



Paperless Recorder Datasheet

ECC-R9600

Address:
120, Jalan Bakawali 52,
Johor Jaya, 81100,
Johor Bahru, Johor.

Contact: 018-236 7662

Email address:
ecc17info@gmail.com

Website:
www.eccsb.com.my



Overview of Products

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

Features

Basic Functions

- Up to 4 alarm output relays
- Up to 18 channels of universal input
- With a USB data transfer interface
- With 150mA power distribution output
- Communication type: RS485, Modbus RTU

Display & Operation

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

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. Supply by lithium batteries.

Data Acquisition Software

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



Specifications

1. Input Specifications

Sampling rate: 1s

Number of Inputs: 1 to 18 channels

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

Inputs: DCA (0-20mA, 4 to 20mA)

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

DCV (0 to 10mV, 0 to 100mV, 0 to 5V, 0 to 10V, 1 to 5V)

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

*Note: 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

Specifications

2. Normal Operating Conditions

Ambient temperature: 0 to 50 °C

Ambient humidity: 10% to 85%

3. Power Supply

Voltage range: 176 to 264 VAC

Power consumption: 20 VA (max., for 264 VAC power supply)

Rated power supply frequency: 47-63 Hz (automatic switching)

4. Front View

- **9600 system status display area**

This area is for system operation status.

- **Thermo-vent**

This area is well ventilated to avoid instrument internal temperature going too high.

- **Display area**

This area displays digital measurement values and channel names



- **USB interface**

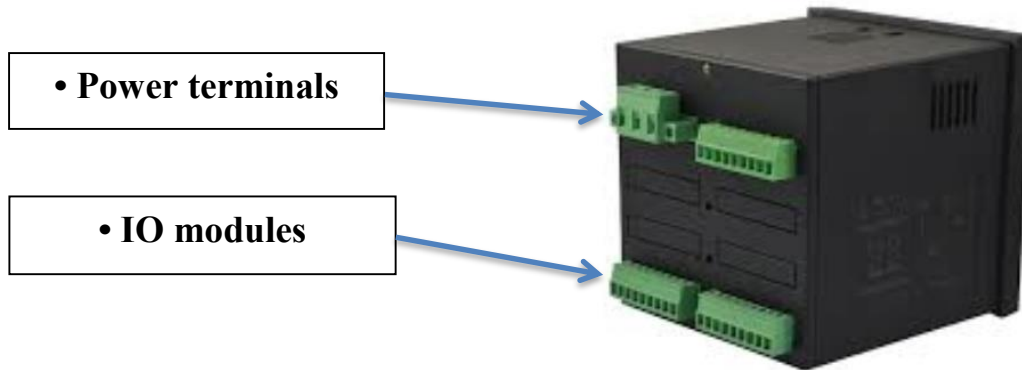
This is a USB data transfer interface.

- **Navigation keys**

Those keys are used for switching display modes, entering settings and move the cursors.

Specifications

5. Back View



6. Display

Background: black

Back light: LED

Display renewal rate: 1 s

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

Trend display type: vertical, horizontal, digital and graph selectable

7. Display function

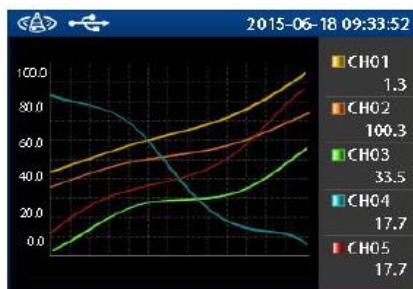
User can change display object (trend, numeric, and bar graphs, etc.)



