DS FOX®
Digital Temperature/Humidity Indicator
DAESUNG ENG
www.foxeng.co.kr

ISO 9001:2008

Operating Manual

FOX-M200   FOX-2PT-1   FOX-2CA-2

FM-5P,5C,5N   FOX-PM series   FOX-CM series

1 Caution

※ 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 damages of property & important machine because this item is not designed as safety device

⚠ Safety Instrruction and Hazard Warnings

● Please read the operating manual carefully 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 lengthened, 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

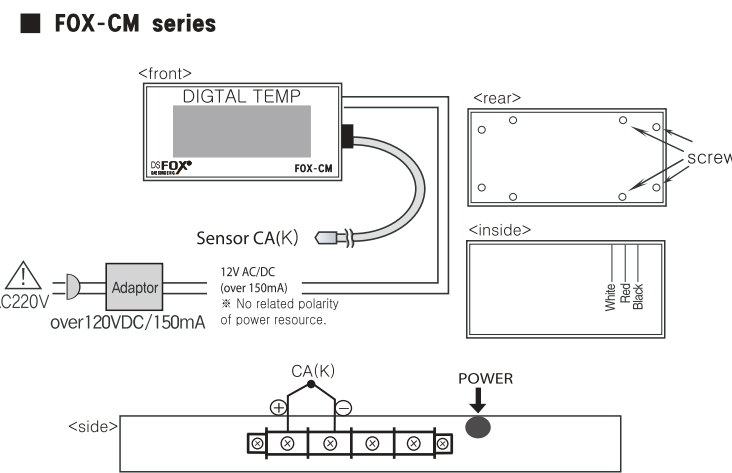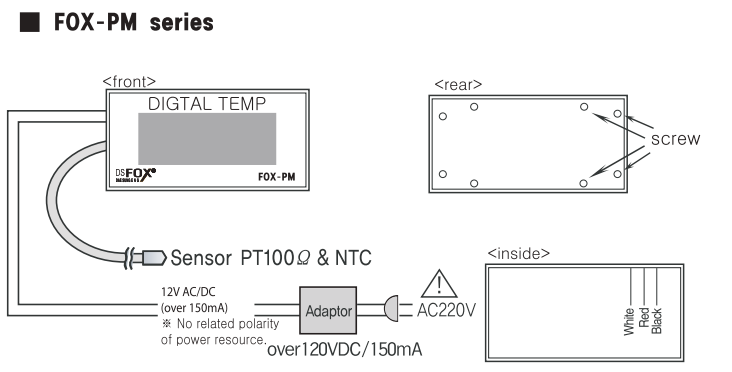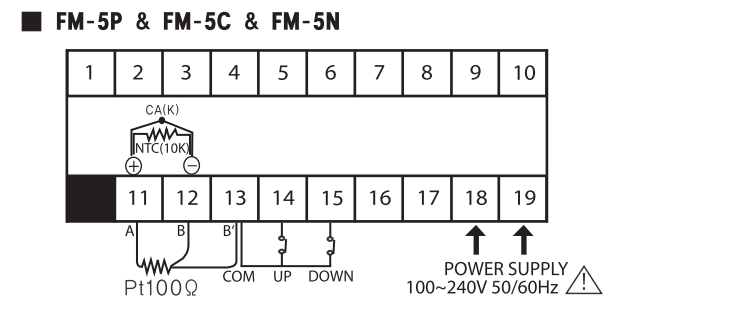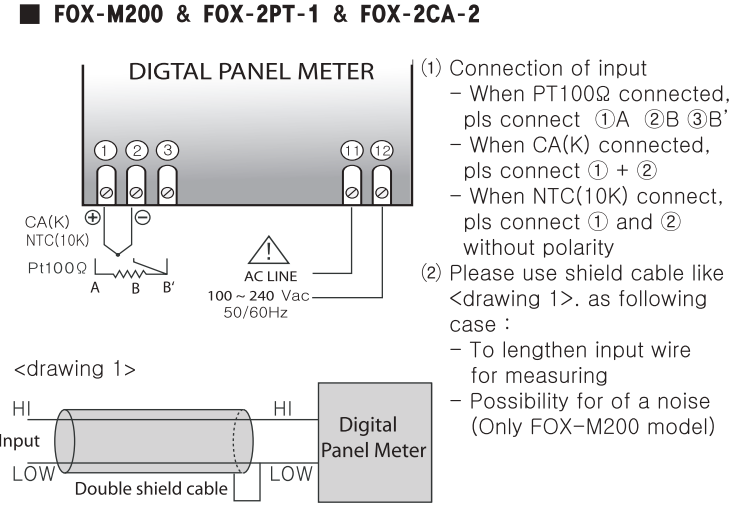■ Attention! Never work on electrical connections when the machine is switched on.

