DPM-6 Sensor Special Meter

Operation Guide

Thanks for purchasing our DMP-6 series meter.Please do read the manual before use the meter so that you could make a full acknowledge of our product and operate it correctly. The edition of the manual is RE-C-050. We will not inform you especially if any modification made.

1 Meter function and characteristics

Function

It specialized in measurement, transmission for all series of sensor signals.In many industrial applications occasions, it needs to monitor the scene of various variables, such as temperature, humidity, pressure and flow. These parameters can be measured through various sensors, but can not show directly to the workers, making it impossible to monitor and record. And the meter is to make these instruments on the physical scene through filtering, amplification, internal operations, show, to provide visual monitoring data, but it can also plan various alarm output; can be sent to other equipments for the conduct of further data analysis, can be transmitted by 485 Communications, in order to make it connect with computer or man-machine interface.

Characteristics

1. 0.8 inch red LED display.
2. Universal input, such as T/C, RTD and DC voltage signals.
3. 4 alarms matching the largest group can be made into upper limit and lower alarms.
4. Can be equipped with two sets of isolated 4-20 mA measurements to transmit simultaneously output.
5. Selection of ModBus or RS-485 communication functions for connecting computers or man-machine interface.
6. Measurement accuracy: 0.2% FS; sampling period: 150ms; power consumption: below 5VA; Reaction time: RTD or T/C input 150ms; linear input signals 100ms.
7. The following green LED can choose display or not display measurement units.

2 Attention

⚠ Dangerous

1. Attention! Dangerous to sense!
2. Do not touch the power terminal after supply AC power, in order to avoid electric shocks.
3. When connect with Instrument power, please make sure to power off!

⚠ Admonition

1. Please make sure of terminal position is correct before AC power supply, in order to avoid of serious damage.
2. Please pre-determined power supply voltage and instrument specifications (AC85~265V or DC24V) correspond, in order to avoid of serious damage.
3. Please confirm receipt of proper use of wiring (Input, Output, Alarm) terminals.
4. Please select of proper pressure terminal with the type of M3 screws.
5. Please do not be installed under the conditions of easy to interfere, corrosive gases, high temperature and humidity.
6. To avoid other interference, please keep the power wires supplied distance from power wire and load wire.
7. When the input sensors is T/C, if necessary to extend the lead wire, Please use compensation wire according to the T/C.
8. When input the sensor is RTD, if we need to extend the lead wire, please use smaller impedance value, and the same wire.

3 Model identification

DPM-6 — 0 0 □ — □ — □ 0 — □ □

Item	Code
DIN Size: H48×W96mm	DPM-6

Alarm	Code
No	0
One alarm	1
2 alarm	2
3 alarm	3
4 alarm	4

Transmission	Code
No	0
DC4-20mA (1 Nos.)	1
DC4-20mA (2 Nos.)	2
Other linear signal	3

Input signal	Code
TC	1
Pt100	2
Cu50	3
DC4-20mA	4
Other linear signal	5

Communication	Code
No	0
RS-485	1
ModBus	2

Add-ons	Code
No	0
DC24V	1

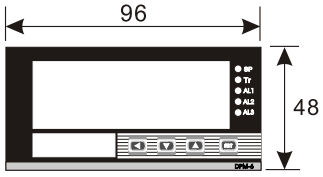
* NOTE:

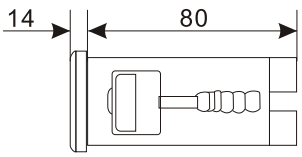
When transmission output, if select of two sets of isolated 4-20 mA , the instrument matching mostly two group of alarms output. It means four group of output at the same period.
The instrument support thermocouple types: K, J, R, S, B, E, T, N, and W1 (W325). W2 (W526).
When you need of other types of linear signals, such as 0-20mA, 1-5V, 0-50mV etc., please specify when ordering.
When you need the output signal of non-DC4-20mA signal transmission, please specify when ordering.

