transducer.
- Power factor value is displayed as cosø value -0.50 (LEAD) to 1.00 to 0.50 (LAG).
- LEAD is when current phase leads voltage phase, LAG is when current phase lags behind voltage phase. LEAD and LAG are invalid power.
- Setting range: From min. to max. selected value from measurement input range [IN-R]

E.g.) When setting 200V in input range [IN-R], H-RG and L-RG are available to set from -200.0 to 200.0. When setting 20V, H-RG and L-RG are available to set from -20.00 to 20.00. (※H-RG > L-RG)



<Factory default>

Model	H-RG	L-RG
MX4W-V	500.0	000.0
MX4W-A	5.000	0.000

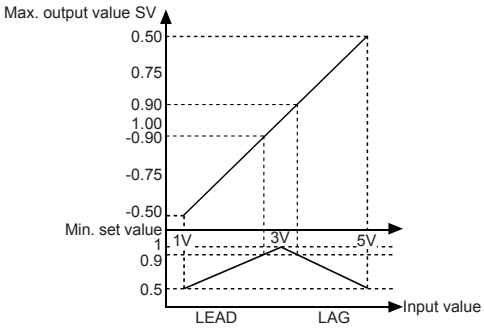
※Power factor display is only for DC measurement input model.

E.g. 1) When the output of the power factor transducer is DC 4-20mA,

① Connect the output to the input terminal 7 (+), 8 (-) of this unit, then set input range [IN-R] as 4-20.
② When setting the input range as 4-20, L-RG is set as 4.00 and H-RG is set as 20.00 automatically. L-RG and H-RG is for the setting of the power factor transducer output.
③ If measured input is 4mA, it displays -0.50. For 12mA measured input, it displays 1.00 and for 20mA, it displays 0.50.

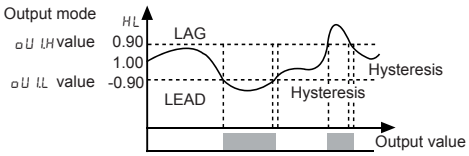
E.g. 2) When the output of the power factor transducer is DC1-5V,

① Connect the output to the input terminal 6 (+), 8 (-) of this unit, then set the input range [IN-R] as 1-5b.
② Set H-RG as 5.00 and L-RG as 1.00 for the output of the power factor transducer.
③ If measured input is 1V, it displays -0.50. For 3V measured input, it displays 1.00 and for 5V, it displays 0.50.



E.g. 3) When LEAD value is smaller than -0.90, LAG value is smaller than 0.90, and OUT1 is used,

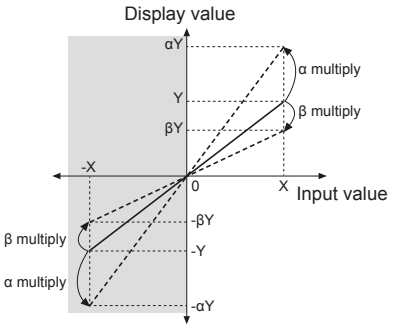
① Set oUt as HL at parameter 2 group.
② Set oUtH as 0.90 and oUtL as -0.90 at parameter 0 group.
※oUt2 is also same setting as oUt.



◎ Gradient correction [PA 1 group: SPAN]

This function is to adjust the gradient of display value or scale value for input value (within measurement range). As followings (Image 1), input value (X) can be adjusted α, β times to display value (Y) by using gradient correction function [SPAN].

- Setting range: 0.100~9.999,
  Factory default: 1.000 (unit: multiply)



(Fig. 1)

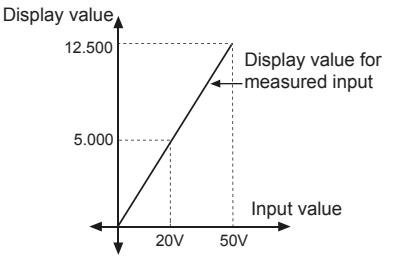
※Gradient is adjusted based on input value '0'.
※The part marked with the gray color is not displayed in following cases.

- Input type [dCAC] is set to [dC] or [AC]

E.g. 1) Using both display scale [L-SC/H-SC] and gradient correction [SPAN] (AC input)

① In order to display 20V at measurement input range 0-50V as 5.000, set decimal point [dot] as 0.000 when setting scale value.
② If set to display 20V as 5.000, maximum input value 50V is set to be displayed as 12.500. However it is impossible because maximum value of the display scale [H-SC] is 9.999. In this case, set gradient correction value [SPAN] × high scale value [H-SC] to be 12.500.

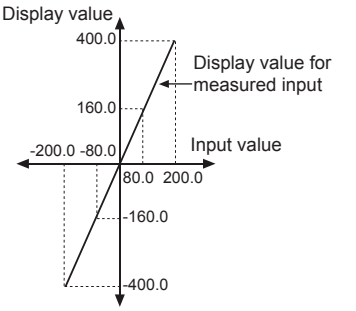
H-SC	L-SC	SPAN	Note
12.500	0.000	1.000	**Unavailable**, because maximum setting value of high scale [H-SC] is 9.999.
6.250	0.000	2.000	Any setting value displays same display value.
3.125	0.000	4.000	
2.500	0.000	5.000	



E.g. 2) Using both display scale [L-SC/H-SC] and gradient correction [SPAN] (DC minus input)

① In order to display -80mV at measurement input range -200-200mV as -160.0, set decimal point [dot] as 000.0 when setting scale value.
② If set to display -80mV as -160.0, minimum input value -200mA is set to be displayed as -400.0. In this case, set gradient correction value [SPAN] × high scale value [L-SC] to be -400.0.
Set high limit scale value as value of (-[L-SC]). If high limit scale value is set before, set low limit scale value as value of (-[H-SC]).

