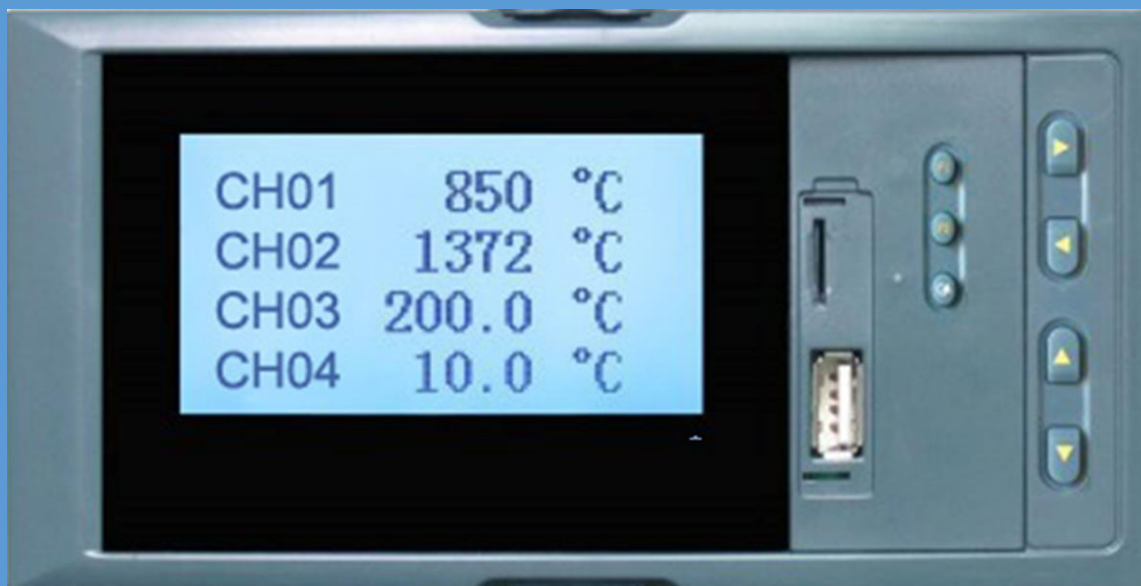# AET control

Paperless Recorder
HGPR-7100/7100R

Introduction

HGPR-7100/7100R LCD Display Controller/Paperless Recorder adopts computer structure in design: new microprocessor with flash memory to enhance the performance of data storage; 3.5" dot matrix LCD screen (black characters on white screen) of high definition (128*64); concept of WINDOWS in Chinese has been introduced while data compression technology is used; the embedded operation system capable of USB data transfer enables up to 720 days of data storage. The instrument has fully adopted surface-mount technology and heavy protection and isolation have been considered in design for anti-jamming and high reliability. Synchronous input of 4-channel universal signals can be made while input channels are isolated from each other. It also features alarm control, analog transmission, and RS 485/232 communication output etc., making it to be a full-featured Chinese character display instrument.

Technical Parameters

Measurement input	
Input signal	Current: 0-20mA, 0-10mA, 4-20mA, 0-10mA (extraction), 4-20mA (extraction) Input impedance: ≤100Ω Maximum limit of input current: ≤ 30mA
	Voltage: 0-5V, 1-5V, 0-10V (customized), 0-5V (extraction), 1-5V (extraction), 0-20mV, 0-100mV Input impedance: ≥ 500KΩ
	Thermal resistance: Pt100, Cu50, Cu53, Cu100, BA1, BA2
	Linear resistance: 0-400Ω
	Thermocouple: B, S, K, E, T, J, R, N, F2, Wre3-25, Wre5-26
Output	
Output signal	Analog output: 4-20mA (load resistance ≤ 480Ω), 0-20mA (load resistance ≤ 480Ω) 0-10mA (load resistance ≤ 960Ω), 1-5V (load resistance ≥ 250KΩ) 0-5V (load resistance ≥ 250KΩ), 0-10V (load resistance ≥ 4KΩ) (customized)
	Alarm output: relay control output: AC220V/2A, DC24V/2A (resistive load)
	Feed output: DC24V±1, load current ≤ 50mA
	Communication output: RS485/RS232 communication interface, configurable baud rate in the range of 1200-9600bps, standard MODBUS RTU communication protocol adopted, communication distance up to 1km for RS-485 and 15m for RS-232.

AET control

Comprehensive parameters	
Measurement precision	0.2%FS±1d
Setting mode	Light touch control panel for digital setting, the value of which will be stored permanently even in case of power failure; setting value locked and protected with password
Display mode	3.5" backlit dot matrix LCD screen (black characters on white screen) of high definition (128*64) Chinese characters, digits, process curves, and bar graphs may be displayed; pages turning-up/down, search of historical data, and change of time scale of curves can be achieved by operating proper keys on the panel.
Recording interval	9 options for your choice: 1s, 2s, 4s, 6s, 15s, 30s, 60s, 120s, and 240s
Storage time	3 days (interval of 1s) – 720 days (interval of 240s)
Printing control	Printing interface: RS-232C; SP-A40SH printer of serial interface may be connected.
Operating environment	Ambient temperature: 0-50℃; relative humidity: ≤ 85RH; isolated from strongly corrosive gas
Power supply	AC 100-240V (switch power), 50/60HZ; DC 20-29V (switch power)
Power consumption	≤ 5W
Structure	- Standard snap-in structure

Order Specification

Model Selection

HGPR-71 ☐ – ☐ – ☐ – ☐ – ☐
       (1)   (2)   (3)   (4)   (5)

LCD Chinese Character Display Controller Paperless Recorder

HGPR-71 ☐R – ☐ – ☐ – ☐ – ☐
       (1)   (2)   (3)   (4)   (5)

