VR18 Paperless Recorder

6.1" Color TFT LCD with 640x480 pixels resolution

The Maximum Channels :

18 isolated analog input channels

Plug & Play Supported I/O Cards, 6 Slots

The High Flexibility :

User configurable I/O card

Expandable modular architecture

Flexible screen configuration

User-Friendly :

Soft keys coupled with interactive dialog simplify setup & operation procedures

Easy - to - access function keys

Infrared Detector :

Shut off LCD automatically to prolong LCD life and save power while nobody near by

Save Space :

Only 174 mm (6.9") depth behind panel

Various Display Formats :

Vertical trend, Horizontal trend, Bar Graph, Numerical or mixed

Save Data in Flash ROM, Compact Flash Card or PC

Communication :

Standard Ethernet and optional RS-232/422/485

The Highest Accuracy :

18-bit A-D analog input, 15-bit D-A analog output.

Fast Sampling Rate :

Within 200 msec for all channels, Programmable Filter or Moving Average Sampling Method

Statistics with Instant, Average, Min./Max. Values

Progammable Alarms and Messages available

Portable / Bench Top Assembly Kit available

BRAINCHILD

VR18* is the *World First paperless recorder of the same size with the highest resolution (true VGA , 640x480 pixels), infrared detector, 18 channels, plug & play I/O card, high flexibility, the most user - friendly and the shortest depth. In chemical plant, food & beverage plant, petrochemical plant, semiconductor plant, metal alloy, automotive plant, environmental monitoring or laboratory, VR18 can be used to monitor, record, evaluate the processes in the plants.

The user can access data on the screen as well as on site from a remote place via RS-232, RS-485, RS-422 serial interface or Ethernet networking. The historical data can be stored in flash ROM, Compact Flash Card, or collected in a remote host PC for data evaluation and print-out.

Panel Mounted Style

6.1" color TFT LCD 640x480 pixels resolution

Infrared detector protect LCD & save power

Bench Top / Portable Style

12 SOFT KEYS FOR EASY OPERATION

Rear Terminals

standard Ethernet and optional RS-232/422/485

Power supply

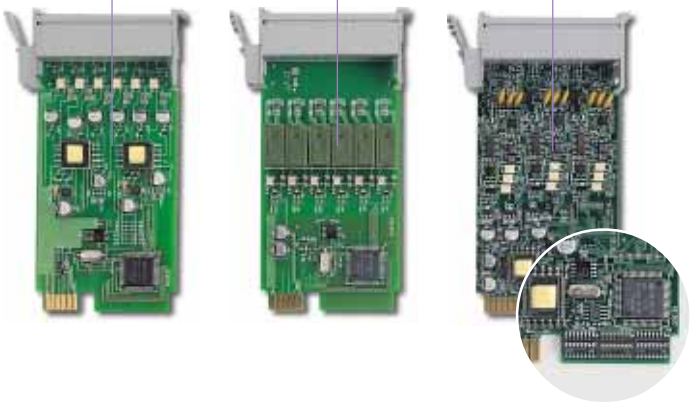
6 SLOTs for Plug & play I/O cards, maximum 18 analog inpot or mixed with analog & digital I/O cards

Input & Output Cards

Digital input

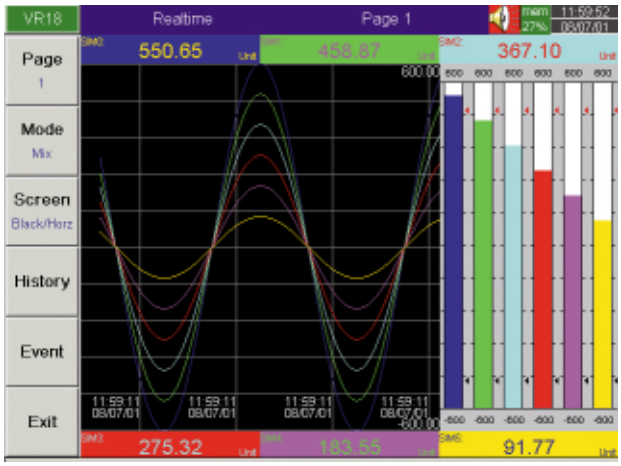
Digital output (6 alarms)

