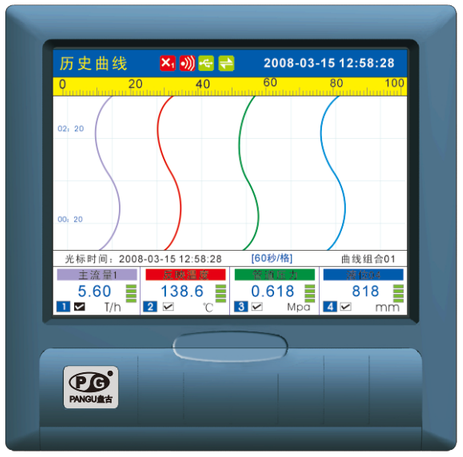
PANGU盘古



VX series
Paperless recorder

HANGZHOU PANGU AUTOMATION SYSTEM CO.,LTD

PANGU

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Company Introduction

Hangzhou Pangu Automation System Co., Ltd is a national high-tech enterprises,has been focusing on the paperless recorder, flow meter, temperature controller,electromagnetic flow converter design, manufacturing, as the main work of national standard paper recorder, the industry leader.

Hangzhou Pangu has a composition by industry leader in professional, efficient R & D, manufacturing team, is one of the current domestic paperless recorder industry's most influential companies.

The company has dozens of paperless recorder related patents. Products have been widely used in petroleum, chemical, electric power, metallurgy, building materials, thermal power, food, pharmaceutical, environmental protection and municipal industry. English version of paperless recorder also exported to India,Pakistan, Malaysia, Turkey, Thailand, Russia, South Korea, Taiwan and other countries and regions.

Hangzhou Pangu has been committed to provide the best products to customers,let the Pangu manufacturing products become synonymous with excellent quality.

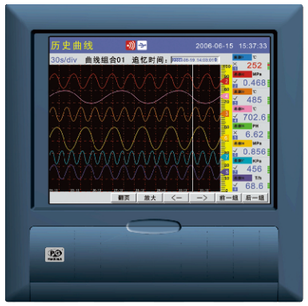
Content

PANGU盘古

VX8100 Color paperless recorder

Product overview

VX8100 maximum 40 channel all-purpose input paperless recorder can input DC current, DC voltage, frequency, millivolt, thermocouple, RTD, and other signals. It has sensor isolation power distribution output, relay alarm output, transmitter output, flow totalizer, temperature and pressure compensation, cumulative statements, historical data storage, printing, and remote communication function.



Functional characteristics

System

• Using the latest large scale integrated circuits, international famous factory components.
• High-speed, high-performance 32-bit ARM microprocessor, which can achieve 40-way signal detection, recording, display and alarm.
• 10.4 inches 640x480 dot-matrix TFT high brightness color graphic LCD display, LED backlight, clear picture quality, wide viewing angle .
• All isolated all-purpose input, can enter a variety of signals, no jumper, can be configured by software.
• The new switching power supply, working properly within the range of 85VAC ~ 265VAC.
• Integrated hardware real time clock, the clock can be accurate under power-down situations.
• Provide transmitter 24VDC isolated power distribution.
• aluminum sealed enclosure and internal shield, which can ensure the instrument is working properly in harsh environments.
• Large-capacity FLASH memory chip store historical data, and never lost data when it is in power-down.
• 24 relay alarm output.

Singal

• Enter a variety of standard signal: DC current, DC voltage, frequency, millivolt, thermocouple, RTD
• Signal full scale accuracy ± 0.2%.
• Using optoelectronic devices in channel, completely isolated.
•Provide standard 4-20mA transmitter output.

Software

• Software locks guarantee user configuration safety.
• Chinese menu configuration can freely configurable configure and display engineering bit number, engineering units.
• Engineering quantities display range: -9999 to 19999, also supports the degree of vacuum operation and scientific notation display.
• While indicating lower and lower limit, lower limit, upper limit of each channel, upper and upper limit alarm, record and display the most recent 187 alarm information.
• Each channel supports flow accumulation function, providing hour reports, 8 hour class report, 12 hour class report, daily report + monthly report and other reports.
• Up to 12 sets of temperature and pressure compensation, support plates, and other vortex street and other flow device and steam, water, gas and other general compensation medium compensation operation.
• Curve display mode can select horizontal curve or vertical curve.
• Provide 5 sets of curve combination, each set can freely select curve channel and curve color
• Built GB231 secondary character font (6500 characters).

• Powerful T6 input method, easy to operate, support Pinyin, digital, English, special symbols, upper and lower standard character input, use international standard codes to solve the input issue of special units and Chinese-bit number.

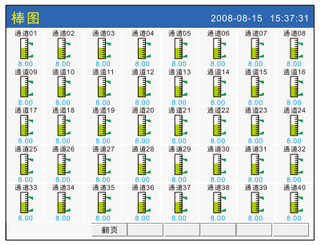
Communication

• Standard serial communication interfaces: RS232C and RS485
• Support standard Modbus-RTU communication protocol, providing a variety of data types, such as one hundred component, engineering amount, cumulative amount. In addition to supporting the company's DataManagement data management software, also supports iFix, configuration king, MCGS, power control and other general professional configuration software, no special drive.
• Use a USB2.0 interface data, and backup history data.
• Support FAT32 file system, Windows automatically identifies the backup data files without format conversion.
• External mini-printer, you can manually print data, curves, regularly and automatically print real-time data to meet the needs of the user of on-site printing.

Display

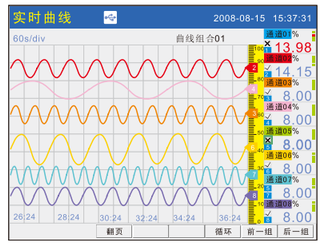
Digital display

Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.



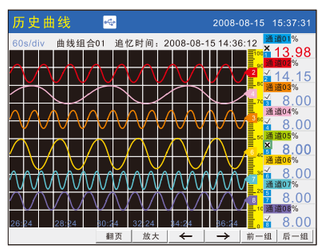
Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.



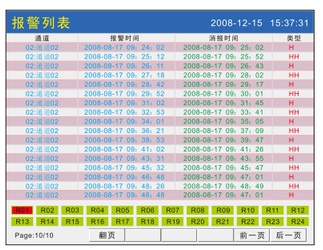
Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.



Historical curve

Graphically reproduce the historical data of the selected channel.



Alarm information

Display recent channel alarm time, eliminating alarm time and other information.

Flow indication

Display flow, temperature, pressure information and combination method of flow loop on the same screen, at the same time show the frequency, differential pressure, media density and other information.

Technical index

General specification

Construction

Installation method : flushbonading instrument installation (vertical instrument panel)
Angle of installation: most tilt 30 degrees backwards from the horizontal plane
Thickness of instrument panel: 2-10mm
Boundary dimension: 288(W) x 288(H) x 168(D) mm
Weight: about 6.4kg

Input

Incoming channel: 8, 16, 24, 32, 40 channel
Measurement period: 1 s
Signal Type :

Input mode	Input Type	measurement range
I	4~20mA	4.00 ~ 20.00mA
	10mA	0.00 ~ 10.00mA
V	5V	0.000 ~ 5.000V
	10V	0.000 ~ 10.000V
	20mV	0.00mV ~ 20.00mV
	100mV	0.00mV ~ 100.00mV
R	350Ω	0.0 ~ 350.0Ω
RTD	Pt100	-200.0 ~ 650.0℃
	Cu50	-50.0 ~ 150.0℃
	Cu53	-50.0 ~ 150.0℃
	BA1	-200.0 ~ 650.0℃
	BA2	-200.0 ~ 650.0℃
TC	S	-50.0 ~ 1768.0℃
	R	-50.0 ~ 1768.0℃
	B	500 ~ 1820℃
	K	-200.0 ~ 1372.0℃
	N	-200.0 ~ 1300.0℃
	E	-200.0 ~ 1000.0℃
	J	-200.0 ~ 1200.0℃
	T	-200.0 ~ 385.0℃
	WRE5-26	0 ~ 2310℃
	F1	700 ~ 2000℃
	F2	700 ~ 2000℃
FR	Fr	0~10000Hz

Frequency input

Low level : 0 ~ 2V
High level : 4 ~ 24V

Analog input board card

- Resolution ratio: 16 bit
- Sampling rate: 1 time per second
- Measurement accuracy: ≤ 0.2%F.S.
- Signal withstand voltage: minimum-15VDC, minimum+15VDC
- Sensor detection of disconnection:
Sensor open circuit of thermal resistance and thermocouple (break line)
- 4 -20mA incoming current is less than 2mA
- Other Signals are Not Applicable
- Response time of Sensor open circuit:

4 – 20mA 2 s
1 – 5V 2 s
Thermal resistance 4 s
Thermocouple 4 s

Display

- Display: 10.4 inches LCD (640*480 point)
- Display color: 256 color
- Display group:
Number of Display group: 5 groups
8 channels can be installed in each group
- Bit number: 5 Chinese characters or 10 alphabets (digital)
- Unit: 3 Chinese characters or 7 alphabets (digital)
- Status display:
Image name, board card condition, alarm condition, USB device flag, and circulation display mark
- Image display:
Measured data (pandect, digital display, bar graph display, curve display)
Function image (historical curve, accumulation statement, data backup, data printing, Alarm List)
- Pandect display: display the date and alarm condition of all measurement channels
- Curve display: Landscape Mode and Portrait Mode could be choosed
- Historical curve: display the stored data of the memory, which can be enlarged 1/2/4/8/16 times
- Alarm information: total records show 187 records.