①**Input channel**		③**Alarm output (Note 1)**	
Code	Input channel	Code	Alarm channel (relay contact output)
01 02 03 04	1-channel 2-channel 3-channel 4-channel	X 1 2 3 4 5 6	No output 1-limit alarm 2-limit alarm 3-limit alarm 4-limit alarm 5-limit alarm 6-limit alarm
②**Specification**		④**Power supply**	
Code	Width*height*depth	Code	Voltage range
A B C	160*80*110mm (horizontal) 80*160*110mm (vertical) 96*96*110mm (square)	A D	AC/DC 100~240V(50/60Hz) DC20~29V

⑤**Auxiliary functions**	
(all functions below may be selected as separated with "/"; those not required may be omitted)	

Transmission output (Note 1)		**Communication output**	
Code	Output channel	Code	Communication interface (communication protocol)
1 2 3 4	1-channel transmission output 2-channel transmission output 3-channel transmission output 4-channel transmission output	D1 D2 D3	RS-485 communication interface (Modbus RTU) RS232 communication interface (Modbus RTU) RS2321: printing interface

Feed output	
Code	Feed output (output voltage)
1P 2P	1-channel feed output 2-channel feed output
For example, "2P (12/24) means 12V feed ouput and 24V feed output for channel 1 and 2 respectively.	

Applicable to instruments with recording function	

USB data transfer		Expansion function	
Code	Data transfer	Code	Expansion function
U	USB card storage (1GB USB flash disk)	SD	SD card expansion (8GB)

Note: 1.Transmission output and alarm output may be combined, provided that transmission output + alarm output ≤6.

⭐ Input signal type (please mark the signal type after the selected model when ordering)

Signal type	Measurement range	Signal type	Measurement range
B	400~1800℃	0-400Ω Linear resistance	-9999~99999
S	-50~1600℃	0-350Ω (Internal reserved parameter)	-9999~99999
K	-100~1300℃	30~350Ω (Internal reserved parameter)	-9999~99999
E	-100~1000℃	0~20mV	-9999~99999
T	-100.0~400.0℃	0-100 mV	-9999~99999
J	-100~1200℃	0~20 mA	-9999~99999
R	-50~1600℃	0~10 mA	-9999~99999
N	-100~1300℃	4~20mA	-9999~99999
F2	700~2000℃	0~5V	-9999~99999
Wre3-25	0~2300℃	1~5V	-9999~99999
Wre5-26	0~2300℃	0~10V (customized)	-9999~99999
Cu50	-50.0~150.0℃	0~10 mA extraction	-9999~99999
Cu53	-50.0~150.0℃	4~20 mA extraction	-9999~99999
Cu100	-50.0~150.0℃	0~5V extraction	-9999~99999
Pt 100	-200.0~650.0℃	1~5V extraction	-9999~99999
BA1	-200.0~650.0℃		
BA2	-200.0~600.0℃		

⭐ Output signal type (please mark the signal type after the selected model when ordering)

Signal type	4-20mA	1-5V	0-10 mA	0-5V	0-20 mA	0-10V(customized)
Load resistance (RL)	RL≤480Ω	RL≥250KΩ	RL≤960Ω	RL≥250KΩ	RL≤480Ω	RL≥4KΩ

Dimension (mm)
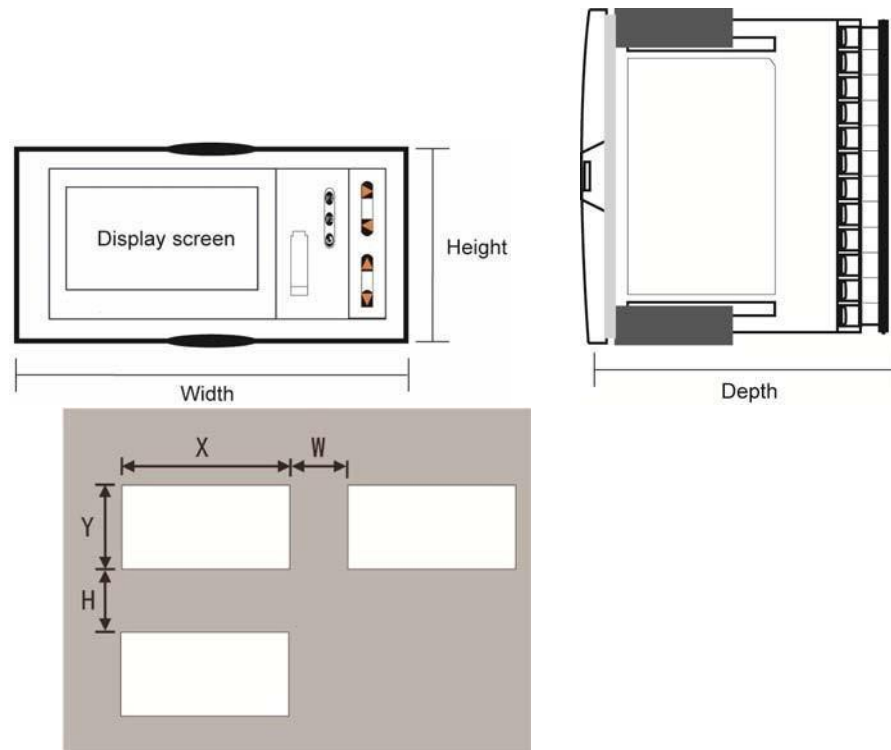
	Dimension			Hole Size		Minimum Distance Between Instruments	
Type	Width	Height	Depth	X	Y	W	H
A	160	80	110	152+0.5	76+0.5	38	34
B	80	160	110	76+0.5	152+0.5	34	38
C	96	96	110	92+0.5	92+0.5	38	38