

HD-5000 バーグラフメーターリレー 4桁デジタル表示付き



警報接点2点または
4点付き
101ドットバーグラフLED
電源はAC85~264Vと
DC24Vの2タイプ
サイズ:144mm×36mm×170mm

特徴

- ◆ 16bit ADコンバーター
- ◆ 警報接点2点または4点付き
- ◆ オプション: RS485、アナログ出力

型式の構成

MODEL HD-5000 -

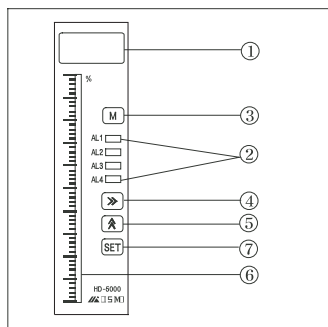
入力仕様
mA, mV, V
T/C(K,R,E,J,T type)
PT 100Ω (DIN), JPT 100Ω (JIS)

警報
1. 2 ALARM
2. 4 ALARM

電源
1. AC 85 ~ 264V
2. DC 24V (OPTION)

オプション
0. NONE
1. 4 ~ 20mA or 1 ~ 5V(OUTPUT)
2. RS 485

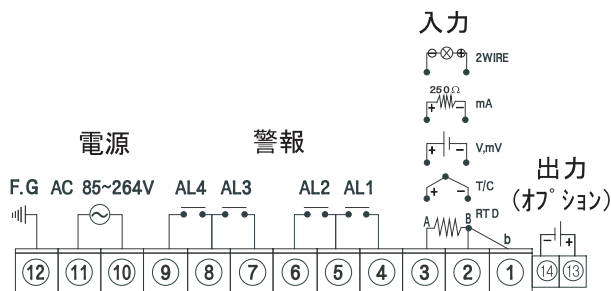
設定および表示



- ① デジタル表示
- ② 警報表示
- ③ [M] モード切替キー
- ④ [>] Shiftキー
- ⑤ [▲] 階層切替キー
- ⑥ バーグラフ表示

⑦ [SET] SETキー

結線

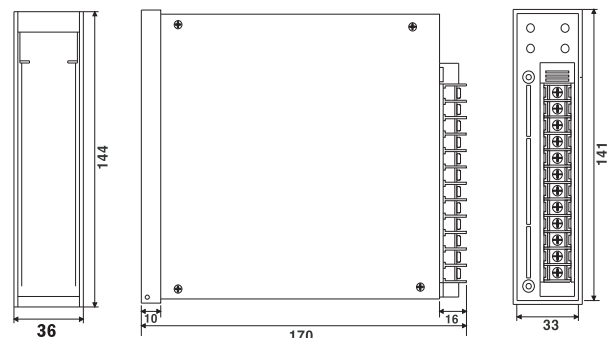


仕様

仕様値		
入力	mA	DC 0 ~ 20mA
	mV	DC (-)50 ~ 50mV
	V	DC (-)10 ~ 10V
	T/C	K, R, E, J, T type
	PT 100Ω	DIN, JIS
スケーリング	mA, mV, V	-1999 ~ 9999 (FREE SCALE)
	PT 100Ω	-200.0 ~ 800.0℃
	T/C-K	-200 ~ 1350℃
	T/C-R	0 ~ 1750℃
	T/C-E	-200.0 ~ 700.0℃
	T/C-J	-200.0 ~ 700.0℃
	T/C-T	-200.0 ~ 400.0℃
表示	DIGIT :4DIGIT (RED color)/0.3inch BAR : 101dot (GREEN color)	
精度	High value of ±0.2% Full Scale	
測定周期	mA,mV,V	200mS
	T/C, RTD	400mS
入力負荷抵抗	VOLT	400kΩ
	mA	250Ω/±0.1 25ppm
	OTHER	1MΩ or More
MAXIMUM SIGNAL RESISTANCE	VOLT	300Ω or Less/Line
	OTHER	1kΩ or Less/Line
RTD MAXIMUM LEAD RESISTANCE	30Ω or Less/Line	
SENSOR POWER	DC 24V/30mA ±0.5%	
CMRR	140dB or More	
NMRR	50dB or More	
PEAK-HOLD FUNCTION	HOLDING SAMPLE RATE 10times/sec DIGITAL DISPLAY : Max. value display	
ALARM OUTPUT	ALARM OUTPUT STATUS	Normal open
	Max, switching power	750 VA, 90W
	Max, switching voltage	250V AC, 110V DC
	Max, switching current	5A
	Max, switching capacity	3A DC, AC
POWER SUPPLY	5VA AC 85~264V(50/60Hz) DC 24V ±6V (OPTION)	
INSULATION RESISTANCE	FG-INPUT	100MΩ or More(500V AC)
	FG-POWER	100MΩ or More(500V AC)
	POWER-INPUT	100MΩ or More(500V AC)
AMBIENT TEMPER HUMIDITY	OPERATION -10~60℃ / 10~90%	
WEIGHT	APPROX. 370g	