2 Digital Panel Meter

1. FOX-M200 & 2PT-1 & 2CA-2

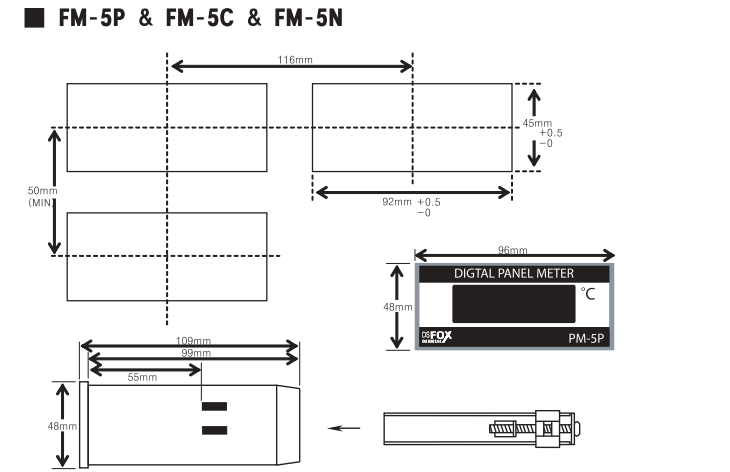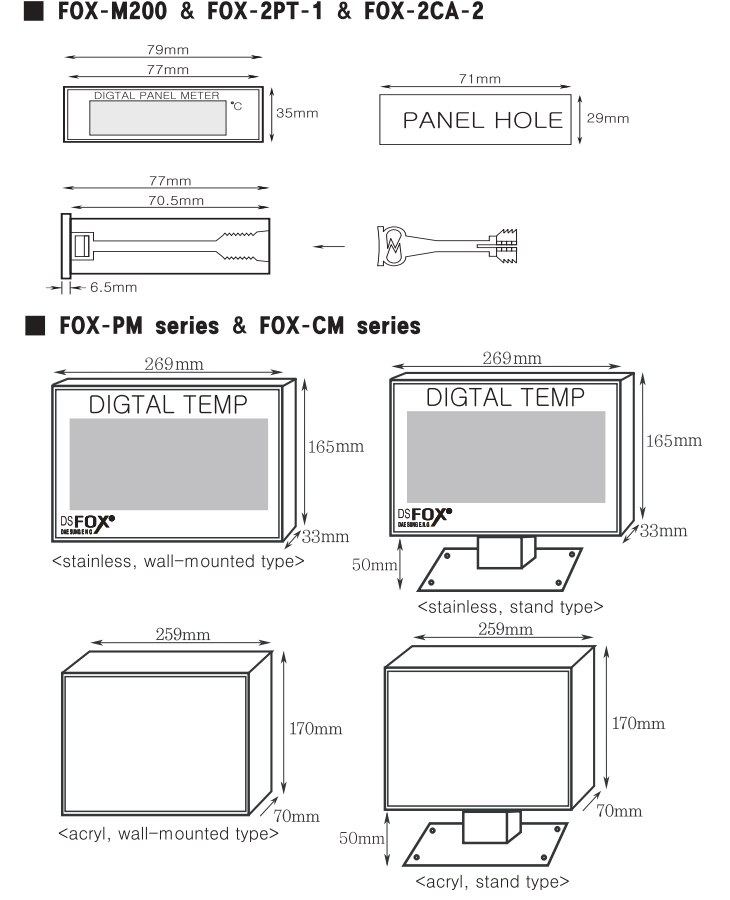| Model	FOX-M200	FOX-2PT-1	FOX-2CA-2
Sensor	NTC(10K)	PT100Ω	CA(K)
Temp.range	−55.0 ~ 99.9℃	−199.9 ~ 400℃	−50 ~ 1200℃
Power Supply	230VAC 50/60Hz	100~240 50/60Hz	
Power consumption	Maximum : 1.5VA		
Ambient Temp/Humi	0 ~ 55℃		
	35 ~ 80%RH		
Storage Temp.	−10 ~ 70℃		
Correction of Temp.	– If you take off the front cover and use of up/down key, you can use the correction function for temperature. (left key = up, right key = down) – Return at corrected temperature automatically after 5 seconds.		
Display height	12.4mm		
Size	72mm X 36mm		

