

ST 100 Color paperless recorder

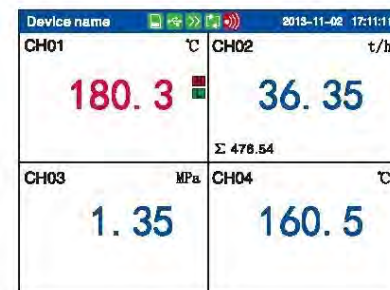


Product overview
Display
Technical index

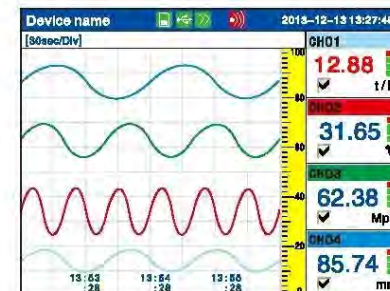
Product overview

Maximum 4 channel universal input color paperless recorder, can input standard current, voltage, frequency standard, MV, thermocouple, thermal resistance and so on many kinds of signal. Has a sensor distribution output, relay alarm output, transmitter output, flow totalizer / reports, historical data storage, on-site printing and serial communication functions.

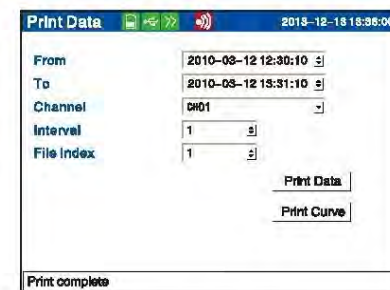
Display



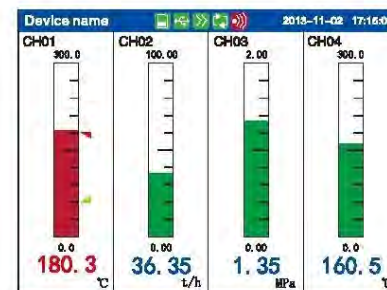
Digital display
Measured values, channel number, engineering unit, alarm status and accumulative message, all of them will be displayed in digital form.



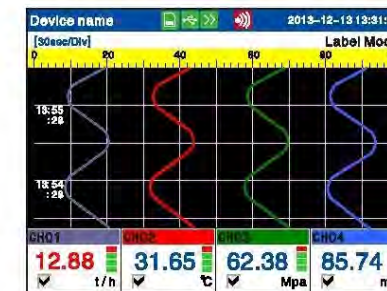
Timing curves (crosswise)
Free choice of vertical and horizontal paper feed and custom curve colors.



Data printing
Print the chosen period historical data in curves.



Bar
Measured values, channel number, engineering unit, alarm status and accumulative message, all of them will be displayed in bar chart.



Historical curves
Historical data can be represented in curves.



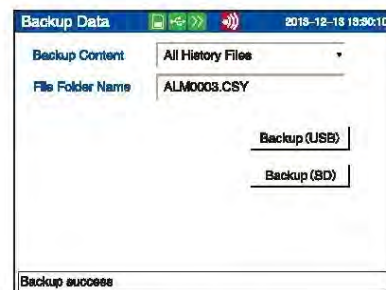
Alarm configuration
Every channel can set four random alarm points.



Timing curves (lengthways)
Measured values, channel number, engineering unit, alarm status and accumulative message, all of them will be displayed in timing curves.



Menu
Present inquiry and backup content.



Data backup
Backup the chosen period historical data to U disk and SD card in files.

Technical index

Structure	
Installation method	Embedded installation (vertical)
Installation angle	Uppermost 30 degrees of backward inclination
Mounting plate thickness	1-10mm
ST100R External size	98(W) x 98(H) x 123(D)
ST100H External size	160(W) x 80(H) x 118(D)
Net weight	< 0.8Kg (Optional component not included)

Power	
Nominal voltage:	220VAC
Voltage range:	100VAC ~ 240VAC
Rated frequency:	50Hz
Consumption:	≤ 10W (Optional function included)

Input
Input channel: 1-4 channel
Measurement period: 1 sec
Signal type: Direct current (I), Direct voltage (V), TC, RTD, FR
Input signal type and measurable range:

Signal type	Signal type	Measurable range	Accuracy (25°C)	Input resistance
I	4-20mA	4.00mA-20.00mA	± 0.2%	≤ 300Ω
	0-20mA	0.00mA-20.00mA	± 0.2%	≤ 300Ω
	0-10mA	0.00mA-10.00mA	± 0.2%	≤ 300Ω
V	1-5V	1.000V-5.000V	± 0.2%	1MΩ
	0-5V	0.000V-5.000V	± 0.2%	1MΩ
	0-10V	0.000V-10.000V	± 0.2%	1MΩ
	20mV	0.00mV-20.00mV	± 0.2%	10MΩ
	100mV	0.00mV-100.00mV	± 0.2%	10MΩ
R	400Ω	0.0Ω-400.0Ω	± 0.2%	—
	PT100	-200.0°C-650.0°C	± 0.4°C	—
RTD	Cu50	-50.0°C-150.0°C	± 0.4°C	—
	Cu53	-50.0°C-150.0°C	± 0.4°C	—
	BA1	-200°C-650°C	± 0.4°C	—
	BA2	-200°C-650°C	± 0.4°C	—
	S	-50°C-1768°C	± 2°C	10MΩ
TC	R	-50°C-1768°C	± 2°C	10MΩ
	B	500°C-1820°C	± 2°C	10MΩ
	K	-200°C-1372°C	± 1°C	10MΩ
	N	-200°C-1300°C	± 1°C	10MΩ
	E	-200°C-1000°C	± 1°C	10MΩ
	J	-200°C-1200°C	± 1°C	10MΩ
	T	-200°C-385°C	± 1°C	10MΩ
	WRE5-25	0°C-2310°C	± 2°C	10MΩ
	WRE3-25	0°C-2310°C	± 2°C	10MΩ
	F1	700°C-2000°C	± 2°C	10MΩ
	F2	700°C-2000°C	± 2°C	10MΩ
	FR	0Hz-10000Hz	± 1Hz	—
FR	FR	0.0Hz-3000.0Hz	± 0.1Hz	—

Frequency input
Low level: 0-2V
High level: 4-24V
Duty cycle: 10%-90%
Drive current: Min 5mA

Analog input board card
Resolution ratio: 16 bits
Sample rate: 1 per second
Signal terminal pressure: Min -24VDC, Max +24VDC
Series of common mode voltage (50Hz):
5V: 1.5V
10V: 1.5V
20mV: 50mV
100mV: 150mV

Sensor break line detection:
Thermocouple, thermal resistance sensor disconnection.
4-20mA, input current lower than 2mA.
Does not adapt to other signals.

Display

Display: 3.5 inches TFT color LCD display (320x240Point).
Display unit: 4 units.
Bit number: 7 characters or 15 letters (numbers).
Unit: 3 characters or 7 letters (numbers).
Status display: picture name, board card status, alarm status, SD card status, USB status, circular display status, time.
Picture: measuring data (shown in digital, bar or curve), historical curve, function menu (file list, storage manipulation, data backup, print, cumulative statement).
Curve: presented in crosswise or vertical curves, costume color function available.
Historical curve: shows the storage data, which can be magnified 1/2/4/8/16/32 times.
Frame rate: 1 second.

Memory recording time

Batch record mode, see the relation between time length and inter-record gap in below: If channel numbers are reduced, the recording time will become longer. The upmost recording gap setting is 30 minutes.

Record gap	1s	2s	10s	1min	2min	5min
1 Channel	12d	24d	4m	2y	4y	10y
4 Channel	3d	6d	1m	6m	1y	2y

24VDC transmitter power output

Circuit: 1 channel
Output voltage: 24V ± 5%
Output current: 65mA (over current protection: about 80mA)

Alarm

Alarm number: Each channel can be set up to 4 alarm.
Alarm type: HIAL (H), LOAL (L), Incremental alarm (I), Decrement alarm (D).
Alarm delaying time: 0-10 seconds.
Alarm output: the alarm will be output to the internal relay.
Display: when alarming, the corresponding picture will show the alarming status, and the alarm logo will be present in status bar.
Alarm log: the alarm history will be showed in alarming list.

Transportation and storage conditions

Temperature: -10°C ~ 60°C
Humidity: 0% ~ 95% (no dew formation)

Additional specification

Analog output (/T1)

Output channel: 1 channels
Output type: 4-20mA
Load: ≤ 750Ω

Alarm output relay (/A2, /A4)

Output points: KT100R has 2 points, KT100H has 2 or 4 points
Contact capacity: 250VAC/3A, 30VDC/3A (resistive load)
Contact type: normally open contact
Relay sharing: operable (shared by multi channels)

Communication (/C2, /C3)

Connection: RS232C (/C2) or RS485 (/C3)
Protocol: Modbus-RTU protocol
Transmission speed: 1200/2400/4800/9600/19200/38400/57600/115200
Byte swap: 2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print function (/C4)

Printer: panel micro printer
Printing content: real time data, historical data, accumulative report
Printing method: manual print, time print

USB function (/U)

Protocol: compatible USB 2.0 protocol
Port number: 1

SD card function (/S)

Protocol: compatible SD protocol
Port number: 1

ST 100 Color paperless recorder



Selective table
Installation dimension
Terminal connection chart

ST100R Selective table

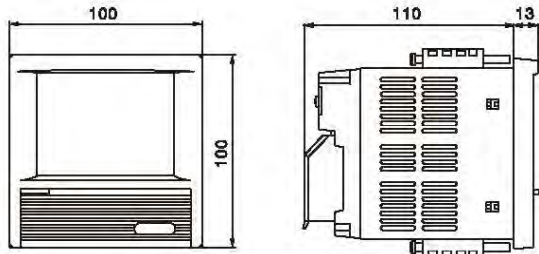
Type	Function code	Specification code	Instruction
ST101			1 channel input*1
ST102			2 channel input*1
ST103			3 channel input*1
ST104			4 channel input*1
Function Type	R		Recording function
Additional specification	/T1		1 channel 4-20mA signal output
	/A2		2 normally open contact output
	/C□	2	RS232 communication
		3	RS485 communication
		4	Micro printer terminal *2
	/U		USB function
	/S		SD card function
	/L		Accumulate/ report