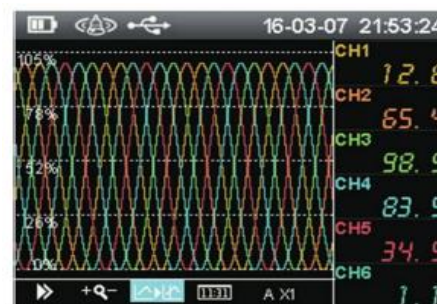
Data Screen



Bar-graph Screen



Real Time Trend Screen



Historical Trend Screen

Specifications

8. Data Saving Function

Capacity: 48MB

Medium: Flash Memory

Event data file sample time

Measurement CH=10 channels computation CH=0 channels

Save Interval (s)	1s
Total Sample Time	8.9 days

9. Relay Function

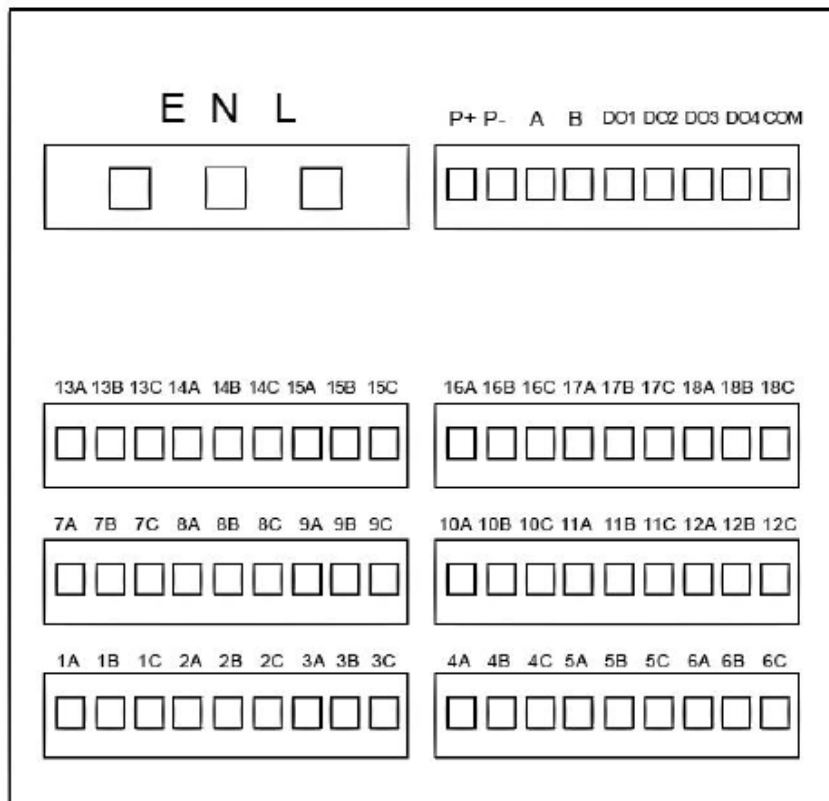
Relay out channels: Up to 4

Alarm Output Relays: 2A/250v

Power distribution function: 150mA, 24 VDC

Contact capacity: 2A /250VAC (resistance load)