HOUSING MATERIAL	ABS plastic(black)	
DIMENSION	144(H) × 36(W) × 170(D)mm	
INSTALLATION	PANEL MOUNTING TYPE	

外形寸法およびパネルカット

- ◆ FRONT VIEW
- ◆ SIDE VIEW
- ◆ PANEL CUTTING



7. Main function

① INPUT SIGNAL SEnS

INPUT(SENSOR)	RANGE	SCALE	DISPLAY
T/C	K(CA)	-200 ~ 1350℃	ℰ[-ℰ]
	R(PR13%)	0 ~ 1750℃	ℰ[-r]
	E(CRC)	-200.0 ~ 700.0℃	ℰ[-E]
	J(IC)	-200.0 ~ 800.0℃	ℰ[-J]
	T(CC)	-200.0 ~ 400.0℃	ℰ[-t]
VOLT	mV	-50 ~ 50mV DC	ñu
	V	-10 ~ 10V DC	u
mA	mA	0 ~ 20mA DC	ñA
RTD	Pt100Ω	-200.0 ~ 800.0℃	Pt
	JPt100Ω	-200.0 ~ 500.0℃	JPt

② FUNCTION (In case of input signal ; mV, V, mA)

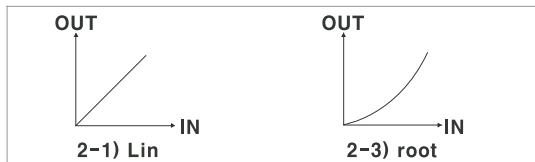
※ See FUN code of setting mode.

2-1) LINEAR Lin

Display input signal value without additional calculation. For linear input signal use.

2-2) ROOT r00t

To get root value using orifice. For flow controlling use.



2-3) LIMIT LniE

If you set this mode, the instrument will display "0" in no input signal or insufficient input signal.

Ex SENSOR(INPUT) : DC 4~20mA
 Input signal 3mA : DISPLAY "0"
 No input signal : DISPLAY "0"

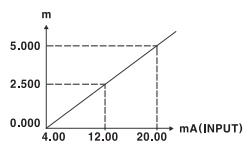
③ Display scaling function
 (In case of input signal ; mV, V, mA)

※ See 5, 6 of setting mode.

This mode is to set the display scale of input range.

Ex Input range : DC 4~20mA

- Sensor type : mA
- High range : 20.00 r-HI
- Low range : 4.00 r-LO
- High scale : 5.000 S-HI
- Low scale : 0.000 S-LO



④ Bar graph display setting (see 7, 8 of setting mode)

If input signal scale is same with bar graph scale, it would be optimized.

It means pull bar display in PV value "100.0" and, zero bar display in PV value "0.0".

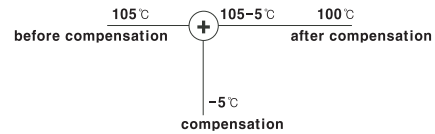
Ex High scale setting: 100.0 S-HI
 Low scale setting : 0.0 S-LO
 Bar High scale setting: 100.0 b-HI
 Bar Low scale setting : 0.0 b-LO

⑤ Sensor compensation function

※ See 7 SAdd code of setting mode.