H-SC	L-SC	SPAN	Note
400.0	-400.0	1.000	Any setting value displays same display value.
200.0	-200.0	2.000	
100.0	-100.0	4.000	
80.0	-80.0	5.000	



◎ Display cycle delay [PA 2 group: dISt]

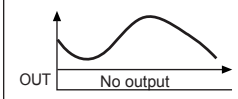
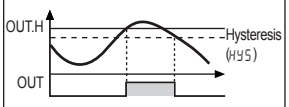
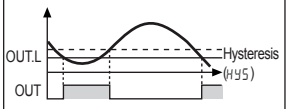
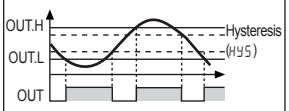
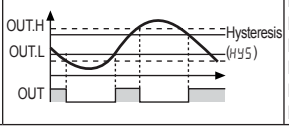
In some applications the measured input may fluctuate which in turn causes the display to fluctuate. By adjusting the display cycle delay function time in the dISt of parameter 2, the operator can adjust the display time within a range of 0.2 to 5 sec. For example, if the operator sets the display cycle time to 4.0 sec, the display value displayed will be the average input value over 4 sec and also will show any changes if any every 4 sec.

◎ Monitoring peak display value [PA 0 group: H.PEK/L.PEK, PA 2 group: PEAK]

It monitors max./min. value of display value based on the current displays value and then displays the data at H.PEK, L.PEK of parameter 0. Set the delay time (0 to 30 sec) at PEAK of parameter 2 in order to prevent malfunction caused by initial overcurrent or overvoltage, when monitoring the peak value.
Delay time is 0 to 30 sec and it starts to monitor the peak value after the set time. When pressing the ≪+≫ keys for 1 sec at H.PEK, L.PEK of parameter 0, the monitored data is reset.

※H.PEK, L.PEK parameters is not displayed when monitoring delay time [PEAK] of parameter 2 group is set as 00 sec [00 S].

◎ Preset output operation mode [PA 2 group: oU1t / oU2t]

Mode	Output operation	Operation
oFF		No output
HIGH		Period ON: Display value ≥ oU1H Period OFF: Display value ≤ oU1H-HYS.1
LoW		Period ON: Display value ≤ oU1L Period OFF: Display value ≥ oU1L+HYS.1
HL		Period ON: Display value ≤ oU1L Display value ≥ oU1H Period OFF: Display value ≥ oU1L+HYS.1 Display value ≤ oU1H-HYS.1
HL-G		Period ON: Display value ≥ oU1L Display value ≤ oU1H Period OFF: Display value ≤ oU1H-HYS.1 Display value ≥ oU1H+HYS.1

※Set preset output mode separately for each OUT1/OUT2.
※OUT1/OUT2 are operated individually depending on the set preset output operation mode.
※High/low preset value parameters of the parameter 0 group appear by setting preset output operation mode.
※When changing preset output operation mode, oU□.H/ oU□.L /HYS.□ are reset.

◎ Zero adjustment

Forces the display value of measured input to 0 (zero).

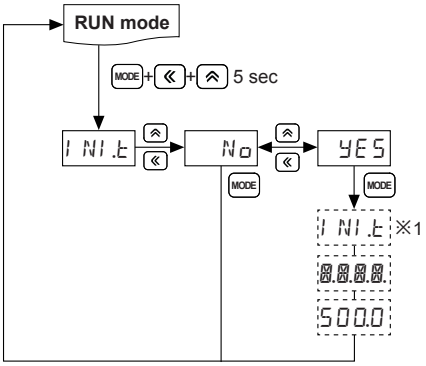
- Zero adjustment range: -99 to 99
- Zero adjustment method:

① Hold ◁+△ keys for 3 sec at the same time.

② Set display holding/zero adjustment [di-t] of parameter 2 group as zero adjustment [ZERo]. Short 3, 4 terminals and zero adjustment is available.

※When zero adjustment is completed by ① or ② method, the display part displays zero and the adjusted value is saved at [ZERo] of parameter 1 group automatically.
※If zero adjustment range is exceeded, the error [oVER] flashes twice and it returns to RUN mode, by maintaining previous setting value.

◎ Reset



※1: Flashes twice sequentially and returns to RUN mode.

◎ Error display

Display	Description
HHHH	Flashes when measuring input is exceeded the max. allowable input (110%)
LLLL	Flashes when measuring input is exceeded the min. allowable input (-dC setting at dCAC:-110%, dC, AC setting at dCAC: -10%)
d-HH	Flashes when display input is exceeded the max. display range (9999)
d-LL	Flashes when display input is exceeded the min. display range (-9999)
F-HH	Flashes when measuring frequency is exceeded the max. measuring value (9999)
PF-H	Flashes when power factor display value to measured input is over than LAG 0.50
PF-L	Flashes when power factor display value to measured input is less than LEAD -0.50
oVER	Flashes when it exceeds zero adjustment range (±99)

※Error display is released automatically when it is in the measured and display range.