



Paperless Recorder

Datasheet

REC9600

This recorder is launched in full product range with outstanding specifications features high performance and high operating functionalong with high visibility Color LCD display. Universal input with high speed of sampling rate and high accuracy rating . Measured data is stored into memory and support up to 48MB.

FEATURES

Basic Functions

- Up to 18 channels of universal input
- UP to 4 Alarm Output Relays
- With 150mA Power distribution Output
- Communication type: RS485, Modbus RTU
- With a USB data transfer interface

Display & Operation

- Multiple display Function : choose the display your way
- Use date and time calendar search functions
to Review historical data .
- 3.5 inch TFT color LCD (320 x 240pixels)

Reliability and Security

- Dust- and splash-proof front panel
- Power Fail Safeguard: All the data stored in Flash memory, make sure that all the historical data and configuration parameters will not lost when power fail. Real time clock power supply by lithium batteries.

Data Acquisition Software

- Software for varieties of tasks : analysis, settings, and acquisition

SPECIFICATIONS

- Input specifications

Number of Inputs: 1~18channels

Measurement Interval: 1s,2s,3s.....1h

Sampling rate: 1s

Inputs: DCV (0-10mV, 0-100mV,0-5V,0-10V,1-5V)

TC (S,R, B, K, N,E, J, T, F1,F2,WRe5-26,WRe3-25)

RTD (Pt100, Cu50,Cu53,BA1,BA2)

DCA (0-20mA,4-20mA)

* Does not include the accuracy of reference junction compensation

Input	Range	Measurement accuracy (%FS)	Display resolution
DCV	1-5 V	±0.1	1mv
DCA	(4~20)mA	±0.2	1mv
	(0~20)mV、 (-20~20)mV、 (0~100)mV	±0.2	1mv

Input(Thermocouple type)	Range (°C)	Measurement accuracy (°C)	Display resolution
B	600 ~ 1800	±2.4	0.1°C
E	-200 ~ 1000	±2.4	0.1°C
J	-200 ~ 1200	±2.4	0.1°C
K	-200 ~ -100	±3.3	0.1°C
	-100 ~ 1300	±2.0	0.1°C
S	-50 ~ 100	±3.7	0.1°C
	100 ~ 300	±2.0	0.1°C
	300 ~ 1600	±1.5	0.1°C
T	-200 ~ -100	±1.9	0.1°C
	-100 ~ 380	±1.6	0.1°C
R	-50 ~ 100	±3.7	0.1°C
	100 ~ 300	±2.0	0.1°C
	300 ~ 1600	±1.5	0.1°C
N	-200 ~ 1300	±3.0	0.1°C

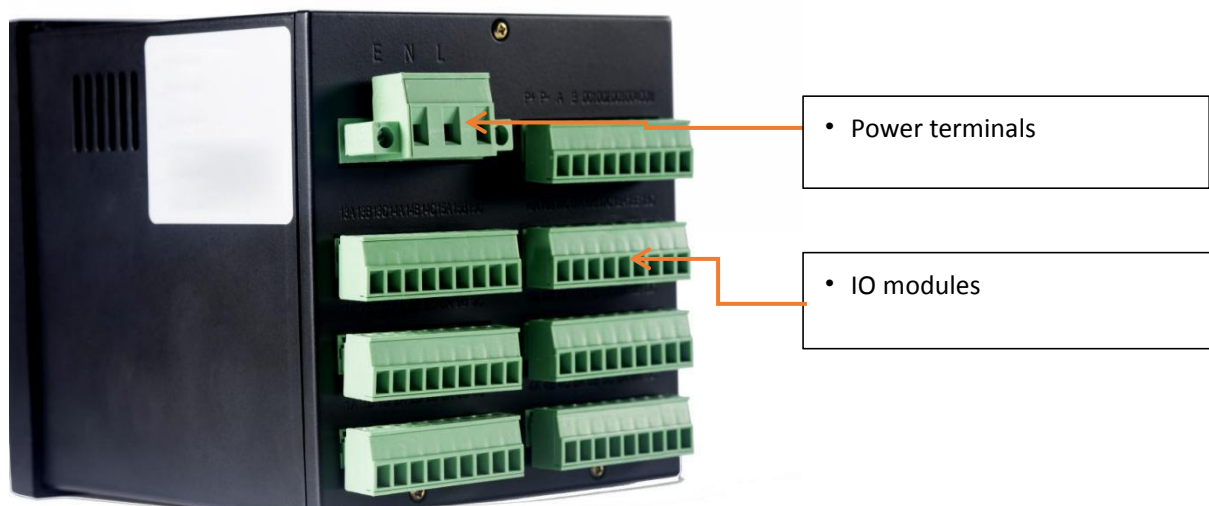
Input	Range (°C)	Measurement accuracy (°C)	Display resolution
Cu50	-50 ~ 140	±1.0	0.1°C
Pt100	-200 ~ 800	±1.0	0.1°C

