

Features:

- Various switchable pressure units.
- Non-polar Input: No need to differentiate the negative or positive input voltage sourcing lead.
- Built-in buzzer with sound-light alarm,field programmable alarm pressure value.
- Housing made of FR-ABS,satisfactory impact resistance and heat resistance etc.
- The Max.and Min.pressure range of discrete output can be set.



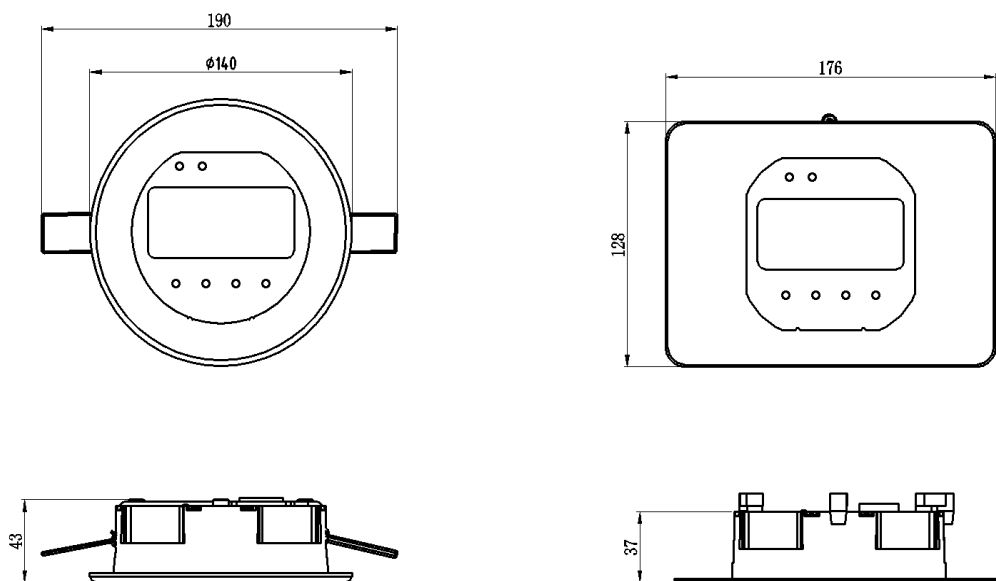
Description

LFM3 Series differential pressure gauge use imported high precision sensor and digitalization technology. They are easy installation, LCD display, clear and accurate reading, and can be applied to measure fan and blower pressures,filter resistance, air velocity, furnace draft,pressure drop across orifice plates and medical care equipment. This series have three optional discrete output versions (relay, NPN and PNP),can be flexibly applied to control the external equipments.

Specification

Measurement Range	0~±100Pa, 0~±1,000Pa, 0~±10,000Pa			
Accuracy	±1%F.S			
Measured Medium	Air and neutral gas			
Storage Temperature	-20°C~70°C			
Compensated Temperature	-10°C~60°C			
Protection Grade	IP54			
Output Signal	NPN Output	PNP Output	Relay Output	No Output
Power Supply	12~30VDC/ Built-in 9V Battery (6F22 Battery) (Only suitable for the series of no output)			
Consumption	≤0.75W			
Pressure Connection	Plastic concave interface			
Housing Material	ABS industrial plastics (UL94-V0)			
Certification	ROHS,EU CE			
Electromagnetic compatibility	Electromagnetic transmit: EN50081-1/-2; electromagnetic sensitivity: EN50082-2			
Lightning protection	Air conduction withstand voltage 8000V, shell and cable conduction withstand voltage 4000V (customized)			
Display mode	80*40mm LCD display			
Weight	328g (include battery)			

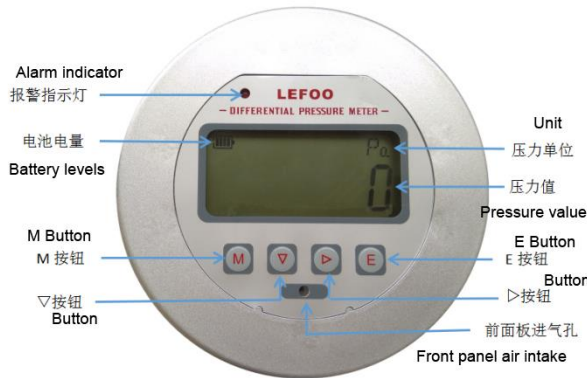
Dimension



Order Ref NO

Code and Description		Remark			
LFM30		Model			
6	-100~100pa	Measurement range			
0	-1000~1000Pa				
2	-10000~10000Pa				
W	No Output	Output Mode			
R	Relay Output				
N	NPN Output				
P	PNP Output				
P	Plastic panel (round)	Installation panel			
S	Stainless steel panel (square)				
F	Front panel air intake	Air intake method			
B	Rear panel air intake				
LFM30	0	B	P	B	Model election example