This function is to compensate sensor's error. In case that a sensor's zero point is not correct, you can set (+) or (-) adjustment figure to compensate the difference. In Vacuum function, it'll operate in trim function.

Ex Actual measured value : 100℃
 Display value before compensation : 105℃
 Sensor compensation value setting : -5℃
 Sensor compensation : Measured(105)-compensation(5)
 Display value after compensation : 100℃



⑥ PEAK & HOLD FUNCTION

※ See 8 PEHd code of setting mode.

This instrument can memorize maximum value of input scale and display the maximum value when pressing mode key. Or, the peak value can be displayed continuously.

5-1) HIGH PEAK MODE 0

The memorized peak input value(scale) will be displayed when pressing shift key on 7 PEAR of operating mode.

5-2) LOW PEAK MODE 1

The memorized minimum input value(scale) will be displayed when pressing shift key on 7 PEAR of operating mode.

5-3) HIGH PEAK and DISPLAY MODE 2

In this mode, the instrument displays the memorized peak input value(scale) and output the peak value always.

5-4) LOW PEAK and DISPLAY MODE 3

In this mode, the instrument displays the memorized minimum input value(scale) and output the minimum input value always.

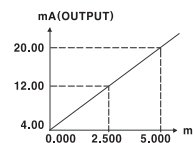
⑦ Output scaling function (OPTION)

※ See 14, 15 code of setting mode.

In this function, 4~20mA output value can be set according to output scale.

Ex The display setting value is 0.000~5.000m in 4~20mA output.

- High scale : 5.000 S-HI
- Low scale : 0.000 S-LO
- High out scale : 5.000 O-HI
- Low out scale : 0.000 O-LO



⑧ Communication protocol (OPTION)

The remote control and monitoring by RS485 communication with computer.

Communication speed : 19200bps

Communication address : 0 ~ 99

※ See 16 Addr code of setting mode.

For the details of the technical data, see the separate communication manual.

8. SETTING MODE

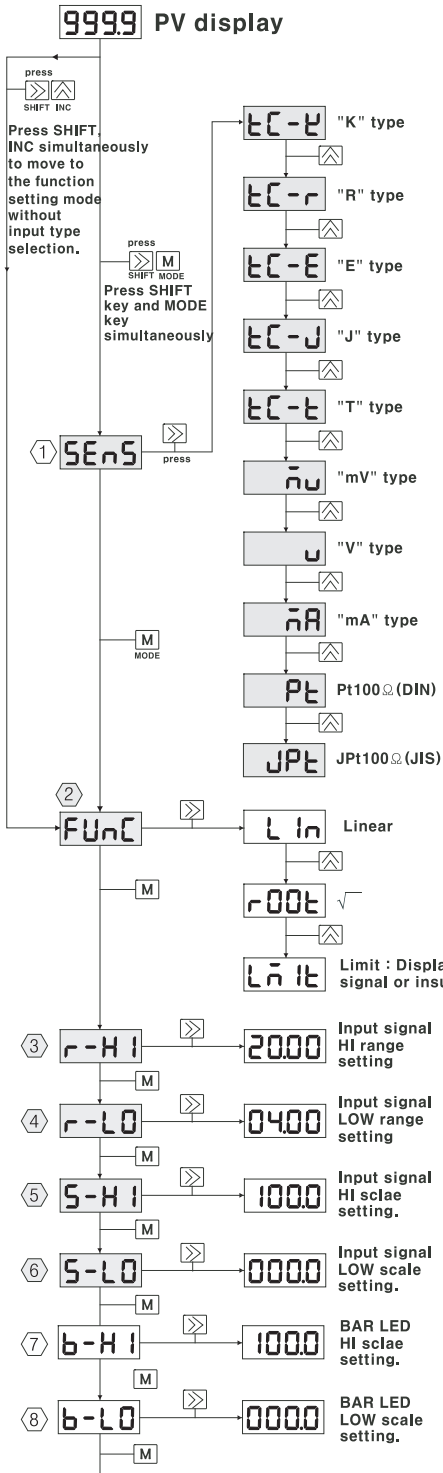
In this setting mode, you can set function and figure according to each usage.

