Microjet Recorder-E PHE

Inkjet technology, previously available only on expensive printers, is now available on a strip chart recorder at an affordable price, a price that falls below the cost of some dot matrix type printers. If you note the comparison between the dot matrix and inkjet typeface, there simply is no reason to use a dot matrix type recorder anymore.

This recorder has basically 2 models, user programmable model and factory configuration model.

Factory can pre-configure recorder parameters with customer supplied information prior to shipment, reducing the users' total installation cost and time.

In case of 1 or 2 continuous recording, 2-color type Ink cartridge (PHZH2002) is also available.

Since its life-span became longer than before, you can cut the running-cost in 1/4-1/2.

Real time clock (calendar) function is available with standard specification.

Specification Summary

Model		PHE1	PHE2	PHE7, 8, 9
Chart width/length		100mm/15m		
No. of input channel		1	2	6
Signal type		TC (J, K, E, R, B, S, T, L, U, W, PN, N), RTD, DC V ($\pm$ 50mV, $\pm$ 500mV, $\pm$ 5V, $\pm$ 50V DC), DC mA		
Input/Recording range		User programmable or factory configuration		
Measuring cycle		200ms/point		30s/all point with input scanning relay
Accuracy	Display Accuracy	($\pm$ 0.3% 1 digit) of measuring range (DC voltage, DC current input)		
	Analog trace Accuracy	Display accuracy $\pm$ 0.2% of measuring range		
Display		LED (7 segments x 6 digits)		
Chart speed		10/20/24/30/50/120/200/300/400 mm/h		10/20/24/30/50/120/200/300/ 400/1000/1200/1500 mm/h
Recording cycle		Recording cycle (sec.) $= \dfrac{400}{\text{Chart speed (mm/h)}}$ Recording cycle is more than 2 seconds.		30s/all point
Printing function	During analog recording	Channel No., Periodic data, Scale, Alarm, Burnout, Date and Time		
	Independent of analog recording	Instantaneous value list, Parameter list, Scale list, Test Pattern		
	Other	Recording start mark, Chart speed change mark		
Alarm		L/LL, H/L, H/HH		
Option	Alarm output	2 relay output	4 relay output	6 relay output
	Remote control	Chart speed change		
Power supply		100-120V AC or 200-240V AC		
Environmental		Temperature: 0 to 50°C IEC IP50 Humidity: 20 to 80%RH (Temp. (°C) x Humi. (%RH) < 3200)		
Mass {weight} Approx.		1.2kg (without option)	1.2kg (without option)	1.5kg (without option)

Code Symbols

User programmable model

```
1 2 3 4 5 6 7 8 - 9 10 11 12 13
P H E    0 0  2 - V V   E V
```

	Description
	Recording points
1	1 continuous recording
2	2 continuous recording
9	6 intermittent recording
	Power Supply Temperature Unit
1	100 to 120V AC 50/60Hz ˚C
2	200 to 240V AC 50/60Hz ˚C
3	100 to 120V AC 50/60Hz ˚F
4	200 to 240V AC 50/60Hz ˚F
	Alarm output/external control input (1 point)
0	Without
1	2 points alarm output (1 continuous only)
2	4 points alarm output (2 continuous only)
3	6 points alarm output (6 intermittent only)
A	2 points alarm output/External control (1 continuous only)
B	4 points alarm output/External control (2 continuous only)
C	6 points alarm output/External control (6 intermittent only)

Input : Universal (Programmable)
Range : Field settable (Programmable)

Note) 1. Input signal
Setting prior to delivery is as follows;
• Thermocouple K: 0 to 1200˚C
2. Shunt resistor (10 Ω ± 0.1%) should be ordered separately for current input.
Shunt resistor : Ordering code PHZT 1101

Factory configuration model

```
1 2 3 4 5 6 7 8 - 9 10 11 12 13
P H E      2 -        Y
```

	Description
	Recording points
1	1 continuous recording
2	2 continuous recording
7	6 intermittent recording (single scale)
8	6 intermittent recording (double scale)
	Input signal
1	1 continuous Y
2	2 continuous
6	6 intermittent (single range) Y
6	6 intermittent (double range)

Symbols of input signals

X...... B thermocouple		R...... R thermocouple	
S...... S thermocouple		K...... K thermocouple	
E...... E thermocouple		J...... J thermocouple	
T...... T thermocouple		N...... N thermocouple	
W......W thermocouple		L...... L thermocouple	
U...... U thermocouple		P......PN thermocouple	
H...... Pt100			
A...... 1 to 5V DC		B...... 4 to 20mA DC *1	
C...... 10 to 50mA DC *1		M......± 50mV DC	
O......± 500mV DC		V......± 5V DC	
F......± 50V DC			

	Description
	Power supply Temperature Unit
1	100 to 120VAC 50/60Hz ℃
2	200 to 240VAC 50/60Hz ℃
3	100 to 120VAC 50/60Hz ℉
4	200 to 240VAC 50/60Hz ℉
	measuring range
1	1 continuous Y
2	2 continuous
6	6 intermittent (single scale) Y
6	6 intermittent (double scale)
	measuring range code are specified for each input signal.
	Alarm output/external control input (1 point)
0	Without
1	2 points alarm output (1 continuous only)
2	4 points alarm output (2 continuous only)
3	6 points alarm output (6-intermittent only)
A	2 points alarm output/External control (1 continuous only)
B	4 points alarm output/External control (2 continuous only)
C	6 points alarm output/External control (6 intermittent only)
	Instruction manual
Y Y	Not attached
E Y	English

Note) Recorder will be shipped with 10 Ω shunt resistor attached to terminal for current input. For intermittent double scale type, 2 kind of recording range and unit should be specified. One is for channel 1 to channel 3, the other is for channel 4 to channel 6.

Outline diagrams

144mm

144mm

Continuous type

175mm

Intermittent type

197mm