Customized function

规格代码	说明
/PT	防腐漆保护
/P1	24VDC供电

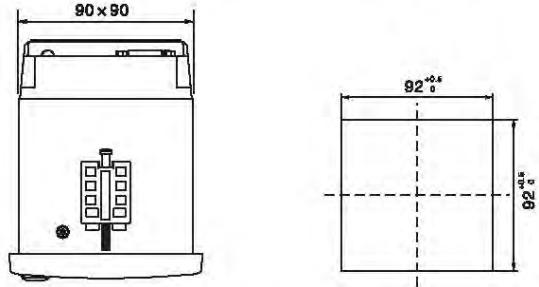
*1 频率信号使用专用通道，1路。
*2 只支持盘古专用微型打印机。

ST100R Installation dimension(mm)

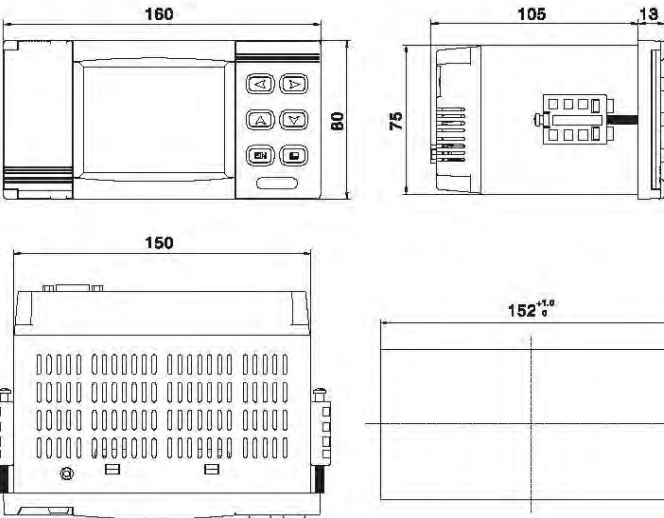


ST100H Selective table

Type	Function code	Specification code	Instruction
ST101			1 channel input*1
ST102			2 channel input*1
ST103			3 channel input*1
ST104			4 channel input*1
Function Type	H		Recording function
Additional specification	/T1		1 channel 4-20mA signal output
	/A□	2	2 normally open contact output
		4	4 normally open contact output
	/C□	2	RS232 communication
		3	RS485 communication
		4	Micro printer terminal *2
	/U		USB function
	/S		SD card function
	/L		Accumulate/ report



ST100H Installation dimension(mm)

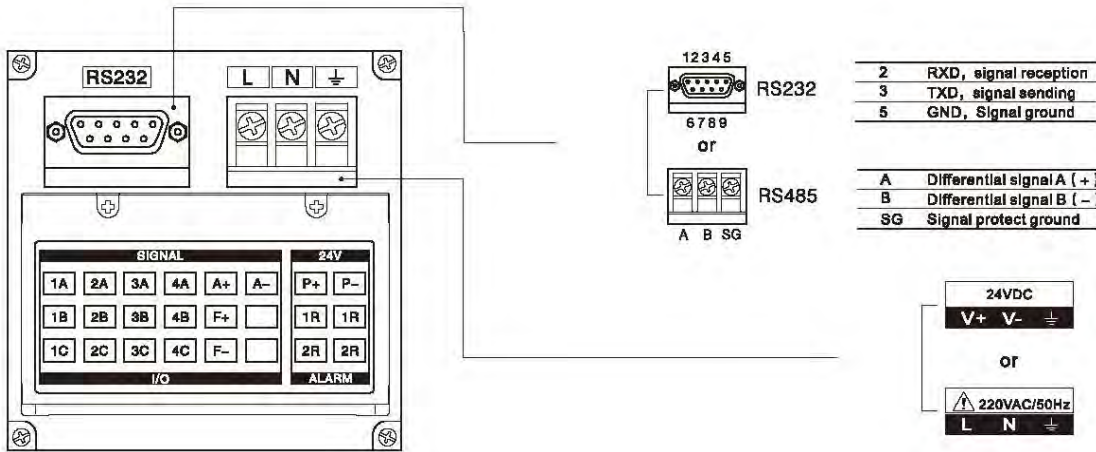


Product accessories(sold separately)

Product	Type	Specification
U disk	860207	8GB
SD card reader	860301	USB connection
SD card	860307	8GB
Communication circuit	862007	RS232 communication connect(1.5m)
	862006	RS485 communication connect(1.5m)
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR Machine data management software

Terminal connection diagram

ST100R Terminal arrangement



ST100H Terminal arrangement