◆ Data setting : press **SHIFT** key => move position and flash to change figure. **INC** key => change figure. Whenever press, 0,1,2,3,4,5 ...9 continuously.

◆ If you get out of setting mode during any setting mode, press **SET** key. Then, return to PV normal measuring mode.

If you press **MODE** key, you will meet the following setting mode from ① ~ ⑱ orderly.

◆ If you finish setting, you must press **SET** key. If not, the instrument will flash continuously and stay in setting mode.

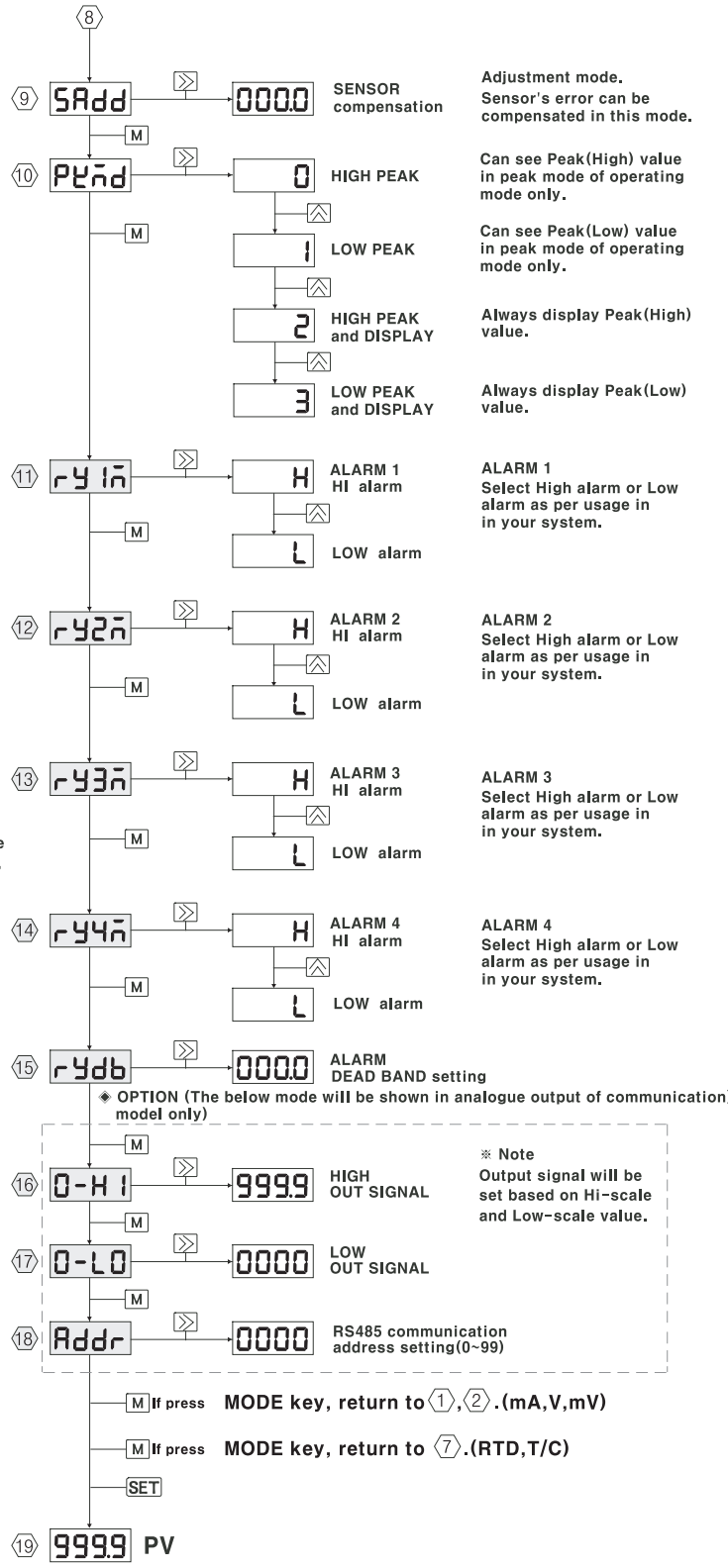


- ◆ Press **MODE** key during pressing **SHIFT** key to move to "input type selection mode."
- ◆ Use **INC** key to see the sensor type. Press **MODE** key to select it and move to the next setting mode.
- * If you press **SET** key instead of **MODE** key, the instrument memorize the selected input sensor type then, return to PV normal display mode.
- ◆ In order to check the max display range of each sensor, see (1) of "7.Main function"

* (2),(3),(4),(5),(6) will be shown in case that the input sensor type is mA, mV or V. See "7.Main function" section for more details.

Defaults are as follows. Set the value according to each usage in the field.
 mV => 00.00 ~ 50.00
 V => 1.000 ~ 5.000
 mA => 04.00 ~ 20.00

* Note that decimal point position can be set in input signal Hi scale.
 * This mode is to set Bar display. sclae. In order to set Bar display same with this instrument's indicating value, set same with ⑤,⑥.



Adjustment mode. Sensor's error can be compensated in this mode.

Can see Peak(High) value in peak mode of operating mode only.