Temperature and pressure compensation(VX8100F only)

- Measuring equipment: pore plate, vortex (current mode), vortex street (frequency type)
- Measuring media: steam, water, general gas
- Steam temperature: 0 ~ 600℃
- Steam pressure: 0.1 ~ 22Mpa
- Steam state: automatic decision of saturated vapor and superheated steam
- Water temperature: 0 ~ 150℃
- Water pressure: 0.6Mpa ~ 1.6Mpa
- Gas compressibility factor: automatic search is offered for air, oxygen, nitrogen, and constant can be set for general gas
- Vortex street coefficient: 0.00000 ~ 999,999

Memory

- External Storage
Media: U-disk
Form: FAT32
Mode: file record
Capacity: 8G
- Internal Storage
- Media: memory
Form: binary save
Mode: continuous record
- Capacity:

Interrecord gap	1s	2s	5s	10s	15s	30s	1min	2min	4min
Recording duration	3d	6d	15d	30d	45d	90d	180d	360d	720d

Alarm

- Set Number: 4 alarms can be set at most in each channel
- Alarm type: upper and upper limit alarm, upper limit alarm, lower limit alarm, lower and lower limit alarm
- Alarm delay time: 1 - 10 s
- Alarm output: output to internal relay
- Display: When an alarm occurs, alarm condition is displayed in the homologous image, and the alarm icon is displayed in the status bar
- Alarm record: alarm information which has happened displays in the alarm list image.

Clock

- Clock: Hardware Clock, which remains operation when it is power down
- Operating range: 2001 ~ 2099
- Clock precision: ±10ppm（0 ~ 50℃）, exclusive of delay error which resulted in the power opened (under 1 second)

Power

- Rated voltage: 220VAC
- Supply power range: 100 – 240VAC
- Rated frequency: 50 Hz
- Power dissipation: ≤30W

24VDC transmitter distribution output

- Output voltage: 24VDC
- Maximum output current: 65mADC (overload protection current: about 90mA)
- Output points: 8 loops

Frequency input power output

- Output voltage: 12VDC 24VDC
- Output points: the same to the apolegamic Frequency Input
- Maximum output current: 30mADC

Transport and storage condition

- Environment temperature: -10℃ ~ 60℃
- Environment humidity：0% ~ 95%RH (No condensation)

Normal running conditions

- Power supply: 220VAC/50Hz
- Operating temperature: 0℃ ~ 50℃
- Environment humidity：20% ~ 85%RH (No condensation)
- Preheating time: 30 minutes after power supply
- Installation site: indoor

Additional Specification

Analog output（/T4,T8）

- Output points: select from 4 and 8 point
- Output mode: Transmitting Output of measurement channel
- Output type: 4 – 20mA
- Maximum load: 750Ω

Alarm output relay（/A12,/A24）

- Output points: select from 12 and 24 point
- Contact capacity: 250VAC/3A, 30VDC/3A (Resistive load)
- Contact type: normally open
- Relay share: or operation

Communication（/C2,/C3）

- Connection type：RS232C (/C2) or RS485 (/C3)
- Protocol：Modbus-RTU（from machine）protocol
- Traffic rate：1200, 2400, 4800, 9600, 19200, 38400, 57600
- Byte swap：2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print（/C4）

- Printer: panel micro printer
- Print content: real-time data, historical data, accumulated data
- Printing method: hand print, regular print

USB（/U）

- Protocol: compatible with USB2.0 protocol
- Number of ports: 1

Cumulative / reporting（/L）

- Cumulative points: the same as number of input channels, each input channel can be accumulated
- Cumulative range: 0 ~ 999,999,999
- Report type: hour report, 8-hour class report, 12-hour class report, daily report + monthly report
- Report length:

Report forms	Time length
Hour report	16d
8-hour class report	128d
12-hour class report	192d
daily+monthly report	1y

Selection table

Type	Function	Specification		Description
VX8108				8 channel input
VX8116				16 channel input
VX8124				24 channel input
VX8132				32 channel input
VX8140				40 channel input
Function	R			General records
	F			Temperature and pressure compensation
	C			PID controlling
Additional specification	/T□	4		4 channel 4–20mA output*1
		8		8 channel 4–20mA output*1
	/A□	12		12 normally open contact output
		24		24 normally open contact output
	/C□	2		RS232 communication
		3		RS485 communication
		4		Micro printer terminal*2
	/U			USB function
	/L			Accumulate/Report

*1 VX8132 cannot adapt T8; VX8140 cannot adapt T4/T8.
*2 Support private micro printer only.

Customization function

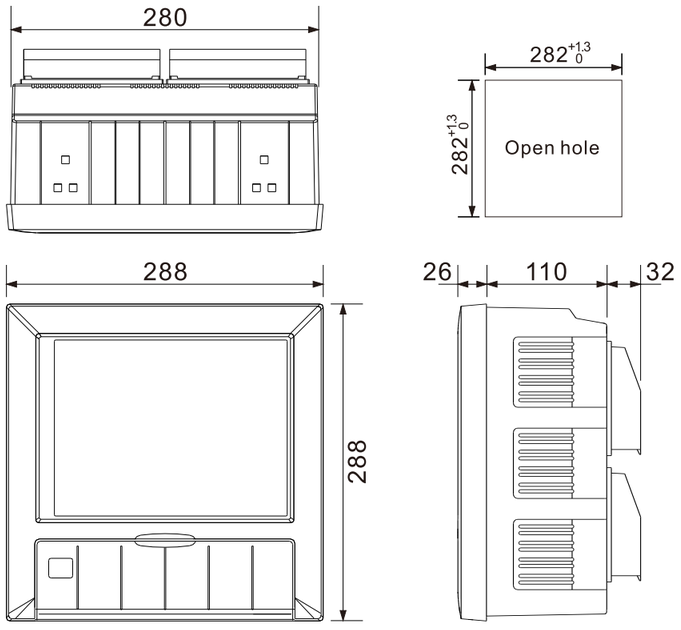
Specification		Description
/F□	8–40	Frequency input 8-40 channel*3
/FB□	8–40	Frequency input 8-40 channel, with 12V power distribution*3
/FC□	8–40	Frequency input 8-40 channel, with 24V power distribution*3
/PT		Protection of antifouling paste

*3 Confirm the frequency input channel by contacting manufacturers.

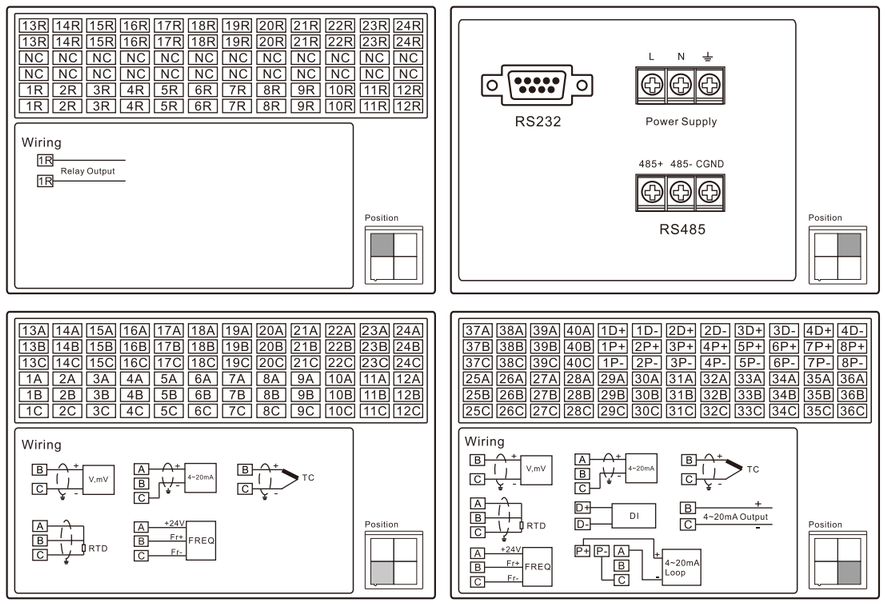
Accessories（sold separately）

Product	Type	Specification
U disk	860206	4GB
Communication modular converter	862101	Active RS232/RS485 modular converter
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR multi machine data management software

Mounting dimension (Unit: mm)



Terminal connection diagram



VX6300 Color paperless recorder

Product overview

VX6300 maximum 16 channel all-purpose input paperless recorder can input DC current, DC voltage, frequency, millivolt, thermocouple, RTD, and other signals. It has sensor isolation power distribution output, relay alarm output, transmitter output, flow totalizer, temperature and pressure compensation, cumulative statements, historical data storage, printing, and remote communication function.

Functional characteristics

System

- Using the latest large scale integrated circuits, international famous factory components.
- High-speed, high-performance 32-bit ARM microprocessor, which can achieve 16-way signal detection, recording, display and alarm.
- 5.6 inches 320x234 dot-matrix TFT high brightness color graphic LCD display, LED backlight, clear picture quality, wide viewing angle .
- All isolated all-purpose input, can enter a variety of signals, no jumper, can be configured by software.
- The new switching power supply, working properly within the range of 100VAC ~ 240VAC.
- Integrated hardware real time clock, the clock can be accurate under power-down situations.
- Provide transmitter 24VDC isolated power distribution.
- Aluminum sealed enclosure and internal shield, which can ensure the instrument is working properly in harsh environments.
- Large-capacity FLASH memory chip store historical data, and never lost data when it is in power-down.
- 12 relay alarm output. (VX6316 series only supports 8-channel relay alarm output)

Singal

- Enter a variety of standard signal: DC current, DC voltage, frequency, millivolt, thermocouple, RTD
- Signal full scale accuracy ± 0.2%.
- Using optoelectronic devices in channel, completely isolated.
- Provide standard 4-20mA transmitter output

Software

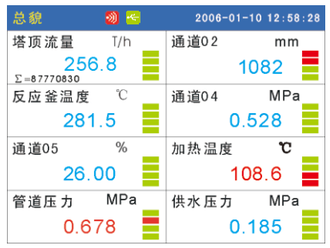
- Software locks guarantee user configuration safety.
- Chinese menu configuration can freely configurable configure and display engineering bit number, engineering units.
- Engineering quantities display range: -9999 to 19999, also supports the degree of vacuum operation and scientific notation display.
- While indicating lower and lower limit, lower limit, upper limit of each channel, upper and upper limit alarm, record and display the most recent 15 alarm information.
- Each channel supports flow accumulation function, providing hour reports, 8 hour class report, 12 hour class report, daily report + monthly report and other reports.
- Up to 4 sets of temperature and pressure compensation, support plates, and other vortex street and other flow device and steam, water, gas and other general compensation medium compensation operation.
- Curve display mode can select horizontal curve or vertical curve.
- Provide 4 sets of curve combination, each set can freely select curve channel and curve color
- Built GB231 secondary character font (6500 characters).