Relay types: High and low limit, normally open contacts

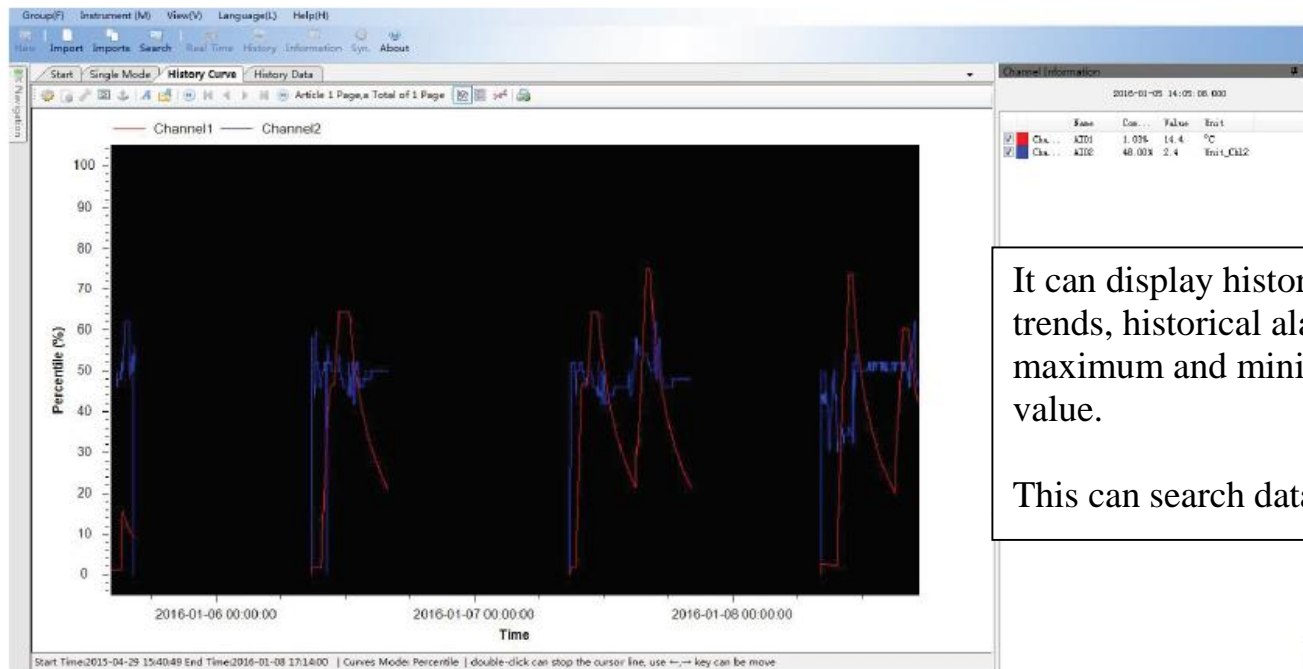


Terminal Arrangement

- 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)

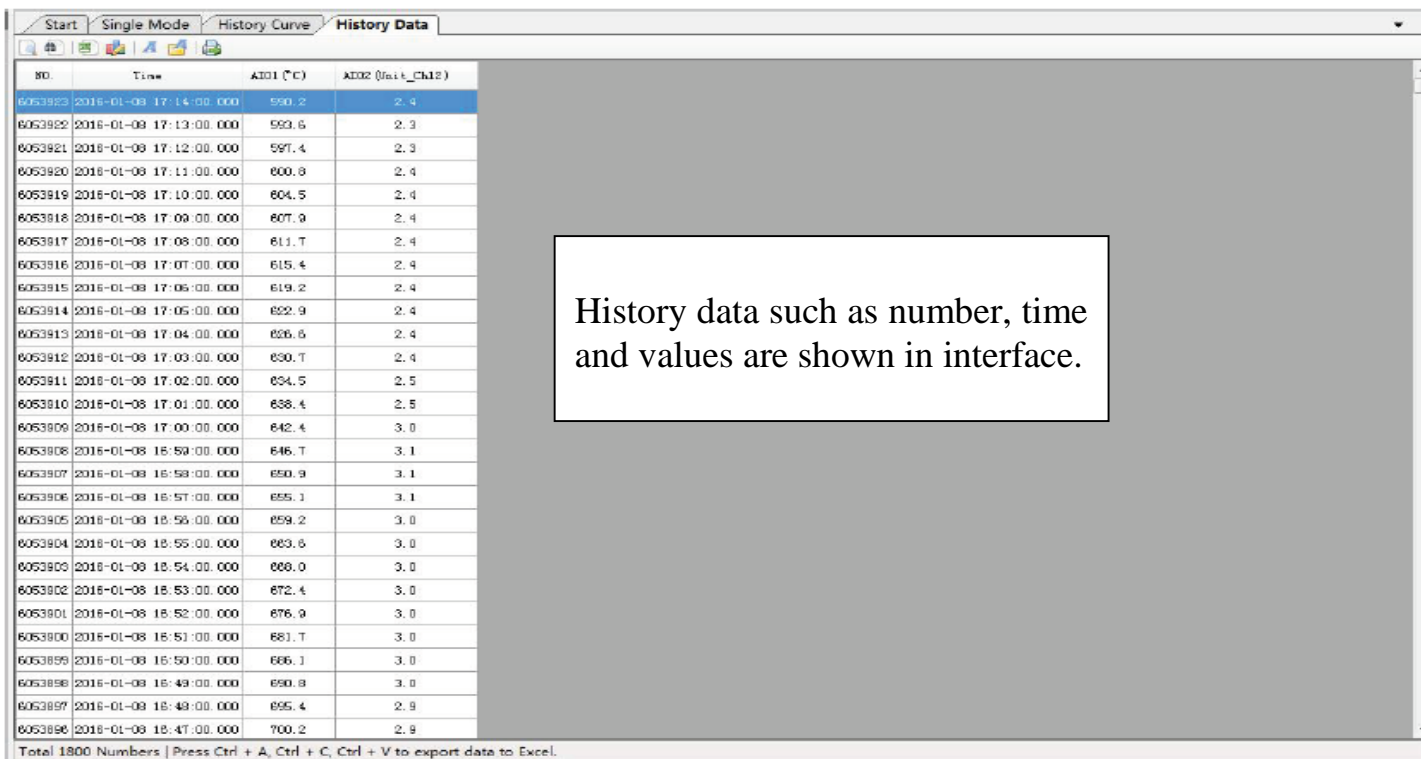
- Channel1 to channel18 Measuring input terminal