- Power supply
 - voltage range: 176 to 264 VAC
 - Rated power supply frequency: 47-63 Hz (automatic switching)
 - Power consumption: 20 VA (max., for 264 VAC power supply)
- Normal Operating Conditions
 - Ambient temperature: 0 to 50 °C
 - Ambient humidity: 10% to 85%

Front view



Back View



- Display

Display unit: 3.5 inch TFT color LCD (320 x 240pixels)

Background: black

Back light: LED

Trend display type: Vertical, horizontal, digital, graph selectable

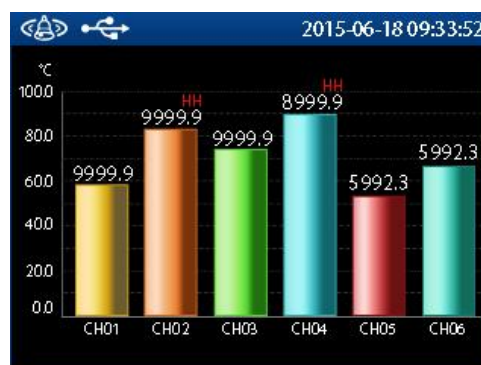
Display renewal rate: 1 s

- Display function

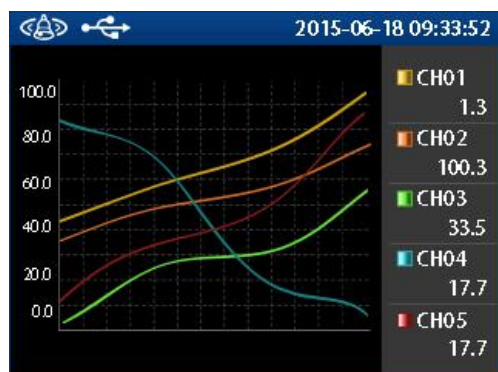
User can change display object (trend, numeric, and bar graphs, etc.)



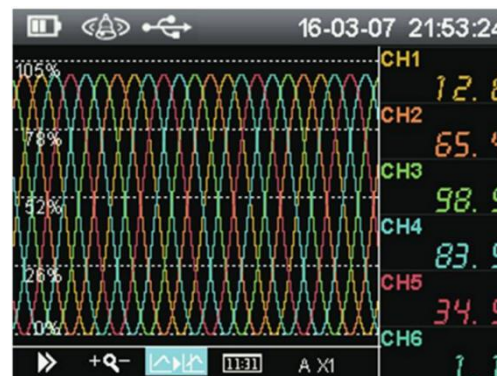
Data screen



Bar-graph screen



Real-time trend screen



historical trend screen

- Data Saving Function

Internal memory:

Medium: Flash memory

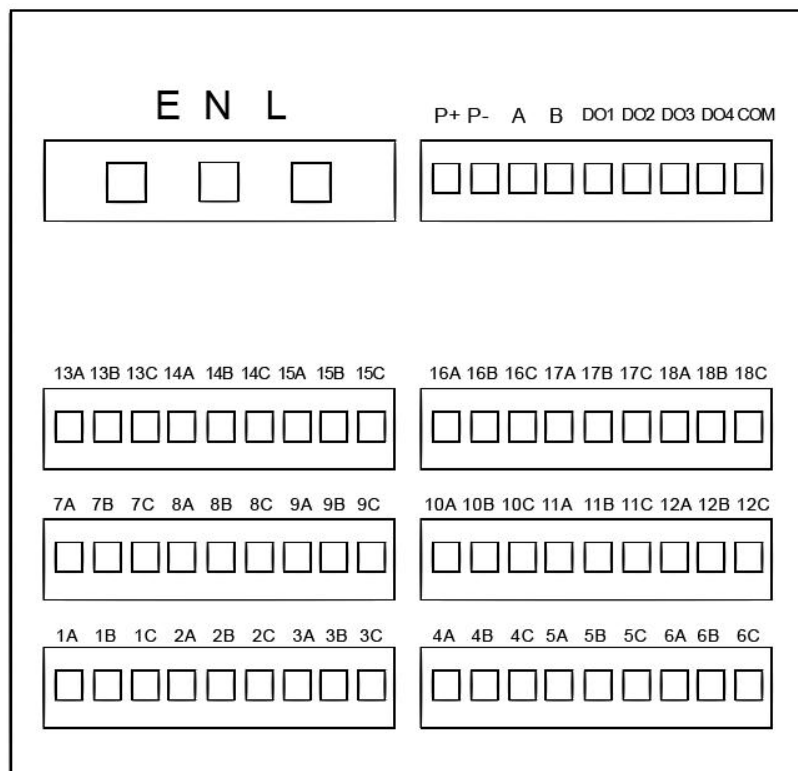
Capacity: 48MB

Event data file sample time

Measurement CH=10 channels computation CH=0 channels

Save interval(s)	1s
Total sample time	8.9 days

- Relay Function
- relay out channels: Up to four
- Relay types: High and low limits. Relays are normally open contacts. Contact capacity :2A /250VAC
(resistance load)
- Alarm Output Relays :2A/250v
- Power distribution function:150mA, 24 VDC。