• Powerful T6 input method, easy to operate, support Pinyin, digital, English, special symbols, upper and lower standard character input, use international standard codes to solve the input issue of special units and Chinese-bit number.

Communication

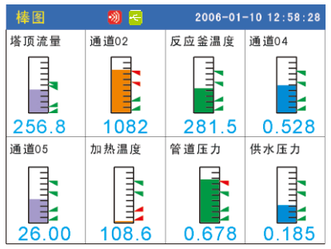
• Standard Ethernet communication interface：RJ45.
• Standard serial communication interfaces: RS232C and RS485.
• Support standard Modbus-RTU communication protocol, providing a variety of data types, such as one hundred component, engineering amount, cumulative amount. In addition to supporting the company's DataManagement data management software, also supports iFix, configuration king, MCGS, power control and other general professional configuration software, no special drive.
• Use a USB2.0 interface data, and backup history data.
• Support FAT32 file system, Windows automatically identifies the backup data files without format conversion.
• External mini-printer, you can manually print data, curves, regularly and automatically print real-time data to meet the needs of the user of on-site printing.

Display



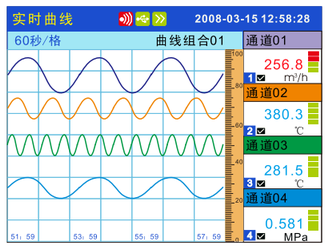
Digital display

Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.



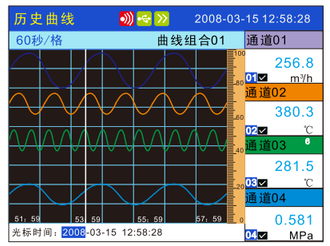
Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.



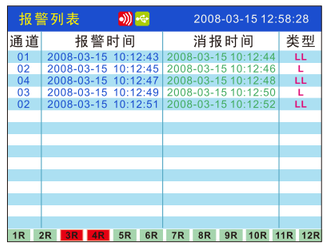
Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.



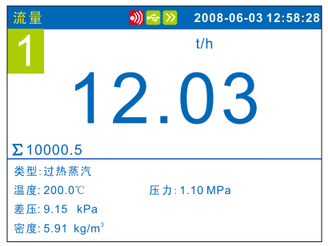
Historical curve

Graphically reproduce the historical data of the selected channel.



Alarm information

Display recent channel alarm time, eliminating alarm time and other information.



Flow indication

Display flow, temperature, pressure information and combination method of flow loop on the same screen, at the same time show the frequency, differential pressure, media density and other information.

Technical index

General specification

Construction

Installation method：flushbonading instrument installation (vertical instrument panel)
Angle of installation: most tilt 30 degrees backwards from the horizontal plane
Thickness of instrument panel: 1-10mm
Boundary dimension: 144(W) x 144(H) x 220(D) mm
Weight: about 2.6kg

Input

Incoming channel: 1-12, 16 channel
Measurement period: 1 s
Signal Type：

Input mode	Input Type	measurement range
I	4~20mA	4.00 ~ 20.00mA
	10mA	0.00 ~ 10.00mA
V	5V	0.000 ~ 5.000V
	10V	0.000 ~ 10.000V
	20mV	0.00mV ~ 20.00mV
	100mV	0.00mV ~ 100.00mV
R	350Ω	0.0 ~ 350.0Ω
RTD	Pt100	-200.0 ~ 650.0℃
	Cu50	-50.0 ~ 150.0℃
	Cu53	-50.0 ~ 150.0℃
	BA1	-200.0 ~ 650.0℃
	BA2	-200.0 ~ 650.0℃
TC	S	-50.0 ~ 1768.0℃
	R	-50.0 ~ 1768.0℃
	B	500 ~ 1820℃
	K	-200.0 ~ 1372.0℃
	N	-200.0 ~ 1300.0℃
	E	-200.0 ~ 1000.0℃
	J	-200.0 ~ 1200.0℃
	T	-200.0 ~ 385.0℃
	WRE5-26	0 ~ 2310℃
	F1	700 ~ 2000℃
	F2	700 ~ 2000℃
FR	Fr	0~10000Hz

Frequency input

Low level：0 ~ 2V
High level：4 ~ 24V

Analog input board card

• Resolution ratio：16 bit
• Sampling rate：1 time per second
• Measurement accuracy：≤ 0.2%F.S.
• Signal withstand voltage：minimum-15VDC, minimum+15VDC
• Sensor detection of disconnection：
Sensor open circuit of thermal resistance and thermocouple (break line)
• 4 -20mA incoming current is less than 2mA
• Other Signals are Not Applicable
• Response time of Sensor open circuit:
4 – 20mA 2 s
1 – 5V 2 s
Thermal resistance 4 s
Thermocouple 4 s

Display

• Display: 5.6 inches LCD (320*234 point)
• Display color: 256 color
• Display group:
Number of Display group: 3 groups(1-12channel), 4groups(16channel)
4 channels can be installed in each group
• Bit number: 5 Chinese characters or 10 alphabets (digital)
• Unit: 3 Chinese characters or 7 alphabets (digital)
• Status display:
Image name, board card condition, alarm condition, USB device flag, and circulation display mark
• Image display:
Measured data (pandect, digital display, bar graph display, curve display)
Function image (historical curve, accumulation statement, data backup, data printing, Alarm List)
• Pandect display: display the date and alarm condition of all measurement channels
• Curve display: Landscape Mode and Portrait Mode could be choosed
• Historical curve: display the stored data of the memory, which can be enlarged 1/2/4/8/16/32 times
• Alarm information: total records show 15 records.

Temperature and pressure compensation(VX6300F only)

• Measuring equipment: pore plate, vortex (current mode), vortex street (frequency type)
• Measuring media: steam, water, general gas
• Steam temperature: 0 ~ 600℃
• Steam pressure: 0.1 ~ 22Mpa
• Steam state: automatic decision of saturated vapor and superheated steam
• Water temperature: 0 ~ 150℃
• Water pressure: 0.6Mpa ~ 1.6Mpa
• Gas compressibility factor: automatic search is offered for air, oxygen, nitrogen, and constant can be set for general gas
• Vortex street coefficient: 0.00000 ~ 999,999

Memory

• External Storage
Media: U-disk
Form: FAT32
Mode: file record
Capacity: 8G
• Internal Storage
• Media: memory
Form: binary save
Mode: continuous record
• Capacity:
1-12 channel

Interrecord gap	1s	2s	5s	10s	15s	30s	1min	2min	4min
Recording duration	3d	6d	15d	30d	45d	90d	180d	360d	720d

16 channel

Interrecord gap	1s	2s	5s	10s	15s	30s	1min	2min	4min
Recording duration	40h	3d	8d	16d	24d	48d	96d	192d	384d

Alarm

• Set Number: 4 alarms can be set at most in each channel
• Alarm type: upper and upper limit alarm, upper limit alarm, lower limit alarm, lower and lower limit alarm
• Alarm delay time: 1 - 10 s
• Alarm output: output to internal relay
• Display: When an alarm occurs, alarm condition is displayed in the homologous image, and the alarm icon is displayed in the status bar
• Alarm record: alarm information which has happened displays in the alarm list image.

Clock

• Clock: Hardware Clock, which remains operation when it is power down
• Operating range：2001 ~ 2099
• Clock precision：±10ppm（0 ~ 50℃），exclusive of delay error which resulted in the power opened (under 1 second)

Power

• Rated voltage: 220VAC
• Supply power range: 100 – 240VAC
• Rated frequency: 50 Hz
• Power dissipation: ≤20W

24VDC transmitter distribution output

• Output voltage: 24VDC
• Maximum output current: 65mADC (overload protection current: about 90mA)
• Output points: 4 loops

Frequency input power output

• Output voltage: 12VDC 24VDC
• Output points: the same to the apolegamic Frequency Input
• Maximum output current: 30mADC

Transport and storage condition

• Environment temperature: -10℃ ~ 60℃
• Environment humidity：0% ~ 95%RH (No condensation)

Normal running conditions

• Power supply: 220VAC/50Hz
• Operating temperature: 0℃ ~ 50℃
• Environment humidity：20% ~ 85%RH (No condensation)
• Preheating time: 30 minutes after power supply
• Installation site: indoor

Additional Specification

Analog output（/T1,T2,T3,T4）

• Output points: 1-4 channels
• Output mode: Transmitting Output of measurement channel
• Output type: 4 – 20mA
• Maximum load: 750Ω

Alarm output relay（/A1~/A12）

• Output points: select from 6,8 and 12 point
• Contact capacity: 250VAC/3A, 30VDC/3A (Resistive load)
• Contact type: normally open
• Relay share: or operation

Communication（/C2,/C3）

• Connection type：RS232C (/C2) or RS485 (/C3)
• Protocol：Modbus-RTU（from machine）protocol
• Traffic rate：1200, 2400, 4800, 9600, 19200, 38400, 57600
• Byte swap：2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print（/C4）

• Printer: panel micro printer
• Print content: real-time data, historical data, accumulated data
• Printing method: hand print, regular print

Ethernet（/E）

Protocol： Modbus-TCP
Port number：1

USB（/U）

• Protocol: compatible with USB2.0 protocol
• Number of ports: 1

Cumulative / reporting（/L）

• Cumulative points: the same as number of input channels, each input channel can be accumulated
• Cumulative range: 0 ~ 999,999,999
• Report type: hour report, 8-hour class report, 12-hour class report, daily report + monthly report
• Report length:

Report forms	Time length
Hour report	16d
8-hour class report	128d
12-hour class report	192d
daily+monthly report	1y

Instrumentation 24VDC power supply（/P1）

Supply voltage：20VDC~28VDC
Power：≤20W

Selection table

12 channel selection table

Type	Function	Specification		Description
VX6301				1 channel input
VX6302				2 channel input
VX6303				3 channel input
VX6304				4 channel input
VX6305				5 channel input
VX6306				6 channel input
VX6307				7 channel input
VX6308				8 channel input
VX6309				9 channel input
VX6310				10 channel input
VX6311				11 channel input
VX6312				12 channel input
Function	R			General records
	F			Temperature and pressure compensation
Additional specification		/T□	1–4	4 channel 4–20mA output
		/A□	1–12	1-12 normally open contact output
		/C□	2	RS232 communication
			3	RS485 communication
			4	Micro printer terminal*1
		/E		Ethernet
		/U		USB function
		/L		Accumulate/Report

*1 Support private micro printer only.