Software Applications



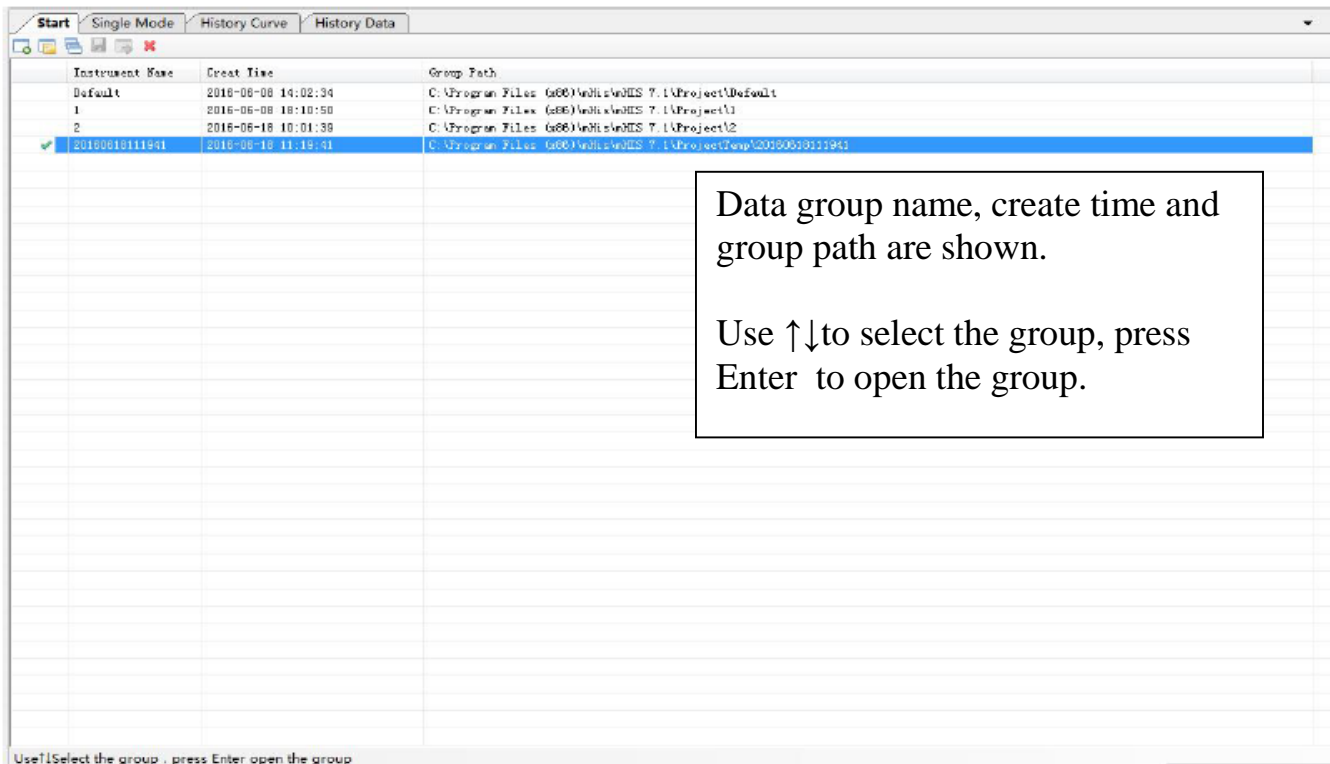
It can display historical trends, historical alarms and maximum and minimum value.

This can search data by time



ID	Time	AI01 (°C)	AI02 (In1_Ck12)
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

History data such as number, time and values are shown in interface.