4 Dimension and panel cut out

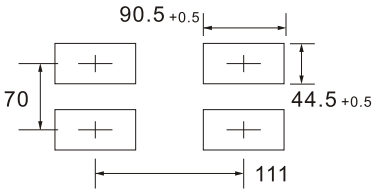
■ DPM-6

Appearance





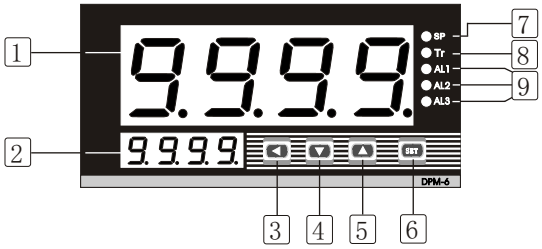
Dimensions



(unit: mm)

5 Operation instruction

■ DPM-6



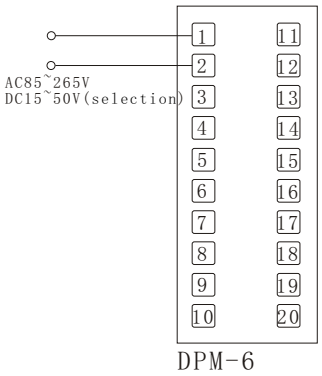
Item	Name	Function
1	PV/Parameter indicator	Display sense value / Parameter (0.8 inch Red LED indicator)
2	Unit/Parameter indicator	Display PV value/ Parameter (0.28 inch Red LED insicator)
3	Shift key	Move SV value digit (1digit ,2digit,3digit,4digit for a circle)
4	Down key	Reduce SV
5	Up key	Add SV
6	SET key	Set value , then press SET key to enter Shift display parameter, press Shift key
7	SP output indicator (Green LED indicator)	1.When the four th alarm output , the light will blink. 2. When ON/OFF cont rol output , the light will blink.
8	Tr output indicator (Green LED indicator)	Transmission output indicator
9	Alarm output (AL1/AL2/AL3)	When alarm output, response to indicator is blinking.

2 Unit index table

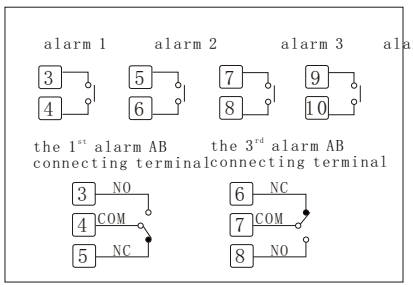
Unit	Symbol	Unit	Symbol	Unit	Symbol
℃	C	PSI	PSI	%RH	%rH
℉	F	Kg	KG	M^3/h	M3H
MPa	MPA	mmH_2O	mmH2O	M^3/m	M3M
Pa	PA	mmHg	mmHG	No indicate	0

6 Connecting

A. power supply

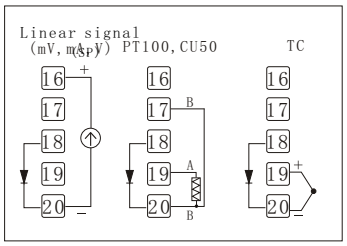


B. alarm output

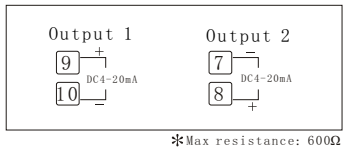


*Relay contact capacity: 220V 3A

C. input signal

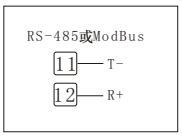


D. transmission output

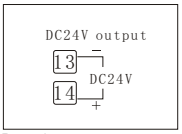


*Max resistance: 600Ω

E. communication



F. add-ons power output



*Transistor output capacity: 50mA

7 Operation instruction

1,Start up after power supply, operate as following:

LED and indicator will blink | Indicate input signal types (k) | Indicate upper and lower limitation scope (0.0-400.0) | Start to use : upper is PV, lower indicate PV unit or not indicate.