2. FOX-PM series & CM series

Model	FOX-PM5000(T) FOX-PM5101(T) FOX-PM5102(T)	FOX-PM6000(T) FOX-PM6101(T) FOX-PM6102(T)	FOX-CM5000 FOX-CM5000T
Sensor	PT100Ω	NTC(10K)	CA(K)
Temp.range	−50 ~ 400℃	−55 ~ 99.9℃	0 ~ 1200℃
Waterproof	Waterproof		Non-waterproof
Power Supply	Please use the power supply only 12V AC/DC (electric current = over 150mA) If you use a special power supply, please use the adaptor. (When deliver = 12V DC) – Specification for Adaptor : 12V AC/DC output minimum electric current = 150mA – If the adaptor is not used, it may cause a fire or out of order. – When sensor wire lengthened(PM series) ⇒ Pls use the 3P cable. – When sensor wire lengthened(PM series) ⇒ Pls use the thermo couple cable. ※ If you use it over 85℃, you have to use a special sensor.		
Ambient Temp/Humi	0 ~ 70℃		
	35 ~ 100%RH		
Storage Temp.	−10 ~ 70℃		
Display height	56.8mm		
Correction of Temp.	After taking off the back panel, on the basis of white wire, Short-circuit white and red : rise by 1℃ white and black : reduce by 1℃ (However, PM 6000 series is rise/reduse by 0.5℃.)		
Maximum correctiom	±30℃	±10℃	±50℃
Material and Type	stainless	Wall-nounted	PM5000,PM6000,CM5000
		Stand type	PM5000T,PM6000T,CM5000T
	acryl, wall-mounted	one side	PM5101,PM6101
		both side	PM5102,PM6102
	acryl, stand type	one side	PM5101T,PM6101T
		both side	PM5102T,PM6102T

3. FM-5N & FM-5P & FM-5C

Model	FM-5N	FM-5P	FM-5C
Sensor	NTC(10K)	PT100Ω	CA(K)
Temp.range	−55.0 ~ 99.9℃	−199.9 ~ 400℃	−50 ~ 1200 ℃
Power Supply	100 ~ 240 VAC 50/60Hz		
Ambient Temp/Humi	0 ~ 55℃		
	35 ~ 80%RH		
Storage Temp.	−10 ~ 70℃		
Correction of Temp.	Rear terminal – UP Key : 13,14 – Down Key : 13,15		
Display height	20.3mm		
Size	96mm x 48mm		

3 Connection

■ FOX-M200 & FOX-2PT-1 & FOX-2CA-2

DIGTAL PANEL METER

CA(K) NTC(10K) Pt100Ω
A B B'

AC LINE
100 ~ 240 Vac
50/60Hz

(1) Connection of input
– When PT100Ω connected, pls connect ①A ②B ③B'
– When CA(K) connected, pls connect ① + ②
– When NTC(10K) connect, pls connect ① and ② without polarity
(2) Please use shield cable like <drawing 1>. as following case :
– To lengthen input wire for measuring
– Possibility for of a noise (Only FOX-M200 model)

<drawing 1>

HI — Input — LOW
Double shield cable
HI — LOW — Digital Panel Meter

■ FM-5P & FM-5C & FM-5N

1 2 3 4 5 6 7 8 9 10
CA(K) NTC(10K)
11 12 13 14 15 16 17 18 19
Pt100Ω A B B' COM UP DOWN
POWER SUPPLY 100~240V 50/60Hz

■ FOX-PM series

<front> DIGTAL TEMP FOX-PM
<rear> screw
Sensor PT100Ω & NTC
<inside> White Red Black
12V AC/DC (over 150mA) ※ No related polarity of power resource.
Adaptor — AC220V over120VDC/150mA

■ FOX-CM series

<front> DIGTAL TEMP FOX-CM
<rear> screw
<inside> White Red Black
Sensor CA(K)
AC220V — Adaptor — 12V AC/DC (over 150mA) ※ No related polarity of power resource. over120VDC/150mA
<side> CA(K) POWER

4 Dimension

■ FOX-M200 & FOX-2PT-1 & FOX-2CA-2

79mm / 77mm / 35mm
DIGTAL PANEL METER ℃
71mm / 29mm
PANEL HOLE
77mm / 70.5mm / 6.5mm

■ FOX-PM series & FOX-CM series

269mm
DIGTAL TEMP
165mm / 33mm
<stainless, wall-mounted type>

269mm
DIGTAL TEMP
165mm / 33mm / 50mm
<stainless, stand type>

259mm
170mm / 70mm
<acryl, wall-mounted type>

259mm
170mm / 50mm / 70mm
<acryl, stand type>

■ FM-5P & FM-5C & FM-5N

116mm / 45mm / 50mm(MIN) / 92mm +0.5 -0 / 96mm / 48mm
DIGITAL PANEL METER ℃ PM-5P
109mm / 99mm / 55mm / 48mm

5 Error message

● Erl : Memory error. Turn the power off and turn it on again. If the error message continued, please contact our A/S for safety.
● o-E : Sensor error. The sensor is interrupted. Check the cable.
● S-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