

Autonics

**DIGITAL SCALING METER
M4V SERIES**

M A N U A L



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

*Please keep these instructions and review them before using this unit.

*Please observe the cautions that follow:

Warning Serious injury may result if instructions are not followed.

Caution Product may be damaged, or injury may result if instructions are not followed.

*The following is an explanation of the symbols used in the operation manual.

Caution: Injury or danger may occur under special conditions.

Warning

- In case of using this unit with machineries(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fail-safe device, or contact us for information on type required.**

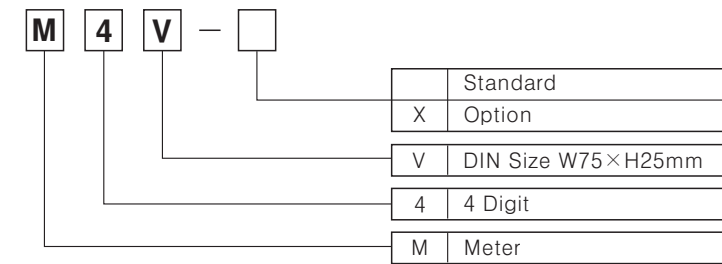
It may result in serious damage, fire or human injury.

Caution

- It must be mounted on panel.**
It may give an electric shock.
- Do not repair, check up or connect when power on and measuring input applied.**
It may give an electric shock.
- Do not disassemble and modify this unit, when it requires. If needs, please contact us.**
It may give an electric shock and cause a fire.
- This unit shall not be used outdoors.**
It might shorten the life cycle of the product or give an electric shock.
- Please observe specification rating.**
It might shorten the life cycle of the product and cause a fire.
- Be sure that there is not insulated between measuring input terminal and power terminal.**
It may cause mechanical trouble of measuring target or result in product damage.
- Please separate the power supply when use it as Volt meter and Ampere meter at the same time.**
It may cause mechanical trouble of measuring target or result in product damage.
- Please wire properly after check polarity of power.**
It may cause a fire or explosion and result in product damage.
- In cleaning the unit, do not use water or an oil-based detergent.**
It might cause an electric shock or fire that will result in damage to this product.
- Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray the sun, radiant heat, vibration, impact etc.**
It may cause explosion.
- Do not inflow dust or wire dregs into inside of this unit.**
It may cause a fire or mechanical trouble.

*The above specification are changeable without notice anytime.