Can see Peak(Low) value in peak mode of operating mode only.

Always display Peak(High) value.

Always display Peak(Low) value.

ALARM 1 Select High alarm or Low alarm as per usage in your system.

ALARM 2 Select High alarm or Low alarm as per usage in your system.

ALARM 3 Select High alarm or Low alarm as per usage in your system.

ALARM 4 Select High alarm or Low alarm as per usage in your system.

* OPTION (The below mode will be shown in analogue output of communication model only)

* Note Output signal will be set based on Hi-scale and Low-scale value.

If you press **MODE** key after setting, the setting value will be stored and move to the next setting mode. If press **SET** key, the setting value will be stored and return to PV normal display mode.

To select "-" mark : If you press **SHIFT** key, the figure position will move and flash orderly. If you press **SHIFT** key five times, "." will flash. And, if you press again, there will be no mark. At that time, press **INC** key then, "-" mark will flash.

Data setting : Press **SHIFT** key => move position and flash to change figure. **INC** key => change figure. Whenever press, 0,1,2,3...9 continuously.

To move decimal point position : If you press **SHIFT** key, the figure position will move and flash orderly. If you press **SHIFT** key five times, "." will flash. At that time, you can select decimal point position by using **INC** key.

Move to ⑨ on the right side.

9. Operating mode

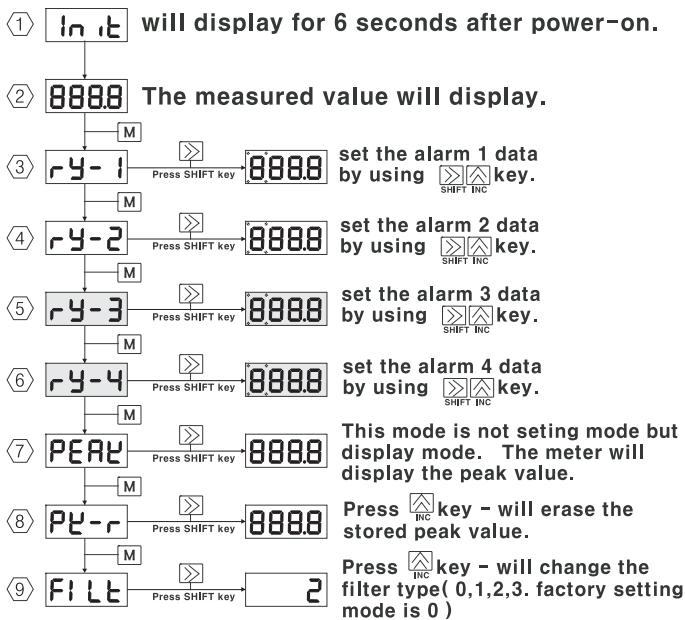
※ Before power-on, check the terminal connection.