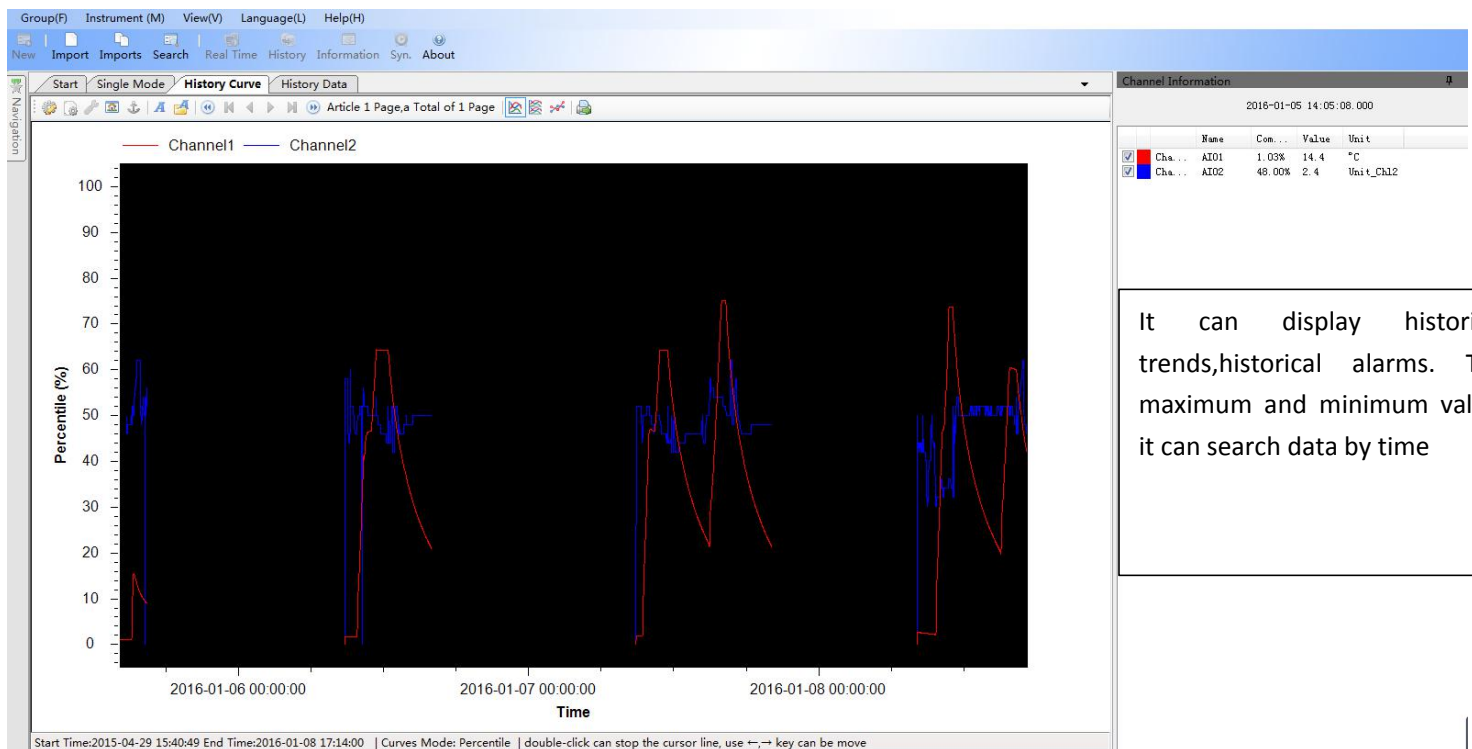


Terminal Arrangement

- Power terminals (E N L)
- Power distribution (P+ P-)
- Communication terminal RS485 (A B)
- Alarm relay output terminal No.1-4 (DO1 DO2 DO3 DO4 COM)

- Channel1 to channel18
Measuring input terminal

Application Software



Start Single Mode History Curve History Data			
NO.	Time	AI01 (°C)	AI02 (Unit_Ch12)
6053923	2016-01-08 17:14:00.000	590.2	2.4
6053922	2016-01-08 17:13:00.000	593.6	2.3
6053921	2016-01-08 17:12:00.000	597.4	2.3
6053920	2016-01-08 17:11:00.000	600.8	2.4
6053919	2016-01-08 17:10:00.000	604.5	2.4
6053918	2016-01-08 17:09:00.000	607.9	2.4
6053917	2016-01-08 17:08:00.000	611.7	2.4
6053916	2016-01-08 17:07:00.000	615.4	2.4
6053915	2016-01-08 17:06:00.000	619.2	2.4
6053914	2016-01-08 17:05:00.000	622.9	2.4
6053913	2016-01-08 17:04:00.000	626.6	2.4
6053912	2016-01-08 17:03:00.000	630.7	2.4
6053911	2016-01-08 17:02:00.000	634.5	2.5
6053910	2016-01-08 17:01:00.000	638.4	2.5
6053909	2016-01-08 17:00:00.000	642.4	3.0
6053908	2016-01-08 16:59:00.000	646.7	3.1
6053907	2016-01-08 16:58:00.000	650.9	3.1
6053906	2016-01-08 16:57:00.000	655.1	3.1
6053905	2016-01-08 16:56:00.000	659.2	3.0
6053904	2016-01-08 16:55:00.000	663.6	3.0
6053903	2016-01-08 16:54:00.000	668.0	3.0
6053902	2016-01-08 16:53:00.000	672.4	3.0
6053901	2016-01-08 16:52:00.000	676.9	3.0
6053900	2016-01-08 16:51:00.000	681.7	3.0
6053899	2016-01-08 16:50:00.000	686.1	3.0
6053898	2016-01-08 16:49:00.000	690.8	3.0
6053897	2016-01-08 16:48:00.000	695.4	2.9
6053896	2016-01-08 16:47:00.000	700.2	2.9

Total 1800 Numbers | Press Ctrl + A, Ctrl + C, Ctrl + V to export data to Excel.

This interface shows the history data. Include the number,time,and value

Start Single Mode History Curve History Data

Instrument Name	Creat Time	Group Path
Default	2016-06-08 14:02:34	C:\Program Files (x86)\mHis\mHIS 7.1\Project\Default
1	2016-06-08 18:10:50	C:\Program Files (x86)\mHis\mHIS 7.1\Project\1
2	2016-06-18 10:01:39	C:\Program Files (x86)\mHis\mHIS 7.1\Project\2
20160618111941	2016-06-18 11:19:41	C:\Program Files (x86)\mHis\mHIS 7.1\ProjectTemp\20160618111941

There shows the data group name,create time and group path. Use ↑ ↓ to select the group, press Enter open the group

