VX2400C Color paperless recorder

Product overview

VX2400C 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.

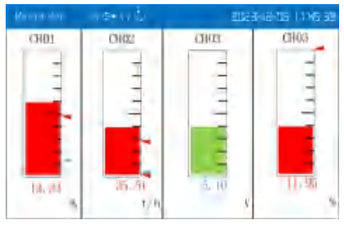
Communication

• 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

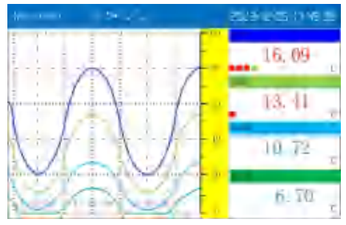
Digital display

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



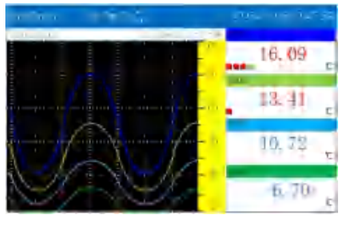
Bar graph display

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.

Functional inquiry

Press [Left/Right] to move the cursor,
Press the [Confirm key] to enter.

Alarm list

View alarm records.

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: 16G
- Internal Storage
- Media: memory
  Form: binary save
  Mode: continuous record
- Capacity:

Expandable storage	Recording interval	1channel	2channel	3channel	4channel
None	2 seconds	120day	60day	30day	30day
Have	2 seconds	316day	158day	78day	78day

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

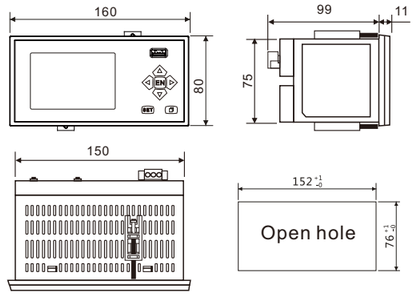
Cumulative / reporting (/L)

- 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	CR		General records
Additional specification		/M1	Expandable storage
		/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	16GB
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