

CONOTEC®

CONOTEC CO., LTD.

Digital Panel Meter
www.conotec.co.kr



- VOLT METER
- AMPERE METER
- TEMP. METER
- RPM METER
- SPEED METER
- POWER FACTOR METER
- FREQUENCY METER
- WATT METER

4. Performance

Input Signal	Instrumentation input signal of voltage or current, Option (DC 4~20mA, DC 1~5V)
Method of A/D conversion	duplex integral calculus system
Response time	2.5 ~ 3 / second
Speed of Response	about 3second (Max. Range)
The number of line for max.indication	3 1/2Line (1999)
Display	7segment LED , letter' s height= 14mm
Excess range of polarity indication	FM3 Series In opposite case of the input signal is indicated like "-" automatically. Excess +1999 Shortage -1999 FM2 Series ~HH When a measurement input value exceeds 110% of its maximum permissible input value ~LL When a measurement input value exceeds -10% of its minimum permissible input value

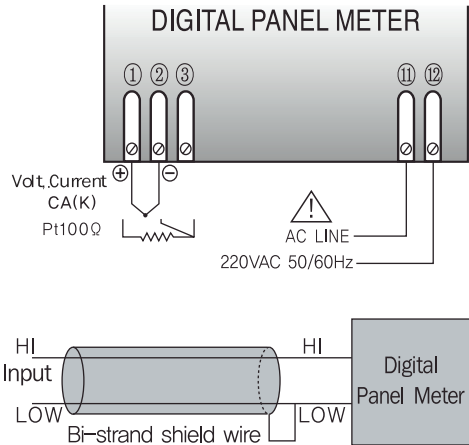
5. Regular

Supply voltage	220VAC ±10% 50/60Hz (110VAC, 24VDC, 12VDC option)
Consumption Power	below 1.5VA
Ambient temp.	0 ~ 50° C
Ambient humi.	35 ~ 85%RH
Storage ambient temp.	-10 ~ 70° C

6. Method of AC (alternating current) measurement

Nowadays gradually increased personal computer, which has a variable speed drive system, the short pulse current than a given value.
These devices are being introduced that occur on a daily basis, but caused by many cases on the measured average value was inaccurate when using the existing tester, so a root-mean-square value measurement method is needed.

7. Connection



- ①connection of the power supply.
Please connect the power supply with terminal No.1, 12.
- ②connection of the input
The AC input signal (alternating current voltage or current) connect with terminal No.2.
The direct-current input signal (direct-current voltage or current) connect (+) with terminal No.1 and connect (-) with terminal No.2
- ③Please make use of the shield wire as (drawing 1) in the following case, measurement input wire's lengthen or possible place where the noise's intermix.

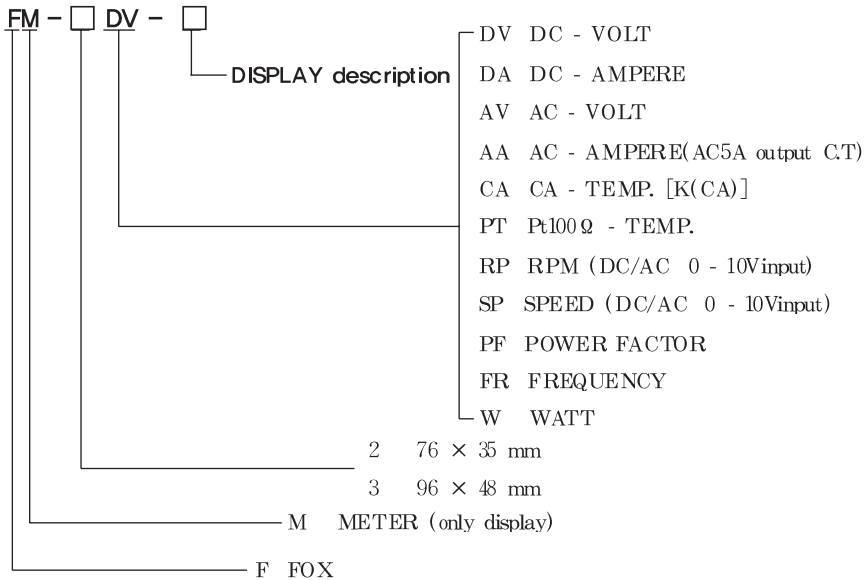
Digital Panel Meter

FM MANUAL

※Pls check if you want items, and use properly according to items as follow.