16 channel selection table

Type	Function	Specification		Description
VX6316				16 channel input
功能类型	R			General records
	F			Temperature and pressure compensation
附加规格		/A8		8 normally open contact output
		/C□	2	RS232 communication
			3	RS485 communication
			4	Micro printer terminal*1
		/E		Ethernet
		/U		USB function
		/L		Accumulate/Report

Customization function

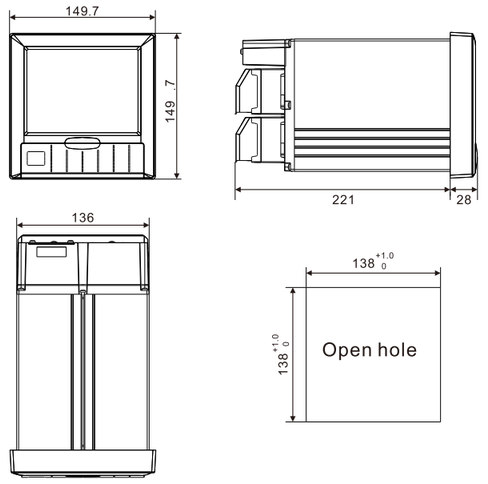
Specification		Description
/FB□	1–12	1–12 channel frequency input，with 12V power*2
/FC□	1–12	1–12 channel frequency input，with 24V power*2
/PT		Anti–corrosion paint protection
/P1		24VDC power supply

*2 Please contact to the manufacture to custom frequency input channel。

Accessories（sold separately）

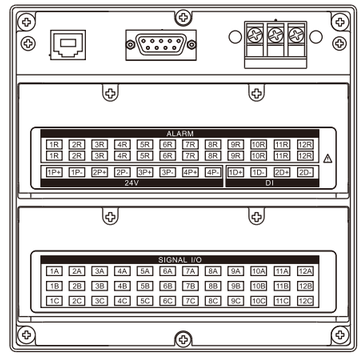
Product	Type	Specification
U disk	860206	4GB
Communication modular converter	862101	Active RS232/RS485 modular converter
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR multi machine data management software

Mounting dimension（Unit: mm）

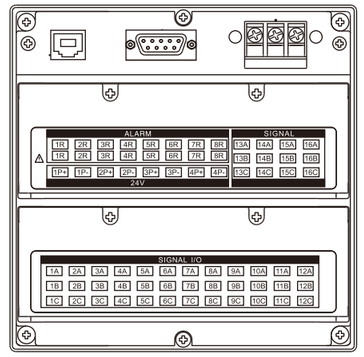


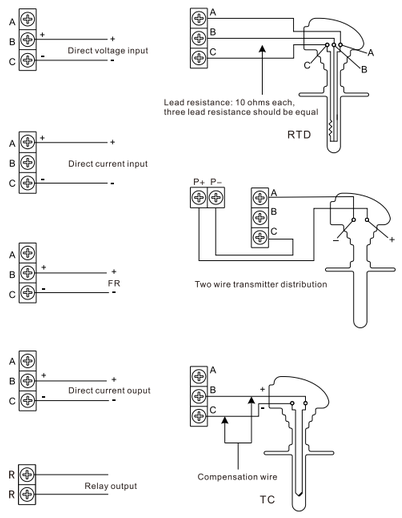
Terminal connection diagram

VX6301-VX6312



VX6316





VX5300 Blue screen paperless recorder

Product overview

VX5300 maximum 16 channel all-purpose input paperless recorder can input DC current, DC voltage, frequency, millivolt, thermocouple, RTD, and other signals. It has sensor isolation power distribution output, relay alarm output, transmitter output, flow totalizer, temperature and pressure compensation, cumulative statements, historical data storage, printing, and remote communication function.

Functional characteristics

System

- Using the latest large scale integrated circuits, international famous factory components.
- High-speed, high-performance 32-bit ARM microprocessor, which can achieve 16-way signal detection, recording, display and alarm.
- 5.6 inches 320x234 dot-matrix TFT high brightness blue screen graphic LCD display, LED backlight, clear picture quality, wide viewing angle .
- All isolated all-purpose input, can enter a variety of signals, no jumper, can be configured by software.
- The new switching power supply, working properly within the range of 100VAC ~ 240VAC.
- Integrated hardware real time clock, the clock can be accurate under power-down situations.
- Provide transmitter 24VDC isolated power distribution.
- Aluminum sealed enclosure and internal shield, which can ensure the instrument is working properly in harsh environments.
- Large-capacity FLASH memory chip store historical data, and never lost data when it is in power-down.
- 12 relay alarm output. （ VX6316 series only supports 8-channel relay alarm output ）

Singal

- Enter a variety of standard signal: DC current, DC voltage, frequency, millivolt, thermocouple, RTD
- Signal full scale accuracy ± 0.2%.
- Using optoelectronic devices in channel, completely isolated.
- Provide standard 4-20mA transmitter output

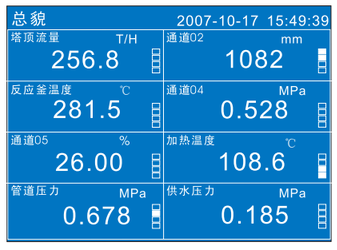
Software

- Software locks guarantee user configuration safety.
- Chinese menu configuration can freely configurable configure and display engineering bit number, engineering units.
- Engineering quantities display range: -9999 to 19999, also supports the degree of vacuum operation and scientific notation display.
- While indicating lower and lower limit, lower limit, upper limit of each channel, upper and upper limit alarm, record and display the most recent 15 alarm information.
- Each channel supports flow accumulation function, providing hour reports, 8 hour class report, 12 hour class report, daily report + monthly report and other reports.
- Up to 4 sets of temperature and pressure compensation, support plates, and other vortex street and other flow device and steam, water, gas and other general compensation medium compensation operation.
- Curve display mode can select horizontal curve or vertical curve.
- Provide 4 sets of curve combination, each set can freely select curve channel and curve color
- Built GB231 secondary character font (6500 characters).
- Powerful T6 input method, easy to operate, support Pinyin, digital, English, special symbols, upper and lower standard character input, use international standard codes to solve the input issue of special units and Chinese-bit number.

Communication

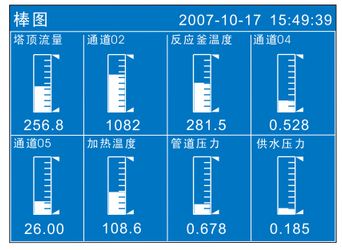
- Standard Ethernet communication interface : RJ45.
- Standard serial communication interfaces: RS232C and RS485.
- Support standard Modbus-RTU communication protocol, providing a variety of data types, such as one hundred component, engineering amount, cumulative amount. In addition to supporting the company's DataManagement data management software, also supports iFix, configuration king, MCGS, power control and other general professional configuration software, no special drive.
- Use a USB2.0 interface data, and backup history data.
- Support FAT32 file system, Windows automatically identifies the backup data files without format conversion.
- External mini-printer, you can manually print data, curves, regularly and automatically print real-time data to meet the needs of the user of on-site printing.

Display



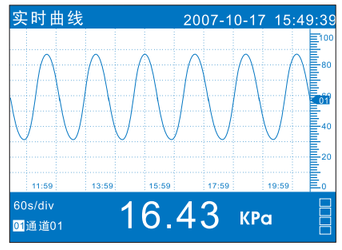
Digital display

Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.



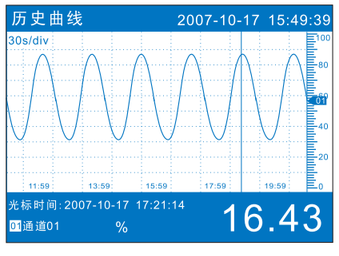
Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.



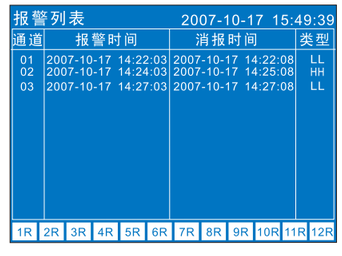
Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.



Historical curve

Graphically reproduce the historical data of the selected channel.



Alarm information

Display recent channel alarm time, eliminating alarm time and other information.

Flow indication

Display flow, temperature, pressure information and combination method of flow loop on the same screen, at the same time show the frequency, differential pressure, media density and other information.

Technical index

General specification

Construction

Installation method : flushbonading instrument installation (vertical instrument panel)
Angle of installation: most tilt 30 degrees backwards from the horizontal plane
Thickness of instrument panel: 1-10mm
Boundary dimension: 144(W) x 144(H) x 220(D) mm
Weight: about 2.6kg

Input

Incoming channel: 1-12, 16 channel
Measurement period: 1 s
Signal Type :

Input mode	Input Type	measurement range
I	4~20mA	4.00 ~ 20.00mA
	10mA	0.00 ~ 10.00mA
V	5V	0.000 ~ 5.000V
	10V	0.000 ~ 10.000V
	20mV	0.00mV ~ 20.00mV
	100mV	0.00mV ~ 100.00mV
R	350Ω	0.0 ~ 350.0Ω
RTD	Pt100	-200.0 ~ 650.0℃
	Cu50	-50.0 ~ 150.0℃
	Cu53	-50.0 ~ 150.0℃
	BA1	-200.0 ~ 650.0℃
	BA2	-200.0 ~ 650.0℃
TC	S	-50.0 ~ 1768.0℃
	R	-50.0 ~ 1768.0℃
	B	500 ~ 1820℃
	K	-200.0 ~ 1372.0℃
	N	-200.0 ~ 1300.0℃
	E	-200.0 ~ 1000.0℃
	J	-200.0 ~ 1200.0℃
	T	-200.0 ~ 385.0℃
	WRE5-26	0 ~ 2310℃
	F1	700 ~ 2000℃
	F2	700 ~ 2000℃
FR	Fr	0~10000Hz

Frequency input

Low level : 0 ~ 2V
High level : 4 ~ 24V

Analog input board card

- Resolution ratio: 16 bit
- Sampling rate: 1 time per second
- Measurement accuracy: ≤ 0.2%F.S.
- Signal withstand voltage: minimum-15VDC, minimum+15VDC
- Sensor detection of disconnection:

Sensor open circuit of thermal resistance and thermocouple (break line)
- 4 -20mA incoming current is less than 2mA
- Other Signals are Not Applicable
- Response time of Sensor open circuit:

4 – 20mA 2 s
1 – 5V 2 s
Thermal resistance 4 s
Thermocouple 4 s

Display

- Display: 5.6 inches LCD (320*234 point)
- Display color: blue/white
- Bit number: 5 Chinese characters or 10 alphabets (digital)
- Unit: 3 Chinese characters or 7 alphabets (digital)
- Status display:

Image name, board card condition, alarm condition, USB device flag, and circulation display mark
- Image display:

Measured data (pandect, digital display, bar graph display, curve display)
Function image (historical curve, accumulation statement, data backup, data printing, Alarm List)
- Pandect display: display the date and alarm condition of all measurement channels
- Curve display: Landscape Mode and Portrait Mode could be choosed
- Historical curve: display the stored data of the memory, which can be enlarged 1/2/4/8/16/32 times
- Alarm information: total records show 15 records.