Detailed Interface

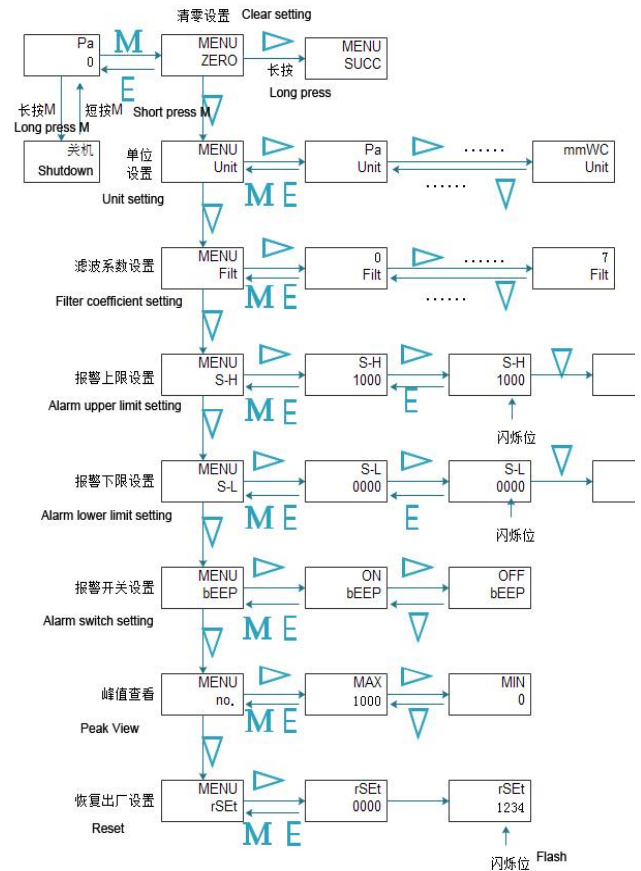


1. Display Function

The pressure value is displayed in the main interface mode, and the display unit can be switched to Pa, KPa, mBar, mmHG, inWC, mmWC. (The ± 100 Pa range model only has three units of Pa, mmWC and mBar to choose from)

2. Button operation instructions

	Main interface function	Main menu function	Sub-menu function
M	1. Short press to enter the main menu 2. Long press to enter shutdown 3. Short press to turn on when it is off	NO	"OK" button
▽	NO	Down button, main menu function selection	Increase in value
▷	NO	1. Short press to enter the corresponding sub-menu setting 2. Long press the reset setting in the ZERO directory	1. Decrease the value 2. Move the setting button
E	NO	Back to main interface	Return to the previous main menu



3. Menu introduction

(1) Main menu ZERO: (zero function)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ∇ key to select ZERO-MENU. Press and hold the key for 2 seconds to enter the manual zero pressure value. Keep the +/- pressure interface disconnected in a stable and static environment before performing zero reset operating. The pressure value should be cleared within the range of $-50 \sim 50$ Pa, otherwise it will fail.

(2) Main menu Unit: (Unit setting)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ∇ key to select Unit-MENU. Short press the \triangleright key to enter the pressure unit setting. Press the \triangleright key or ∇ key to switch the unit. Press the M key to save the current unit setting. Press the E key to return to the previous level menu.

The selectable units are as follows:

Pa KPa mBar
mmHG inWC mmWC

(3) Main menu Filt: (Filter coefficient setting)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ∇ key to select Filt-MENU. Short press the key to enter the damping filter coefficient setting. Press the \triangleright key or ∇ key to switch the filter coefficient. Press the M key to save the current filter Coefficient setting. Press the E key to return Up the menu.