※Thank you for selecting our products.
Please read carefully this instruction to reduce any damages or operation mistakes.

1. NAME



2. INPUT description and Measurement range

FM2 Series

DC (V)	FM-2DV-3 FM-2DV-4	2000V 2000V	AC (V)	FM-2AV-5	600.0V	DC (A)	FM-2DA-1	2000A
AC (A)	FM-2AA-1 FM-2AA-2 FM-2AA-4	2000A, FM-2AA-50 2000A, FM-2AA-100 2000A, FM-2AA-300			5000A 1000A 3000A			

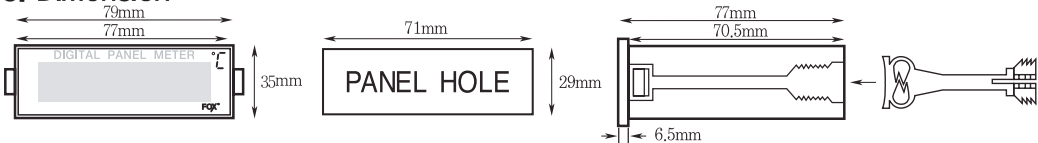
FM3 Series

	DC (V)	AC (V)	DC (A)	AC (A)	rpm, m/min	W	°C
1	199.9 mV	199.9 mV	19.99 A	19.99 A	1999	199.9 W	± 199.9 °C
2	1.999 V	1.999 V	1.99.9 A	1.99.9 A		1.999 K W	-50~400 °C
3	19.99 V	19.99 V	1.999 A	1.999 A		19.99 K W	0~1200 °C
4	199.9 V	199.9 V	1.999 A	1.999 A		199.9 K W	-200~400°C
5	300 V	550 V				1999 K W	
X	option						

3. Model per description

- DC VOLT METER : FM - □ DV - □
- DC AMPERE METER : FM - □ DA - □
- AC VOLT METER : FM - □ AV - □
- AC AMPERE METER : FM - □ AA - □
- RPM METER : FM - □ AA - □
- SPEED METER : FM - □ AA - □
- TEMP.METER(CA) : FM - □ CA - □
- TEMP.METER(Pt) : FM - □ PT - □
- WATT METER : FM - □ W - □
- HZ METER : FM - □ H - □
- Order made from othes. : FM - □ XX - □

8. Dimension



9. Safety and Hazard Instructions

⚠ Safety

Pls use this item after installing the duplex safety device in which is applied at dangerous factors such as serious human injury or serious damages of property & important machine because this item is not designed as safety device

⚠ Safety Instruction and Hazard Warnings

Please read the operating manual through completely before putting the device into operation.
We will not assume any responsibility for damage to assets or persons caused by improper handling or failure to observe the safety instructions or hazard warnings.
For safety and licensing reasons, unauthorized conversion and/or modification of the device is not permitted.
Do not exceed the maximum permissible current - in case of higher loads, use a contactor of adequate power. Make sure that the supplied voltage matches the values specified for the instrument.
The device must be adequately protected from water and dust as per the application and must be accessible via the use of appropriate tools
The device must not be exposed to extreme temperature, sunlight, strong vibrations or high levels of humidity.
Operation or installation is not permitted under unfavorable ambient conditions such as wetness or excessive induction loads or solenoid and dust, combustible gases, vapors or solvents, especially high-frequency noise
Avoid operation or installation close to high-frequency fields such as welding devices, sewing machines, wireless transmitter, radio systems, SCR controller, etc
Do not install the sensor cable nearby signal cable, power cable, load cable
Please use the shield cable when the sensor cable's lengthen, however do not make it too much longer
Please use the sensor cable without any cutting or flaw, blemish.
The device is not a toy and should be kept away from children
Installation work must only be carried out by suitably qualified personnel who are familiar with the hazards involved and with the relevant regulations.
You shouldn't tinker with anything or the product may not be opened or disassembled unless you know what you're doing. Please ask us about this questioning

⚠ Danger

Attention ! Never work on electrical connections when the machine is switched on

Error message

- E - ! Memory error. Turn the power off and turn it on again
If the error message persists, please request us A/S by return
- 0 - E Sensor error. The sensor is interrupted. Check the cable.
- 5 - E Sensor error. The sensor is short-circuited. Check the cable

※This device's specification can be changed without any notification to improve its quality

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※This device works proper operation with:
Surrounding Temp. : 0° C~60° C
Surrounding Humi. : below 80% RH
Regular power : 220VAC ±10% 50/60Hz