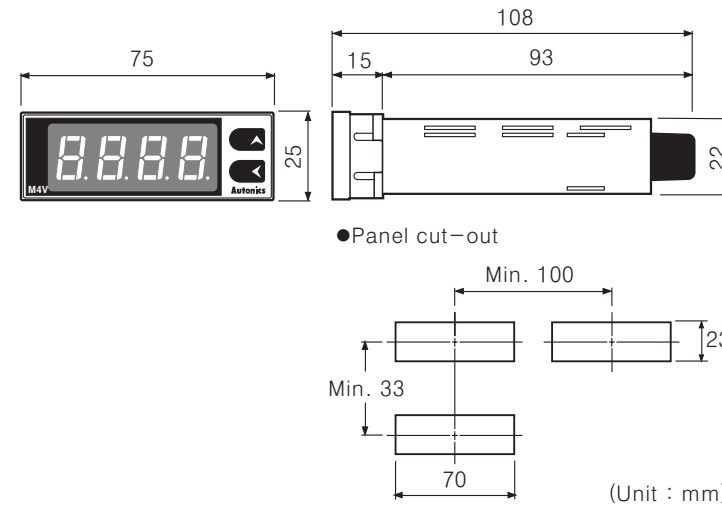
Ordering information



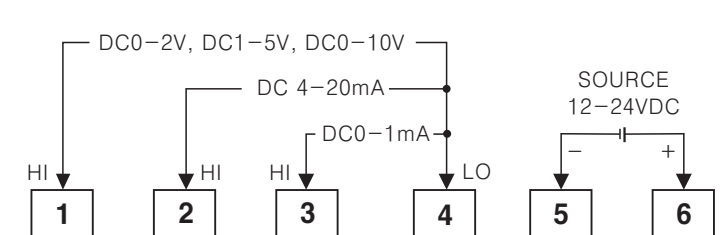
Specification

Model	M4V	
Power supply	12~24VDC	
Operating voltage	90 to 110% of rated voltage	
Power consumption	2W	
Display method	7 Segment red LED display(Segement height 14mm)	
Display accuracy	0 to 50°C : F · S ±0.2%(rdg ±1digit) -10 to 0°C : F · S ±0.3%(rdg ±1digit)	
Sampling time	0.5sec.	
Setting method	Scale set by front S/W key	
Input method	Sec (input chart) and (connection)	
Set-diagnosis	Error indication	
Insulation resistance	100MΩ Min. (at 500VDC)	
Dielectric strength	2000VAC 50/60Hz for 1 minute	
Noise strength	±300V the square wave noise(pulse width:1μs) by the noise simulator	
Vibration	Mecanical	0.75mm amplitude at frequency of 10 to 50Hz in each of X, Y, Z directions for 3hour
	Malfunction	0.5mm amplitude at frequency of 10 to 50Hz in each of X, Y, Z directions for 10minute
Shock	Mecanical	300m/s ² (30G) in X, Y, Z direction for 3 times
	Malfunction	100m/s ² (10G) in X, Y, Z directions for 3 times
Ambient temperature	-10 to 50°C(at non-freezing status)	
Storage temperature	-20 to 60°C(at non-freezing status)	
Ambient humidity	35 to 85%RH	
Weight	Approx. 83g	