Temperature and pressure compensation(VX5300F only)

- Measuring equipment: pore plate, vortex (current mode), vortex street (frequency type)
- Measuring media: steam, water, general gas
- Steam temperature: 0 ~ 600℃
- Steam pressure: 0.1 ~ 22Mpa
- Steam state: automatic decision of saturated vapor and superheated steam
- Water temperature: 0 ~ 150℃
- Water pressure: 0.6Mpa ~ 1.6Mpa
- Gas compressibility factor: automatic search is offered for air, oxygen, nitrogen, and constant can be set for general gas
- Vortex street coefficient: 0.00000 ~ 999,999

Memory

- External Storage
  - Media: U-disk
  - Form: FAT32
  - Mode: file record
  - Capacity: 8G
- Internal Storage
- Media: memory
  - Form: binary save
  - Mode: continuous record
- Capacity:

1-12 channel

Interrecord gap	1s	2s	5s	10s	15s	30s	1min	2min	4min
Recording duration	3d	6d	15d	30d	45d	90d	180d	360d	720d

16 channel

Interrecord gap	1s	2s	5s	10s	15s	30s	1min	2min	4min
Recording duration	40h	3d	8d	16d	24d	48d	96d	192d	384d

Alarm

- Set Number: 4 alarms can be set at most in each channel
- Alarm type: upper and upper limit alarm, upper limit alarm, lower limit alarm, lower and lower limit alarm
- Alarm delay time: 1 - 10 s
- Alarm output: output to internal relay
- Display: When an alarm occurs, alarm condition is displayed in the homologous image, and the alarm icon is displayed in the status bar
- Alarm record: alarm information which has happened displays in the alarm list image.

Clock

- Clock: Hardware Clock, which remains operation when it is power down
- Operating range: 2001 ~ 2099
- Clock precision: ±10ppm（0 ~ 50℃）, exclusive of delay error which resulted in the power opened (under 1 second)

Power

- Rated voltage: 220VAC
- Supply power range: 100 – 240VAC
- Rated frequency: 50 Hz
- Power dissipation: ≤20W

24VDC transmitter distribution output

- Output voltage: 24VDC
- Maximum output current: 65mADC (overload protection current: about 90mA)
- Output points: 4 loops

Frequency input power output

- Output voltage: 12VDC 24VDC
- Output points: the same to the apolegamic Frequency Input
- Maximum output current: 30mADC

Transport and storage condition

- Environment temperature: -10℃ ~ 60℃
- Environment humidity : 0% ~ 95%RH (No condensation)

Normal running conditions

- Power supply: 220VAC/50Hz
- Operating temperature: 0℃ ~ 50℃
- Environment humidity : 20% ~ 85%RH (No condensation)
- Preheating time: 30 minutes after power supply
- Installation site: indoor

Additional Specification

Analog output (/T1,T2,T3,T4)

- Output points: 1-4 channels
- Output mode: Transmitting Output of measurement channel
- Output type: 4 – 20mA
- Maximum load: 750Ω

Alarm output relay (/A1~/A12)

- Output points: select from 6,8 and 12 point
- Contact capacity: 250VAC/3A, 30VDC/3A (Resistive load)
- Contact type: normally open
- Relay share: “or ” operation

Communication (/C2,/C3)

- Connection type: RS232C (/C2) or RS485 (/C3)
- Protocol: Modbus-RTU（from machine）protocol
- Traffic rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600
- Byte swap: 2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print (/C4)

- Printer: panel micro printer
- Print content: real-time data, historical data, accumulated data
- Printing method: hand print, regular print

Ethernet (/E)

Protocol : Modbus-TCP
Port number : 1

USB (/U)

- Protocol: compatible with USB2.0 protocol
- Number of ports: 1

Cumulative / reporting (/L)

- Cumulative points: the same as number of input channels, each input channel can be accumulated
- Cumulative range: 0 ~ 999,999,999
- Report type: hour report, 8-hour class report, 12-hour class report, daily report + monthly report
- Report length:

Report forms	Time length
Hour report	16d
8-hour class report	128d
12-hour class report	192d
daily+monthly report	1y

Instrumentation 24VDC power supply (/P1)

Supply voltage : 20VDC~28VDC
Power : ≤20W

Selection table

12 channel selection table

Type	Function	Specification		Description
VX5301				1 channel input
VX5302				2 channel input
VX5303				3 channel input
VX5304				4 channel input
VX5305				5 channel input
VX5306				6 channel input
VX5307				7 channel input
VX5308				8 channel input
VX5309				9 channel input
VX5310				10 channel input
VX5311				11 channel input
VX5312				12 channel input
Function	R			General records
	F			Temperature and pressure compensation
Additional specification		/T□	1–4	4 channel 4–20mA output
		/A□	1–12	1-12 normally open contact output
		/C□	2	RS232 communication
			3	RS485 communication
			4	Micro printer terminal*1
		/E		Ethernet
		/U		USB function
		/L		Accumulate/Report

*1 Support private micro printer only.

● 16 channel selection table

Type	Function	Specification		Description
VX5316				16 channel input
Function	R			General records
	F			Temperature and pressure compensation
Additional specification		/A8		8 normally open contact output
		/C□	2	RS232 communication
			3	RS485 communication
			4	Micro printer terminal*1
		/E		Ethernet
		/U		USB function
		/L		Accumulate/Report

● **Customization function**

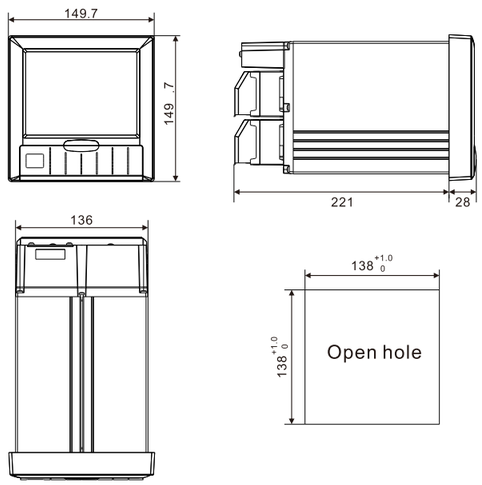
Specification		Description
/FB□	1–12	1–12 channel frequency input，with 12V power*2
/FC□	1–12	1–12 channel frequency input，with 24V power*2
/PT		Anti-corrosion paint protection
/P1		24VDC power supply

*2 Please contact to the manufacture to custom frequency input channel。

Accessories（sold separately）

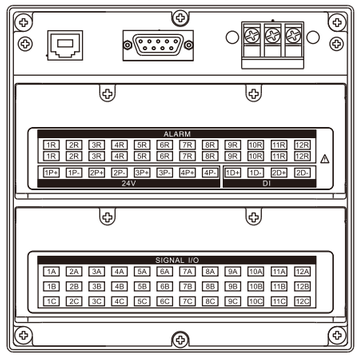
Product	Type	Specification
U disk	860206	4GB
Communication modular converter	862101	Active RS232/RS485 modular converter
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR multi machine data management software

Mounting dimension（Unit: mm）

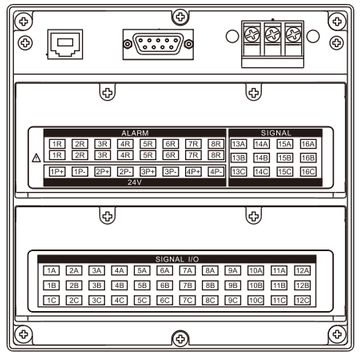


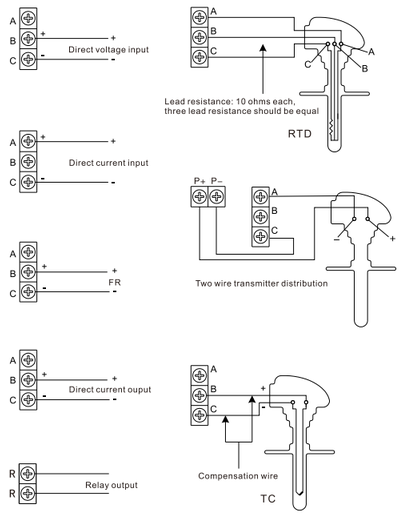
Terminal connection diagram

VX5301-VX5312



VX5316





VX2400 Monochrome paperless recorder

Product overview

VX2400 maximum 4 channel all-purpose input paperless recorder can input DC current, DC voltage, frequency, millivolt, thermocouple, RTD, and other signals. It has sensor isolation power distribution output, relay alarm output, transmitter output, flow totalizer, temperature and pressure compensation, cumulative statements, historical data storage, printing, and remote communication function.