(4) Main menu **S-H**: (Alarm upper limit setting)

When the pressure value is displayed on the main interface, press the M key to enter the main menu, press the ▽ key to select **SH-MENU**. Short press the ▷ key to enter the pressure upper limit setting, press the ▷ key to select the pressure value. The current digit LCD flashes. Press the current selection digit value to increase. Press M Key to save the current upper limit pressure value. Press E key to return to the previous menu. Note: The upper limit of pressure should be greater than the lower limit, it can be set correctly. Otherwise it will prompt an error and not save.

(5) Main menu **S-L**: (Alarm lower limit setting)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ▽ key to select **SL-MENU**. Short press the ▷ key to enter the pressure lower limit setting. Press the ▷ key to select the pressure value, the current digit LCD flashes. Press the ▽ key current selection digit value to increase. Press M Key to save the current upper limit pressure value. Press E key to return to the previous menu. Note: The upper limit of pressure should be greater than the lower limit, it can be set correctly. Otherwise it will prompt an error and not save.

(6) Main menu **bEEP**: (Alarm switch setting)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ▽ key to select **bEEP-MENU**. Short press the ▷ key to enter the alarm switch setting, press the ▷ key to select the alarm switch on or off. Press the M key to save the current alarm Switch status setting. Press E key to return to the previous menu.

(7) Main menu **no.**: (peak viewing mode)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ▽ key to select **no.-MENU**. Short press the ▷ key to enter the maximum pressure peak view mode. Press the ▷ key or ▽ key to select the Min. pressure value or the Max. pressure value. Press the E key to exit the pressure view Mode, return to the previous menu.

(8) Main menu **rSEt**: (restore factory settings)

When the pressure value is displayed on the main interface, press the M key to enter the main menu. Press the ▷ key to select **rSEt-MENU**. Short press the ▷ key to enter the password input mode. Press the ▷ key password value selection digit, the current digit LCD flashes. Press the ▽ key current selection digit value to increase. Press the M key to save the current Enter the password. The factory setting password is: 1234. If the input is correct, the factory settings will be restored. If the input is incorrect, the error code Err4 will be displayed. Press the E key to return to the previous menu.

4. System error flag:

Err1: Clear zero Failed.

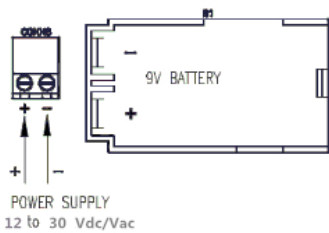
Err2: The upper limit setting failed (the upper limit must be greater than the lower limit)

Err3: The lower limit setting failed (the upper limit must be greater than the lower limit)

Err4: The restoring factory settings password is entered incorrectly

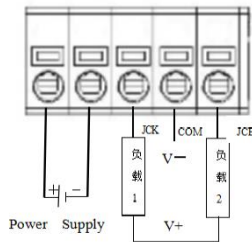
Err5: Pressure transmitter error

Electrical connection



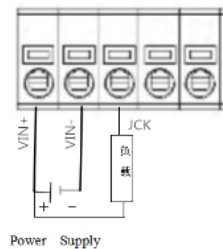
No Output

Remarks: 9V battery and external 12~30Vdc/Vac power supply. If the two power sources are connected at the same time, the battery is the backup power source.



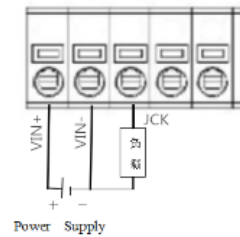
Relay Output

Remarks: as shown in Illustration, connect the power correctly. The maximum power of load 1 and load 2 is 3A 250VAC, 3A 30VDC. Can also connect to a load



NPN Output

Remarks: as shown in Illustration, the maximum load power is 0.3W, 30VDC; the power supply is 12-30VDC/VAC; The positive pole of the load is connected to the positive power supply, and the negative pole of the load is connected to the JCK terminal



PNP Output

Remarks: as shown in Illustration, correctly connect to the power supply, the maximum load power is 0.3W, 30VDC; the power supply is 12-30VDC/VAC; The positive pole of the load is connected to the JCK terminal, and the negative pole of the load is connected to the negative pole of the power supply

Dual power mode

1. Only 9V battery power supply mode: the battery power indicator in the upper left corner of the LCD display is divided into 4 segments. When the pressure is displayed on the main interface, no button is pressed, the display will turn off after three minutes and enter the power saving mode. Press the M key to turn on, the pressure value will be displayed.
2. External power supply mode: LCD display has no power indicator function. Pressure value is displayed in real time.
3. Simultaneous working mode of 9V battery and external power supply: In dual power supply mode, it is automatically converted to external power supply and the battery is the backup power supply.