To change a setting value, press **SHIFT** key then, flash the active digit.

INC key will change the digits.

To return to the normal display mode during any setting mode, press **SET** key.

Press **SHIFT** key - this will display the setting modes from ③ ~ ⑧ as follows.



In two alarm instrument, ⑤, ⑥ will not come out. Alarm mode (High and low alarm) will operate according to the setting value.

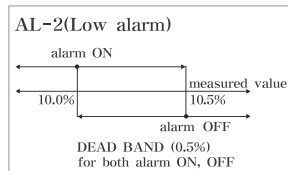
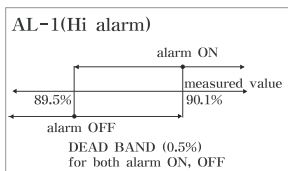
◆ Alarm function

Each alarm can be programmed (whether 2 alarm or 4 alarm) and, each relay alarm will operate in each point.

Ex Alarm 1 : set HI, 90.0%
Alarm 2 : set LOW, 10.0%
Alarm Dead Band : set 0.5%

Alarm 1(HI) will be on in over 90.1% of the measuring value and will be off in 89.5% and below.

Alarm 2(LOW) will be on in 10.0% and below and, will be off in over 10.5%.



◆ Filter function

Average filtering, 4 mode.

- (1) 0 : Display the measured value without filter.
- (2) 1 : Display average value from 4 samplings.
- (2) 2 : Display average value from 8 samplings.
- (2) 3 : Display average value from 16 samplings.

This filter function may cause the delay of response speed.

Use this function in case of need.

10. Safety

Before using this instrument, read this Safety section carefully and operate it correctly.

There are two marks ; 'Warning' and 'Caution'

Warning	There is a possibility that the user may be dead or receives a serious wound in wrong operation.
Caution	There is a possibility that the user may get wounded or get loss of property in wrong operation.

Warning

- (1) In wire-connection
 - a. In case that the accident of disorder of this instrument may cause a serious accident or trouble, install an extra protection circuit or equipments to prevent the accident.
 - b. This instrument doesn't have power switch and fuse so, install it in a separate way (Fuse rating ; 250V 0.5A)
- (2) Power
 - a. In order to prevent the disorder and trouble of this instrument, supply the rated power accordingly.
 - b. In order to prevent an electric shock and the disorder of this instrument, do not supply power before the perfect wiring.
- (3) Gas.
 - :This instrument is not a explosion-free. Do not use or operate in the place which has flammable gas or blasting material.
- (4) Contact
 - a. Do not disassemble, do not change for the better and, do not repair this instrument. There is a possibility of disorder, fire or, other accident.
 - b. Do not touch or contact the terminal parts in applying an electric current. This may cause a wrong operation.
- (5) Keep and repair
 - a. Make sure 'power-off' when installing or uninstalling this instrument. If not, this may cause an electric shock or wrong operation.
 - b. In order to use this instrument long and in safety, we recommend the user to check this instrument regularly. Some parts of this instrument have life span.
 - c. Warrantee (including all parts of this instrument) : 1year in normal circumstance use.

CAUTION

- (1) General caution in handing.
 - a. The place that the room temperature is in excess of 0~50℃.
 - b. The place that the humidity is in excess of 20~90%RH.
 - c. The place that is easy to get dew condensation.
 - d. The place around corrosion gas (esp. coal gas, ammonium sulfide, etc.), flammable gas.
 - e. The place which has a heavy vibration of shock.
 - f. Around water, oil, medicine, or steam.
 - g. Around dust, salt, or iron content.
 - h. Around magnetic material, or magnet noise.
 - i. In place of a direct ray of light(sun).
 - j. The place which is easy to be radiated or heat-accumulated.

お問合せ

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