Functional characteristics

● **System**

• Using the latest large scale integrated circuits, international famous factory components.
• High-speed, high-performance 32-bit ARM microprocessor, which can achieve 16-way signal detection, recording, display and alarm.
• 3.5 inches 320x200 dot-matrix high brightness graphic LCD display, clear picture quality, wide viewing angle .
• The new button design, silicone button, the operation is simple and comfortable, built-in micro-switches, and long service life.
• 1.2mm transparent acrylic window, surface hardening treatment, there is a strong anti-scratch ability.
• All isolated all-purpose input, can enter a variety of signals, no jumper, can be configured by software.
• The new switching power supply, working properly within the range of 100VAC ~ 240VAC.
• Integrated hardware real time clock, the clock can be accurate under power-down situations.
• Provide transmitter 24VDC isolated power distribution.
• Large-capacity FLASH memory chip store historical data, and never lost data when it is in power-down.
• 4 relay alarm output.

● **Singal**

• Enter a variety of standard signal: DC current, DC voltage, frequency, millivolt, thermocouple, RTD
• Signal full scale accuracy ± 0.2%.
• Provide standard 4-20mA transmitter output

● **Software**

• Software locks guarantee user configuration safety.
• Chinese menu configuration can freely configurable configure and display engineering bit number, engineering units.
• Engineering quantities display range: -9999 to 30000, also supports the degree of vacuum operation and scientific notation display.
• While indicating lower and lower limit, lower limit, upper limit of each channel, upper and upper limit alarm, record and display the most recent 15 alarm information.
• Each channel supports flow accumulation function, providing hour reports, 8 hour class report, 12 hour class report, daily report + monthly report and other reports.

• Curve display mode can select horizontal curve or vertical curve.
• Built GB231 secondary character font (6500 characters).
• Powerful T6 input method, easy to operate, support Pinyin, digital, English, special symbols, upper and lower standard character input, use international standard codes to solve the input issue of special units and Chinese-bit number.

Communication

• Standard Ethernet communication interface: RJ45.
• Standard serial communication interfaces: RS232C and RS485.
• Support standard Modbus-RTU communication protocol, providing a variety of data types, such as one hundred component, engineering amount, cumulative amount. In addition to supporting the company's DataManagement data management software, also supports iFix, configuration king, MCGS, power control and other general professional configuration software, no special drive.
• Use a USB2.0 interface data, and backup history data.
• Support FAT32 file system, Windows automatically identifies the backup data files without format conversion.
• External mini-printer, you can manually print data, curves, regularly and automatically print real-time data to meet the needs of the user of on-site printing.

Display

Digital display

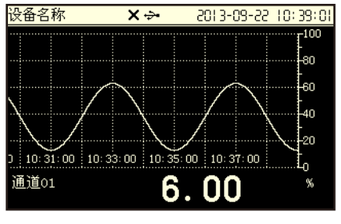
Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.

Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.

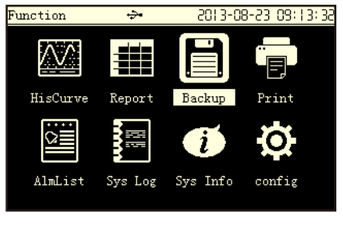
Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.



Historical curve

Graphically reproduce the historical data of the selected channel.



English display

Support English switch.

Data backup

Backup history data through the USB interface, alarm list, the cumulative report, the system log.

Technical index

General specification

Construction

Installation method : flushbonading instrument installation
(vertical instrument panel)
Angle of installation: most tilt 30 degrees backwards from the horizontal plane
Thickness of instrument panel: 1-10mm
Boundary dimension: 160(W) x 80(H) x 100(D) mm
Weight: about 0.5kg

Input

Incoming channel: 1-4 channel
Measurement period: 1 s
Signal Type :

Input mode	Input Type	measurement range
I	4~20mA	4.00 ~ 20.00mA
	20mA	0.00 ~ 20.00mA
V	1-5V	1.000 ~ 5.000V
	5V	-5.000 ~ 5.000V
	10V	-10.00 ~ 10.00V
	20mV	0.000mV ~ 20.000mV
	100mV	0.00mV ~ 100.00mV
R	400Ω	0.0 ~ 400.0Ω
RTD	Pt100	-200.0 ~ 650.0℃
	Cu50	-50.0 ~ 150.0℃
	BA1	-200.0 ~ 650.0℃
	BA2	-200.0 ~ 650.0℃
TC	S	-50.0 ~ 1768.0℃
	R	-50.0 ~ 1768.0℃
	B	500 ~ 1820℃
	K	-200.0 ~ 1372.0℃
	N	-200.0 ~ 1300.0℃
	E	-200.0 ~ 1000.0℃
	J	-200.0 ~ 1200.0℃
	T	-200.0 ~ 385.0℃
	WRE5-26	0 ~ 2310℃
	WRE3-25	0 ~ 2310℃
	F1	700 ~ 2000℃
	F2	700 ~ 2000℃
common or subsection vacuum	4~20mA	4.00 ~ 20.00mA
	1-5V	1.000 ~ 5.000V
	5V	-5.000 ~ 5.000V
	10V	-10.00 ~ 10.00V
FR	Fr	0~10000Hz

Frequency input

Low level : 0 ~ 2V
High level : 4 ~ 24V

Analog input board card

• Resolution ratio: 16 bit
• Sampling rate: 1 time per second
• Measurement accuracy: ≤ 0.2%F.S.
• Signal withstand voltage: minimum-15VDC, minimum+15VDC
• Sensor detection of disconnection:
Sensor open circuit of thermal resistance and thermocouple (break line)
• 4 -20mA incoming current is less than 2mA
• Other Signals are Not Applicable
• Response time of Sensor open circuit:
4 – 20mA 2 s
1 – 5V 2 s
Thermal resistance 4 s
Thermocouple 4 s

Display

• Display: 3.5 inches LCD (320*200 point)
• Display color: black/white
• Bit number: 7 Chinese characters or 15 alphabets (digital)
• Unit: 3 Chinese characters or 7 alphabets (digital)
• Status display:
Image name, alarm condition, USB device flag, circulation display mark, time
• Image display:
Measured data (pandect, digital display, bar graph display, curve display)
Function image (historical curve, accumulation statement, data backup, data printing, Alarm List)
• Pandect display: display the date and alarm condition of all measurement channels
• Curve display: Landscape Mode and Portrait Mode could be choosed
• Historical curve: display the stored data of the memory, which can be enlarged 1/2/4/8/16/32/64 times
• Alarm information: total records show 256 records.

Memory

• External Storage
Media: U-disk
Form: FAT32
Mode: file record
Capacity: 8G
• Internal Storage
• Media: memory
Form: binary save
Mode: continuous record
• Capacity:

Interrecord gap	1秒	2秒	5秒	10秒	15秒	30秒	1分	2分	5分	10分	30分
Recording duration	3天	6天	15天	30天	45天	90天	180天	360天	2.5年	5年	15年

Alarm

• Set Number: 4 alarms can be set at most in each channel
• Alarm type: upper and upper limit alarm, upper limit alarm, lower limit alarm, lower and lower limit alarm
• Alarm delay time: 1 - 10 s
• Alarm output: output to internal relay
• Display: When an alarm occurs, alarm condition is displayed in the homologous image, and the alarm icon is displayed in the status bar
• Alarm record: alarm information which has happened displays in the alarm list image.

Clock

• Clock: Hardware Clock, which remains operation when it is power down
• Operating range: 2001 ~ 2099
• Clock precision: ±10ppm（0 ~ 50℃）, exclusive of delay error which resulted in the power opened (under 1 second)

Power

• Rated voltage: 220VAC
• Supply power range: 100 – 240VAC
• Rated frequency: 50 Hz
• Power dissipation: ≤10W

24VDC transmitter distribution output

• Output voltage: 24VDC
• Maximum output current: 60mADC (overload protection current: about 90mA)
• Output points: 1 loops

Transport and storage condition

• Environment temperature: -10℃ ~ 60℃
• Environment humidity : 0% ~ 95%RH (No condensation)

Normal running conditions

- Power supply: 220VAC/50Hz
- Operating temperature: 0℃ ~ 50℃
- Environment humidity：20% ~ 85%RH (No condensation)
- Preheating time: 30 minutes after power supply
- Installation site: indoor

Additional Specification

Analog output（/T1）

- Output points: 1 channels
- Output mode: Transmitting Output of measurement channel
- Output type: 4 – 20mA
- Maximum load: 750Ω

Alarm output relay（/A2,/A4）

- Output points: select from 2 or 4 point
- Contact capacity: 250VAC/3A, 30VDC/3A (Resistive load)
- Contact type: normally open
- Relay share: “or ” operation

Communication（/C2,/C3）

- Connection type：RS232C (/C2) or RS485 (/C3)
- Protocol：Modbus-RTU（from machine）protocol
- Traffic rate：1200, 2400, 4800, 9600, 19200, 38400, 57600
- Byte swap：2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print（/C4）

- Printer: panel micro printer
- Print content: real-time data, historical data, accumulated data
- Printing method: hand print, regular print

Ethernet（/E）

- Protocol: Modbus-TCP protocol
- Number of ports: 1

USB（/U）

- Protocol: compatible with USB2.0 protocol
- Number of ports: 1

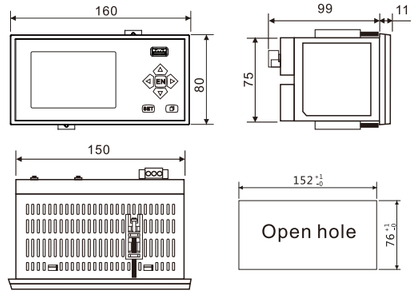
Cumulative / reporting（/L）

- Cumulative points: the same as number of input channels, each input channel can be accumulated
- Cumulative range: 0 ~ 999,999,999
- Report type: class report, daily report, monthly report,Annual report
- Report length:1 year

Instrumentation 24VDC power supply（/P1）

Supply voltage：20VDC~28VDC
Power：≤10W

Mounting dimension（Unit: mm）



Selection table

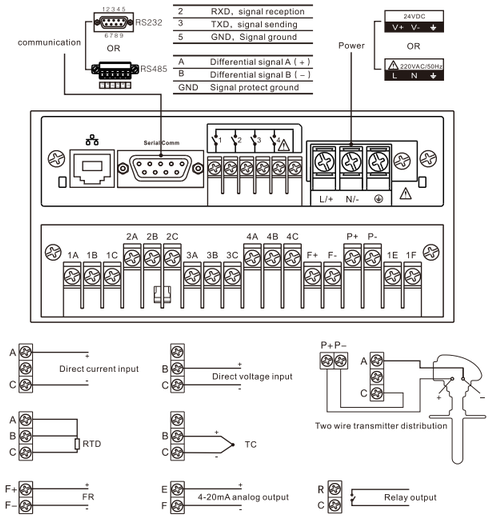
Type	Function	Specification	Description
VX2401			1 channel input *1
VX2402			2 channel input *1
VX2403			3 channel input *1
VX2404			4 channel input *1
Function	R		General records
Additional specification		/T1	1 channel 4–20mA output
		/A□	2 — 2 normally open contact output
			4 — 4 normally open contact output
		/C□	2 — RS232 communication
			3 — RS485 communication
			33 — 2 RS485 communication
			4 — Micro printer terminal*2
		/E	Ethernet communication*3
		/U	USB function
		/L	Accumulate/Report
		/P1	24VDC Power supply
		/PT	Protection of anticorrosive paint

*1 Frequency signals using a dedicated channel, 1 channel.
*2 Support private micro printer only.
*3 Ethernet communication and printer interface can not be selected at the same time.