Remarks: The dual power supply mode is only applicable to products without output.

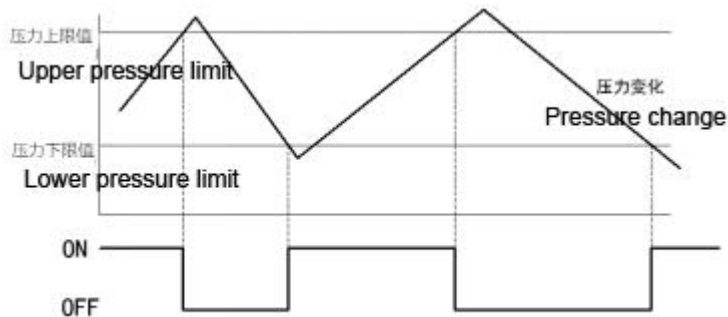
Sound and light alarm mode

In the setting to open the alarm mode ON-bEEP, the pressure value exceeds the upper limit or lower limit range, the indicator light flashes and the built-in buzzer emits a "di...di..." alarm sound. If the pressure value is within the upper limit or lower limit, the indicator light stops flashing and the built-in buzzer does not sound alarm. When the alarm mode is set to OFF-bEEP, the indicator light or buzzer has no action.

Remarks: Sound and LED alarms are applicable to external power supply mode. The LED alarms are only applicable to 9V battery power supply mode.

Switch output mode

By setting the upper limit and lower limit of the alarm pressure, the relay output type, NPN output type and PNP output type have the following load working modes.



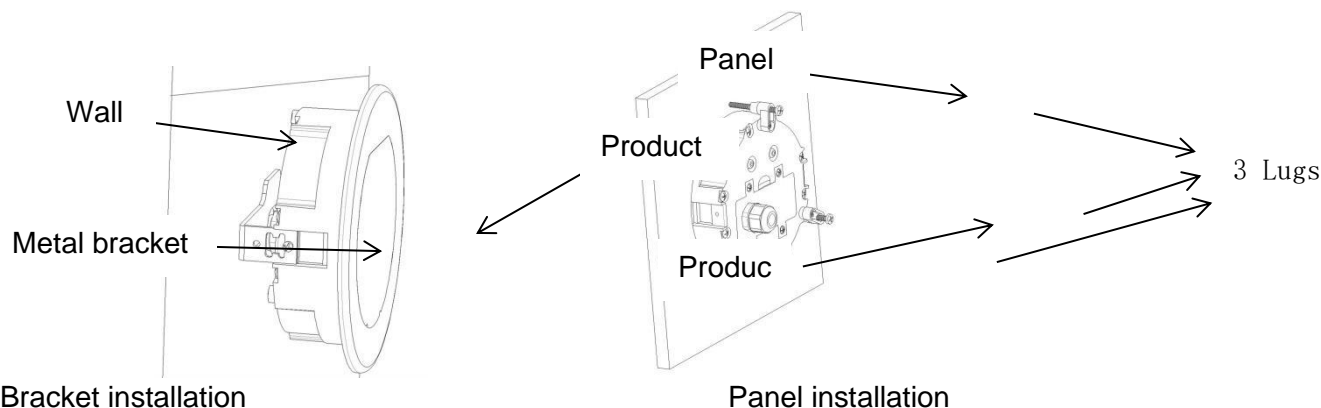
As shown in the figure: when the pressure value exceeds the set upper limit. The load equipment stops working until the pressure value is lower than the set lower limit. The load equipment restarts to work.

"ON" means that the relay output type or NPN output type or PNP output type is open output mode;

"OFF" means that the relay output type or NPN output type or PNP output type is the off output mode.