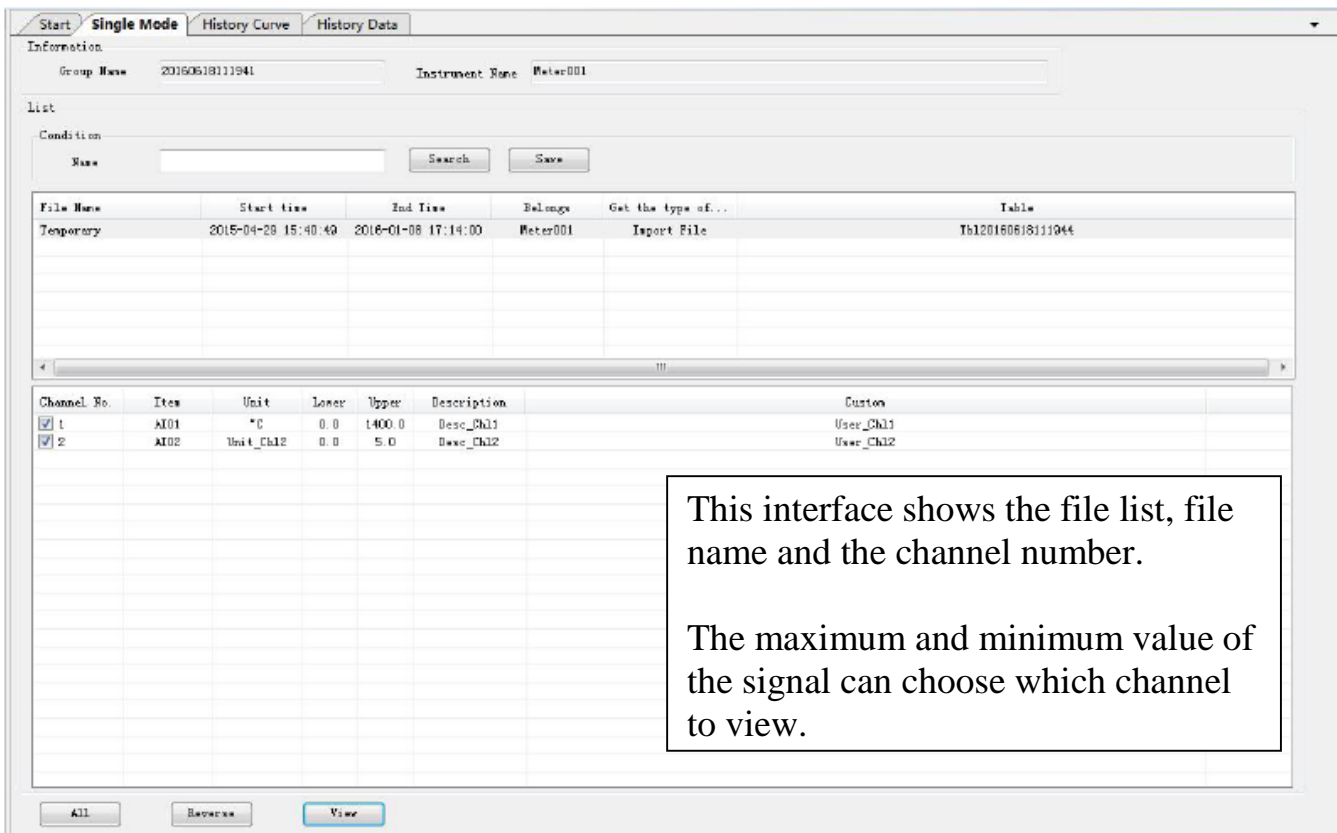


Instrument Name	Create Time	Group Path
Default	2016-06-08 14:02:34	C:\Program Files (x86)\Mettler\MS 7.1\Project\Default
1	2016-06-08 18:10:58	C:\Program Files (x86)\Mettler\MS 7.1\Project\1
2	2016-06-18 10:01:38	C:\Program Files (x86)\Mettler\MS 7.1\Project\2
20160618111941	2016-06-18 11:19:41	C:\Program Files (x86)\Mettler\MS 7.1\Project\exp\20160618111941

Data group name, create time and group path are shown.

 Use ↑↓ to select the group, press Enter to open the group.

Use↑Select the group , press Enter open the group



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	2016-04-28 15:40:49	2016-01-08 17:14:00	Meter001	Import File	Tb120160618111944

Channel No.	Item	Unit	Lower	Upper	Description	Custom
<input checked="" type="checkbox"/>	AI01	°C	0.0	1400.0	Desc_Ch11	User_Ch11
<input checked="" type="checkbox"/>	AI02	Unit_Ch12	0.0	5.0	Desc_Ch12	User_Ch12

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.

All Remarks View

Installation

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

Indoor Installation

- Ambient temperature range: 0 to 50°C
- Ambient humidity: 10% to 85% (non condensing)
- Ventilation requirements: well ventilated, avoid instrument internal temperature going 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,
- Allowable panel thickness: 1.5 to 6.0mm
- Weight: 0.37kg