Accessories（sold separately）

Product	Type	Specification
U disk	860206	4GB
Communication modular converter	862101	Active RS232/RS485 modular converter
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR multi machine data management software

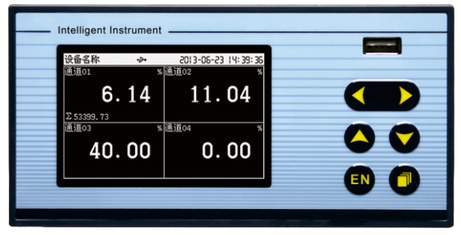
Terminal connection diagram



VX2300 Monochrome paperless recorder

Product overview

VX2300 maximum 4 channel all-purpose input paperless recorder can input DC current, DC voltage, frequency, millivolt, thermocouple, RTD, and other signals. It has sensor isolation power distribution output, relay alarm output, transmitter output, flow totalizer, temperature and pressure compensation, cumulative statements, historical data storage, printing, and remote communication function.



Functional characteristics

System

- Using the latest large scale integrated circuits, international famous factory components.
- High-speed, high-performance 32-bit ARM microprocessor, which can achieve 16-way signal detection, recording, display and alarm.
- 3.5 inches 320x200 dot-matrix high brightness graphic LCD display, clear picture quality, wide viewing angle .
- The new button design, silicone button, the operation is simple and comfortable, built-in micro-switches, and long service life.
- 1.2mm transparent acrylic window, surface hardening treatment, there is a strong anti-scratch ability.
- All isolated all-purpose input, can enter a variety of signals, no jumper, can be configured by software.
- The new switching power supply, working properly within the range of 100VAC ~ 240VAC.
- Integrated hardware real time clock, the clock can be accurate under power-down situations.
- Provide transmitter 24VDC isolated power distribution.
- Large-capacity FLASH memory chip store historical data, and never lost data when it is in power-down.
- 4 relay alarm output.

Singal

- Enter a variety of standard signal: DC current, DC voltage, frequency, millivolt, thermocouple, RTD
- Signal full scale accuracy ± 0.2%.
- Provide standard 4-20mA transmitter output

Software

- Software locks guarantee user configuration safety.
- Chinese menu configuration can freely configurable configure and display engineering bit number, engineering units.
- Engineering quantities display range: -9999 to 30000, also supports the degree of vacuum operation and scientific notation display.
- While indicating lower and lower limit, lower limit, upper limit of each channel, upper and upper limit alarm, record and display the most recent 15 alarm information.
- Each channel supports flow accumulation function, providing hour reports, 8 hour class report, 12 hour class report, daily report + monthly report and other reports.

• Curve display mode can select horizontal curve or vertical curve.
• Built GB231 secondary character font (6500 characters).
• Powerful T6 input method, easy to operate, support Pinyin, digital, English, special symbols, upper and lower standard character input, use international standard codes to solve the input issue of special units and Chinese-bit number.

Communication

• Standard Ethernet communication interface: RJ45.
• Standard serial communication interfaces: RS232C and RS485.
• Support standard Modbus-RTU communication protocol, providing a variety of data types, such as one hundred component, engineering amount, cumulative amount. In addition to supporting the company's DataManagement data management software, also supports iFix, configuration king, MCGS, power control and other general professional configuration software, no special drive.
• Use a USB2.0 interface data, and backup history data.
• Support FAT32 file system, Windows automatically identifies the backup data files without format conversion.
• External mini-printer, you can manually print data, curves, regularly and automatically print real-time data to meet the needs of the user of on-site printing.

Display

Digital display

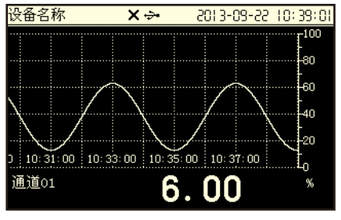
Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.

Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.

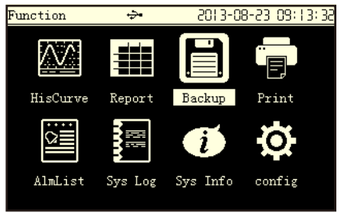
Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.



Historical curve

Graphically reproduce the historical data of the selected channel.



English display

Support English switch.

Data backup

Backup history data through the USB interface, alarm list, the cumulative report, the system log.

Technical index

General specification

Construction

Installation method : flushbonading instrument installation
(vertical instrument panel)
Angle of installation: most tilt 30 degrees backwards from the horizontal plane
Thickness of instrument panel: 1-10mm
Boundary dimension: 160(W) x 80(H) x 100(D) mm
Weight: about 0.5kg

Input

Incoming channel: 1-4 channel
Measurement period: 1 s
Signal Type :

Input mode	Input Type	measurement range
I	4~20mA	4.00 ~ 20.00mA
	20mA	0.00 ~ 20.00mA
V	1-5V	1.000 ~ 5.000V
	5V	-5.000 ~ 5.000V
	10V	-10.00 ~ 10.00V
	20mV	0.000mV ~ 20.000mV
	100mV	0.00mV ~ 100.00mV
R	400Ω	0.0 ~ 400.0Ω
RTD	Pt100	-200.0 ~ 650.0℃
	Cu50	-50.0 ~ 150.0℃
	BA1	-200.0 ~ 650.0℃
	BA2	-200.0 ~ 650.0℃
TC	S	-50.0 ~ 1768.0℃
	R	-50.0 ~ 1768.0℃
	B	500 ~ 1820℃
	K	-200.0 ~ 1372.0℃
	N	-200.0 ~ 1300.0℃
	E	-200.0 ~ 1000.0℃
	J	-200.0 ~ 1200.0℃
	T	-200.0 ~ 385.0℃
	WRE5-26	0 ~ 2310℃
	WRE3-25	0 ~ 2310℃
	F1	700 ~ 2000℃
	F2	700 ~ 2000℃
common or subsection vacuum	4~20mA	4.00 ~ 20.00mA
	1-5V	1.000 ~ 5.000V
	5V	-5.000 ~ 5.000V
	10V	-10.00 ~ 10.00V
FR	Fr	0~10000Hz

Frequency input

Low level : 0 ~ 2V
High level : 4 ~ 24V

Analog input board card

• Resolution ratio: 16 bit
• Sampling rate: 1 time per second
• Measurement accuracy: ≤ 0.2%F.S.
• Signal withstand voltage: minimum-15VDC, minimum+15VDC
• Sensor detection of disconnection:
Sensor open circuit of thermal resistance and thermocouple (break line)
• 4 -20mA incoming current is less than 2mA
• Other Signals are Not Applicable
• Response time of Sensor open circuit:
4 – 20mA 2 s
1 – 5V 2 s
Thermal resistance 4 s
Thermocouple 4 s

Display

• Display: 3.5 inches LCD (320*200 point)
• Display color: black/white
• Bit number: 7 Chinese characters or 15 alphabets (digital)
• Unit: 3 Chinese characters or 7 alphabets (digital)
• Status display:
Image name, alarm condition, USB device flag, circulation display mark, time
• Image display:
Measured data (pandect, digital display, bar graph display, curve display)
Function image (historical curve, accumulation statement, data backup, data printing, Alarm List)
• Pandect display: display the date and alarm condition of all measurement channels
• Curve display: Landscape Mode and Portrait Mode could be choosed
• Historical curve: display the stored data of the memory, which can be enlarged 1/2/4/8/16/32/64 times
• Alarm information: total records show 256 records.

Memory

• External Storage
Media: U-disk
Form: FAT32
Mode: file record
Capacity: 8G
• Internal Storage
• Media: memory
Form: binary save
Mode: continuous record
• Capacity:

Interrecord gap	1秒	2秒	5秒	10秒	15秒	30秒	1分	2分	5分	10分	30分
Recording duration	3天	6天	15天	30天	45天	90天	180天	360天	2.5年	5年	15年

Alarm

• Set Number: 4 alarms can be set at most in each channel
• Alarm type: upper and upper limit alarm, upper limit alarm, lower limit alarm, lower and lower limit alarm
• Alarm delay time: 1 - 10 s
• Alarm output: output to internal relay
• Display: When an alarm occurs, alarm condition is displayed in the homologous image, and the alarm icon is displayed in the status bar
• Alarm record: alarm information which has happened displays in the alarm list image.