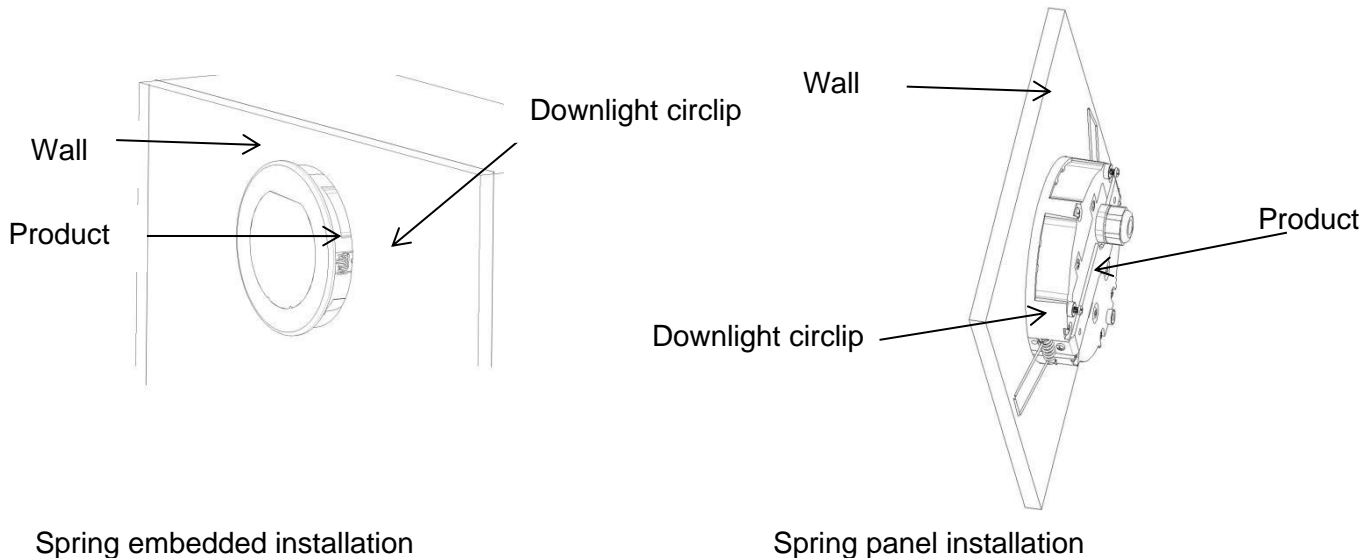
Note: Switch output mode is only applicable to switch output type products.

Installation method



- Bracket installation**
1. First, fix the metal bracket to the wall with self-tapping screws ST3.5x30. Finally use the self-tapping screws ST3.5x9 to fix the product to the metal bracket. The pressure port is reliably connected with the air duct, and pay attention to the difference between the high and low pressure ports.

- Panel installation**
2. Open a hole on the panel that needs to be mounted. The hole diameter is 120mm. Insert the product and install the lug on the back, and then fix it on the panel from the back with ST3.5x30 screws. The pressure port is reliably connected with the air duct, and pay attention to the difference between the high and low pressure ports.



3. Open a hole on the wall. The hole diameter is 120mm. Insert the downlight circlip and this product into the wall at the same time, so that the downlight circlip presses the wall to fix it. The pressure port is reliably connected with the air duct, and pay attention to the difference between the high and low pressure ports.

4. Open a hole on the panel, the diameter of the hole is 120mm. Turn the downlight circlip and press it into the panel to fix the product on the panel. The pressure port is reliably connected with the air duct, and pay attention to the difference between the high and low pressure ports.

Accessories

Air duct, metal bracket, plastic lug, self-tapping screw, downlight circlip, expansion tube

Common problems and solutions

1. The pressure display or output value does not change after pressurization (mostly displayed as 0 or FULL) or the change is inaccurate.

- ① Whether the loading pressure exceeds the burst pressure and directly breaks the pressure core;
- ② Whether the medium used is corrosive or differs from the medium used for the purchased product;
- ③ Check whether the intake hose is blocked by foreign matter (particulate matter or water column) or leaks;
- ④ Whether the use environment temperature exceeds the compensation temperature range;
- ⑤ Whether there is a error operation of clearing under pressure, if any, clearing again after confirming that there is no input pressure;

2. The zero pressure value has a slight drift.

- ① After the drift stabilizes, perform the reset operation.

3. Notices

- ① During the installation process, the power supply should be disconnected. Ensure that the battery polarity is completely correct or the power interface is not short-circuited, otherwise it will bring unpredictable consequences and even damage the product.
- ② Please use within the rated voltage range
- ③ Do not make the pressure exceed the withstand pressure value, otherwise it may damage the product and safety.