2,Set up SP

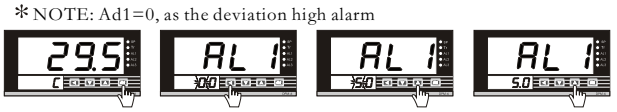
For instance: SP=200, operate steps as following:

Press SET key several times to find menu SP | Press shift key, enter into the 4th digit | Press Upper key, add up to 200.0 | Press SET key enter into SP

3,Set up alarm mode AL1(same procedure for others)

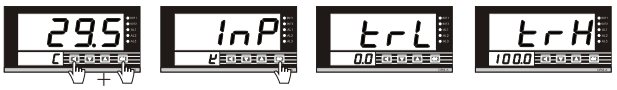
For instance: when PV is over SP 5, AL1 will alarm.

* NOTE: Ad1=0, as the deviation high alarm



Press SET key several times to find menu AL1 | Press shift key enter into the 2nd digit | Press upper key to add the deviation alarm value | Press SET key enter into alarm SV

4, Set up transmission flow



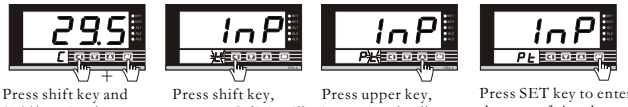
Press shift key and SET key simultaneously enter into LEVEL3 flow | Press SET key move into TRL and TRH | Set up transmission volume, lower limitation 0.0 in TRL | Set up transmission volume, upper limitation 100.0 in TRH

Note:
1,When PV is "0.0", the instrument transmission output is 4mA.If PV as "100.0", the instrument transmission output is "100.0", response to 20mA output transmission, and for the "50.0", Output response to 12mA.

2,If you purchase the instrument for two-way transmission output, please make sure of using the same size in the two output signals. But, both electrical signals must be completely isolated.

5, Selecting types of input sensor

For instance: input signal t/c (k) change into RTD Pt100 signal



Press shift key and SET key simultaneously enter LEVEL 3 | Press shift key, menu INP digit will start to blink | Press upper key, input signal will change into Pt | Press SET key to enter the type of signal

* NOTE: when you change the type of signal, response to adjust the terminal wire.

8 Index table

Signal type index

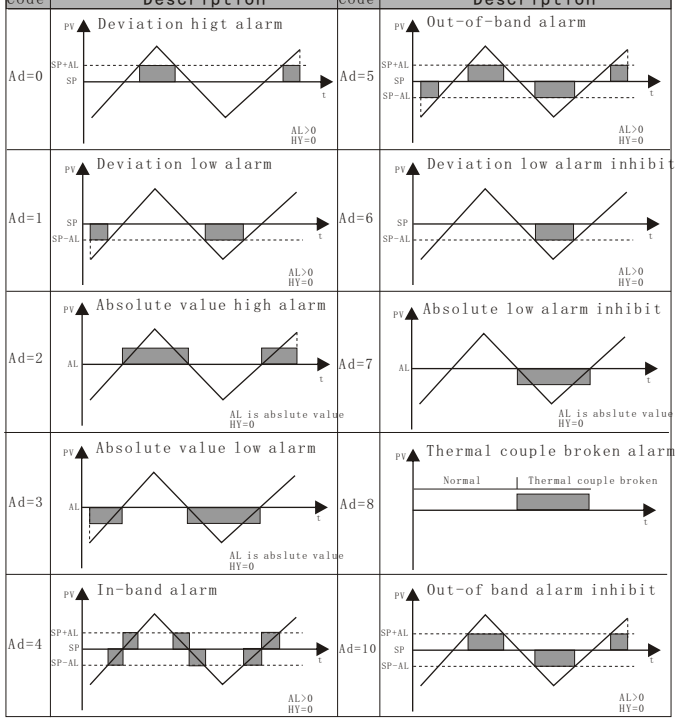
Type	Code		Scope
TC	K	𝑘	0～1370 ℃ / 0～2192 F°
	J	𝐽	0～1200 ℃ / 0～2192 F°
	E	𝐸	0～1000 ℃ / 0～1832 F°
	T	𝑡	0～600 ℃ / 0～999 F°
	R	𝑟	0～1760 ℃ / 0～3216 F°
	S	𝑆	0～1760 ℃ / 0～3216 F°
	B	𝑏	0～1820 ℃ / 0～3308 F°
	N	𝑛	0～1200 ℃ / 0～2192 F°
	W1	𝑢1	0～2320 ℃ / 0～4208 F°
	W2	𝑢2	0～2320 ℃ / 0～4208 F°
RTD	Pt100	𝑃𝑡	-199.9 ～600℃ / -199.9～999 F°
	Cu50	𝐶𝑢	-199.9 ～600℃ / -199.9～999 F°
Linear signal	LN	𝐿𝑛	Linear signal:4~20 mA,1~5V,0~5V 0~50mV,0~1V...