Clock

• Clock: Hardware Clock, which remains operation when it is power down
• Operating range: 2001 ~ 2099
• Clock precision: ±10ppm（0 ~ 50℃）, exclusive of delay error which resulted in the power opened (under 1 second)

Power

• Rated voltage: 220VAC
• Supply power range: 100 – 240VAC
• Rated frequency: 50 Hz
• Power dissipation: ≤10W

24VDC transmitter distribution output

• Output voltage: 24VDC
• Maximum output current: 60mADC (overload protection current: about 90mA)
• Output points: 1 loops

Transport and storage condition

• Environment temperature: -10℃ ~ 60℃
• Environment humidity : 0% ~ 95%RH (No condensation)

Normal running conditions

- Power supply: 220VAC/50Hz
- Operating temperature: 0℃ ~ 50℃
- Environment humidity：20% ~ 85%RH (No condensation)
- Preheating time: 30 minutes after power supply
- Installation site: indoor

Additional Specification

Analog output（/T1）

- Output points: 1 channels
- Output mode: Transmitting Output of measurement channel
- Output type: 4 – 20mA
- Maximum load: 750Ω

Alarm output relay（/A2,/A4）

- Output points: select from 2 or 4 point
- Contact capacity: 250VAC/3A, 30VDC/3A (Resistive load)
- Contact type: normally open
- Relay share: “or ” operation

Communication（/C2,/C3）

- Connection type：RS232C (/C2) or RS485 (/C3)
- Protocol：Modbus-RTU（from machine）protocol
- Traffic rate：1200, 2400, 4800, 9600, 19200, 38400, 57600
- Byte swap：2-1 4-3, 1-2 3-4, 4-3 2-1, 3-4 1-2

Print（/C4）

- Printer: panel micro printer
- Print content: real-time data, historical data, accumulated data
- Printing method: hand print, regular print

Ethernet（/E）

- Protocol: Modbus-TCP protocol
- Number of ports: 1

USB（/U）

- Protocol: compatible with USB2.0 protocol
- Number of ports: 1

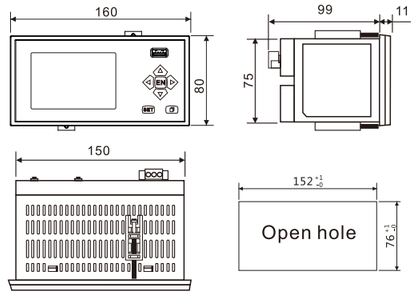
Cumulative / reporting（/L）

- Cumulative points: the same as number of input channels, each input channel can be accumulated
- Cumulative range: 0 ~ 999,999,999
- Report type: class report, daily report, monthly report,Annual report
- Report length:1 year

Instrumentation 24VDC power supply（/P1）

Supply voltage：20VDC~28VDC
Power：≤10W

Mounting dimension（Unit: mm）



Selection table

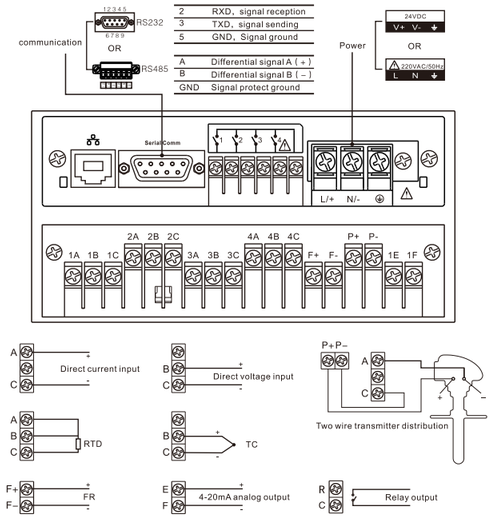
Type	Function	Specification	Description
VX2301			1 channel input *1
VX2302			2 channel input *1
VX2303			3 channel input *1
VX2304			4 channel input *1
Function	R		General records
Additional specification		/T1	1 channel 4–20mA output
		/A□ 2	2 normally open contact output
		/A□ 4	4 normally open contact output
		/C□ 2	RS232 communication
		/C□ 3	RS485 communication
		/C□ 33	2 RS485 communication
		/C□ 4	Micro printer terminal*2
		/E	Ethernet communication*3
		/U	USB function
		/L	Accumulate/Report
		/P1	24VDC Power supply
		/PT	Protection of anticorrosive paint

*1 Frequency signals using a dedicated channel, 1 channel.
*2 Support private micro printer only.
*3 Ethernet communication and printer interface can not be selected at the same time.

Accessories（sold separately）

Product	Type	Specification
U disk	860206	4GB
Communication modular converter	862101	Active RS232/RS485 modular converter
Power filter	863101	220VAC/1:1/50W
Software	864801	MDMR multi machine data management software

Terminal connection diagram



VX4000 有纸记录仪

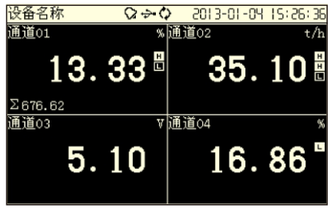
Product overview

In some situations, there is need to print data in time to meet the record requirements of the production process. In this case, it is proper to use Pangu VX4000 paper records. Pangu VX4000 paper recorder derives from the VX2400 monochrome paperless recorder, its basic performance is the same as VX2400 and its specific wiring and installation is similar to VX2400, see the accompanying documentation. Users can do historical data printing, historical curve printing, real-time data printing, cumulative report printing for the instruments according to needs, print styles see "VXP panel mounting wide-line mini-printer."

Functional characteristics

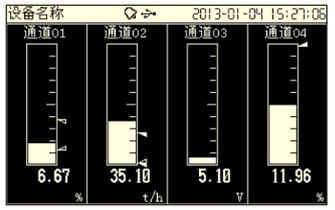
- Print historical data and historical curve.
- Key print, regularly print real-time data.
- AC220V AC power supply, energy ≤25W.
- External size: 160 (W) × 164 (H) × 110 (D) mm.
- Hole size: 152 (W) × 160 (H) mm.
- The remaining functions are the same as VX2400.

显示画面



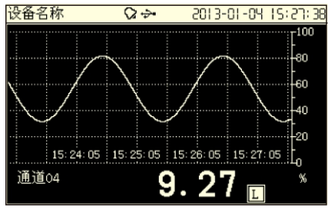
Digital display

Digital display shows measurement value, and it can also display the channel bit number, industrial units, alarm status, and the cumulative amount information.



Bar graph display

Use bar graph to display measured values, which is easy and intuitive, but also show a number of channel bits, industrial units, and alarm status and other information.



Curve display

Transverse or vertical display mode can be selected. The displayed curves and curve colors can be freely combined.

Function inquiry

Doing historical curve inquiry, data backup, data print, query alarm records.

Data printing

Select the channel and time section to print historical data and curves.

Print configuration

Setting button print and timing print, print real-time data of each channel.

VXP micro printer

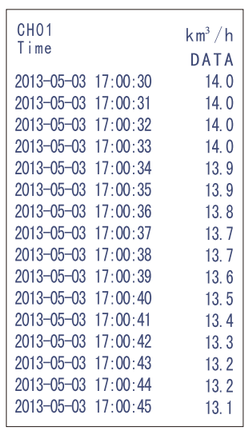
Product overview

VXP panel mounting wide-line printer is the accessory products of VM series instruments. Panel mounting structure can install the printer directly on the dashboard, the front panel can change the paper, which is convenient for install and use.

Functional characteristics

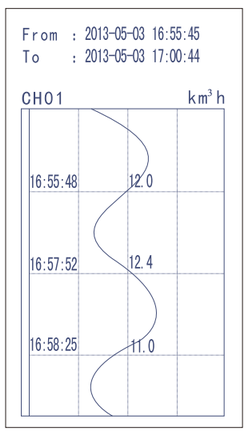
- Wide line speed printing, print density 240 dots / line, printing contents are clarity and rich.
- supporting the use of VX series paperless recorder.
- RS232 serial port connection.
- Can print data and curves.
- Front-loading paper type, easy to maintain.
- AC220 AC power supply, power consumption ≤15W.
- Printing paper: ordinary roll, maximum outer diameter Φ50mm, inner diameter Φ12.5mm, paper width 57.5 ± 0.5mm, paper characteristics 53 ~ 64g / m2.
- Colored tape: ERC-09 cartridge.
- External size: 160 (W) × 80 (H) × 100 (D) mm.
- Hole size: 152 (W) × 76 (H) mm.

Print Style

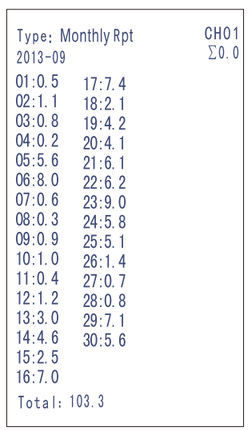


CH01 Time	km³/h DATA
2013-05-03 17:00:30	14.0
2013-05-03 17:00:31	14.0
2013-05-03 17:00:32	14.0
2013-05-03 17:00:33	14.0
2013-05-03 17:00:34	13.9
2013-05-03 17:00:35	13.9
2013-05-03 17:00:36	13.8
2013-05-03 17:00:37	13.7
2013-05-03 17:00:38	13.7
2013-05-03 17:00:39	13.6
2013-05-03 17:00:40	13.5
2013-05-03 17:00:41	13.4
2013-05-03 17:00:42	13.3
2013-05-03 17:00:43	13.2
2013-05-03 17:00:44	13.2
2013-05-03 17:00:45	13.1

Historical data print result



Historical curve print result



Cumulative report printing results

Real-time data printing results

Data Management Software

Product overview

Data management software specifically customized and developed for each model instrument of this company, through a number of developments and improvements of many versions, with a functional and practical diversity, safe and stable operation and other characteristics.

Using a variety of ways to obtain data

- Collect data in time through the serial port, and save to computer.
- Upload historical data in instruments by serial mode, and save to computer.
- Dump historical data in instruments by U, and save to computer.

Humanized intelligent operation interface

- Use Windows window to operate interface, add the normal toolbar, operation is easy.
- Achieve multi-document display function, can display multiple document windows within a window, and can select cascade, tile or user-defined display mode.
- Rich set options, can freely customize XY axis display and range, curve color, width, units and other information, make a satisfactory personalized display mode.

Strengthen the real–time data acquisition function

- Curve, data, bar graph, circle diagram four kinds of real-time data acquisition interface can be selected, interface is clear, being clear at a glance.
- Can achieve any combination of arbitrary combination display of multi-channel data.

Using historical data processing functions

- Graphically browse historical data: draw all curves in historical data file to a graph, you can enlarge the local curve by setting the starting and ending points of time or zoom mouse of local curves by zoom of slider to locate any point in time, show the exact time and each channel value of the time, and add time stamps to mark and extrude.
- Browse historical data by listing: to show all historical data by listing, and you can quickly find the specified numerical data by time, number, channel, etc.; lists of any segment data list replication function directly export to EXCEL file functions.
- Statistical functions of peak value, valley value, mean value: count peak value, valley value, mean value and their homogeneity in your appointed any period of time.