Use!Select the group , press Enter open the group

Start Single Mode History Curve History Data

Information

Group Name 20160618111941 Instrument Name Meter001

List

Condition

Name Search Save

File Name	Start time	End Time	Belongs	Get the type of...	Table
Temporary	2015-04-29 15:40:49	2016-01-08 17:14:00	Meter001	Import File	Tbl20160618111944

Channel No.	Item	Unit	Lower	Upper	Description	Custom
☒ 1	AI01	°C	0.0	1400.0	Desc_Ch11	User_Ch11
☒ 2	AI02	Unit_Ch12	0.0	5.0	Desc_Ch12	User_Ch12

All Reverse View

This interface shows the file list,file name and the channel number. The maximum and minimum value of the signal. can choose which channel to view.

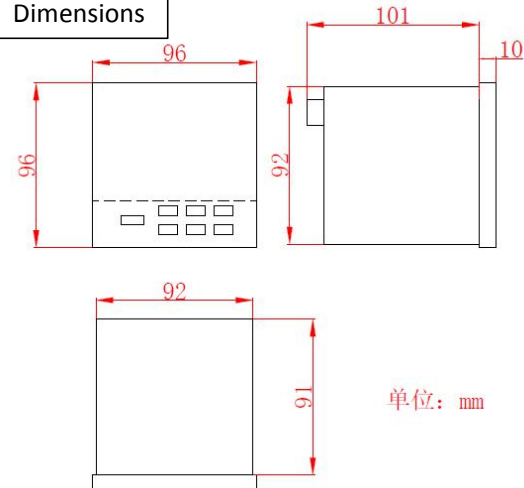
• Installation

Operation environment will not only affect the normal use of the instrument, and also related to the maintenance and calibration work. Operation environment should observe the following requirements:

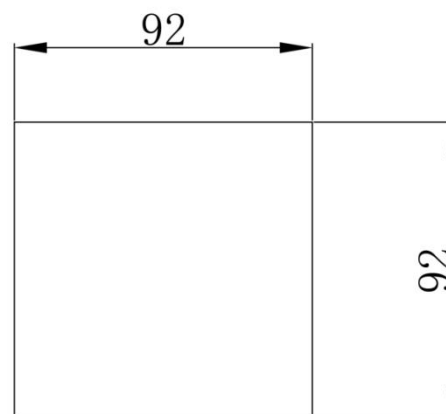
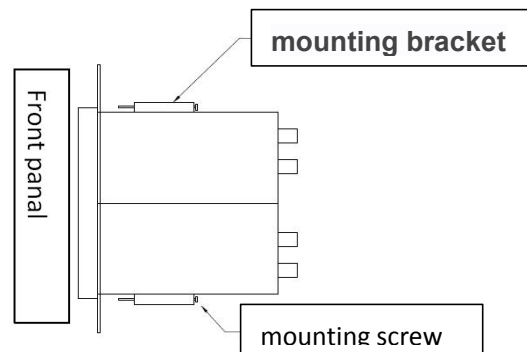
Indoor installation

- Ambient temperature range: (0~50)°C
- Ambient humidity: 10% to 85% (non condensing)
- Ventilation requirements: well ventilated, avoid instrument internal temperature is too high
- Vibration interference: Less mechanical vibration
- Air composition: not easily produce condensate, non-corrosive gas or flammable gases
- Induction interference: no strong inductive interference, not easy to generate static electricity, magnetic field, or noise
- Installation lactation: please keep Horizontal, not til
- Allowable Panel Thickness: 1.5 to 6.0mm
- Weight: 0.37kg

Dimensions



单位: mm



unit: mm

Ordering Code

Paperless recorder												
Model	Form											Specification
REC	96											No.
		01										1 channel output
		02										2 channel output
		03										3 channel output
												
		18										18 channel output
Frequency Input				F0								None
				F1								1 frequency input
Relay output					00							None
					01							1 relay out
					02							2 relay out
					03							3 relay out
					04							4 relay out
						O						None
Flow operation						L						Flow operation
						F						Temperature compensation
Communication								T0				None
								T1				RS-232
								T2				RS-485
Analog output									A0			None
									A1			1 channel analog output
Power distribution										P0		None
										P1		1 channel power distribution
USB connection											0	None
											1	USB
Power supply												A
												AC176-264V

Example: REC9600-F0-00-O-T0-A1-P0-1-A