Error code index

Code	Description	Possible cause
uuu1	Input signal higher than USP	Check input signal Input signal out-of-range No input signal
-000	Input signal lower than LSP	Check input signal Input signal out-of-range No input signal
CJCE	Cold junction compensation failure	CJC diode broken CJC diode poor contact
uuuu	Broken thermal couple	Thermal couple broken
uuu2	Polar thermal connect incorrectly	Check connection

Alarm mode index

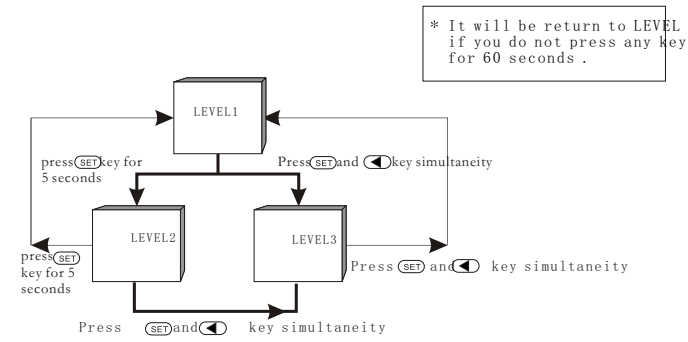
Code	Description	Code	Description
Ad=0	Deviation higt alarm	Ad=5	Out-of-band alarm
Ad=1	Deviation low alarm	Ad=6	Deviation low alarm inhibit
Ad=2	Absolute value high alarm	Ad=7	Absolute low alarm inhibit
Ad=3	Absolute value low alarm	Ad=8	Thermal couple broken alarm
Ad=4	In-band alarm	Ad=10	Out-of band alarm inhibit



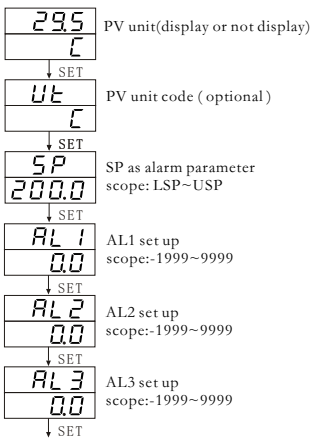
* Note: three independent alarm, the mode for each alarm as Ad1, Ad2, Ad3; Response to alarm value as AL1,AL2,AL3;Response to alarm hystersis as Hy1,Hy2,Hy3.

9 Manipulation

There are 3 steps to operate, refer to set up and adjust description as following:

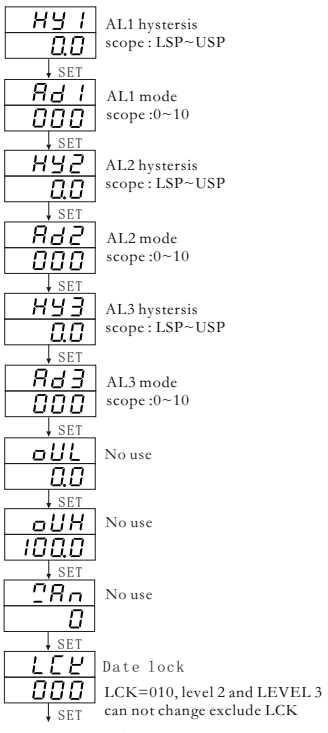


LEVEL1



Press shift key, then press upper key , it will indicate:
℃ —F—MPa—Pa—PSI—Kg—mmH 0—mmHg— %RH—M /h—M /㎡—0

LEVEL2



LEVEL3