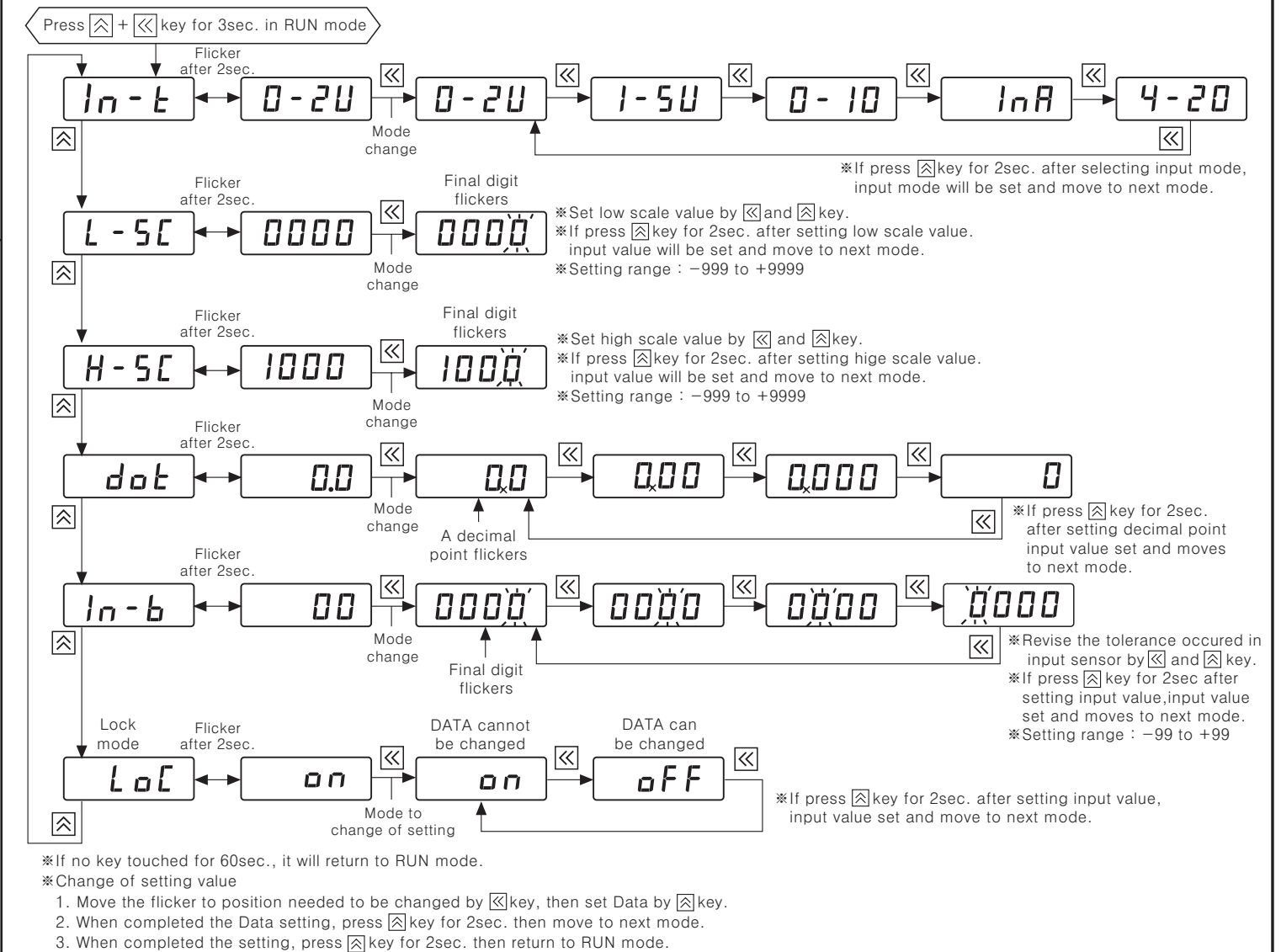
Dimension



Connection



Programming



ERROR display

Display indicates "ERROR" when wrong measuring input value is applied. There are 3 kinds of ERROR as follow:

- In case of lower value than measuring input value.
Ex)In case of applying 2mA when measuring input range is selected as 4 to 20mA
ERROR indication flickers "LLLL"
- In case of higher value than measuring input value.
Ex)In case of applying 22mA when measuring input range is selected as 4 to 20mA
ERROR indication flickers "HHHH"
- In case of damaging the memory chip by hige frequency noise, strong surge noise, ERROR indication flickers "Er-E".

*Clearance of ERROR

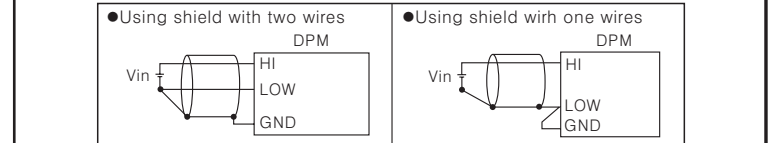
- "HHHH" and "LLLL" ERROR is to exceed measuring input range, therefore if measuring input value is applied within input range, ERROR message will be cleared automatically.
- "oVer" is indicated by mis-connection or in case of occurring something wrong in measuring input.
Please cut off the power and then check measuring input.
- "Er-E" is indicated when data programmed in memory chip is damaged. It is impossible to clear "Er-E" by end-user, therefore it must be repaired by our engineer.

Input chart

Input	Input voltage	Display
Voltage	DC0-2V	0-20
	DC1-5V	1-50
	DC0-10V	0-10
Current	DC0-1mA	1nA
	DC4-20mA	4-20

Caution for using

- Please use separated line from high voltage line or power line in order to avoid inductive noise.
- Please install power switch or circuit breaker in order to cut the power supply.
- The switch or circuit breaker should be installed near by users for safety.
- Be sure to avoid using this unit near by machinery makes strong high frequency noise.(Welding machine, high capacity SCR unit etc.)
- When input applied, if "1999" or "-1999" are displayed, it has some trouble with measuring input, please check the line after power off.
- Input line : Shield wire must be used when the measuring input line is getting longer or there are lots of noises.
- Please use insulated transformer for power supply.



*It may cause malfunction if above instructions are not followed.

Main products

- COUNTER
- TIMER
- TEMPERATURE CONTROLLER
- PANEL METER
- TACHOMETER
- LINE SPEED METER
- DISPLAY UNIT
- PROXIMITY SWITCH
- PHOTOELECTRIC SENSOR
- FIBER OPTIC SENSOR
- PRESSURE SENSOR
- ROTARY ENCODER
- SENSOR CONTROLLER
- POWER CONTROLLER
- STEPPING MOTOR & DRIVER & CONTROLLER

Autonics Corporation
http://www.autonics.net

■HEAD QUARTER :
41-5, Yongdang-Ri, Ungsang-Up, Yangsan-Shi, Kyung-Nam, Korea 626-847.

■TRADE DEPARTMENT :
511 Ansung B/D, 410-13, Shindolim-Dong, Kuro-Gu, Seoul, Korea 152-070
TEL:82-2-679-6585 / FAX:82-2-679-6556
E-mail : sales@autonics.net

NO20020604-EP-KE-04-0080C