Analog input



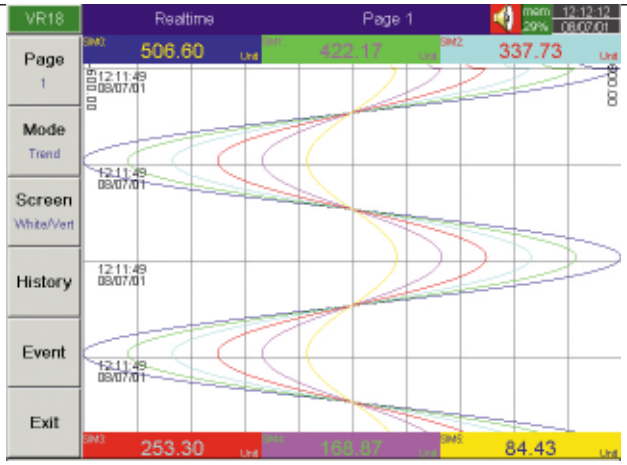
Configure input by DIP switches

Mixed Mode



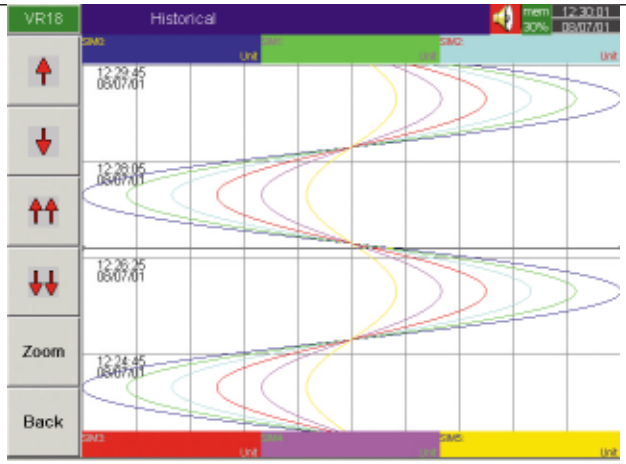
- View max. 6 mixed real time data trends horizontally.
- Display data in "Bars" and "Digits" together with mixed "Trends".
- Recognize data trends easily by different colors and tag names.
- Switch to other configured pages easily by "Page" function key.
- Display current "Time/Date" information.
- Remind the user of "Alarm" or "Memory Full".

Trend Mode



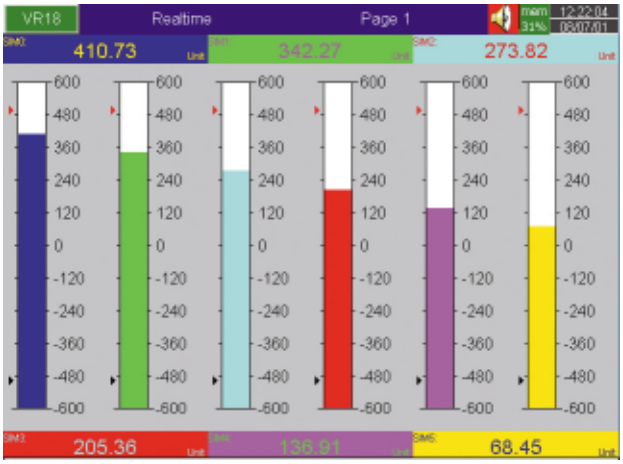
- View max. 6 real time data trends vertically.
- Recognize data trends easily by different colors and tag names.
- Switch to other configured pages easily by "Page" function key.
- Display current "Time/Date" information.
- Remind the user of "Alarm" or "Memory Full".

Historical Mode



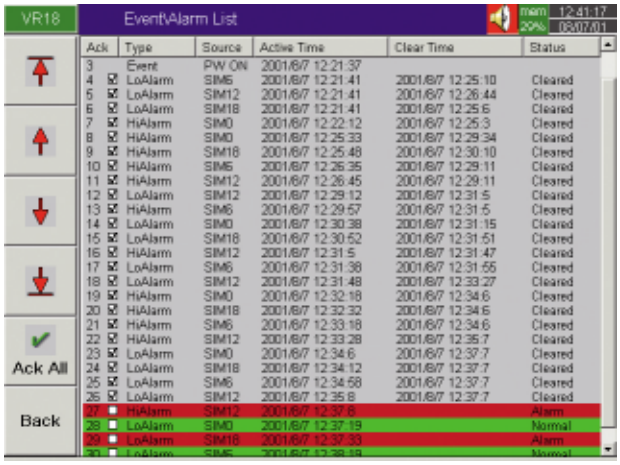
- Display max. 6 sets of historical data simultaneously.
- View desired data section by " ↑ " & " ↓ " function keys.
- Access precise data value at a point selected by moving the "ruler".
- "Zoom" to expand/contract the display time span.
- View historical data trends and their respective data values.
- Recognize trends easily by different colors and individual tag names.

Bar Graph Mode



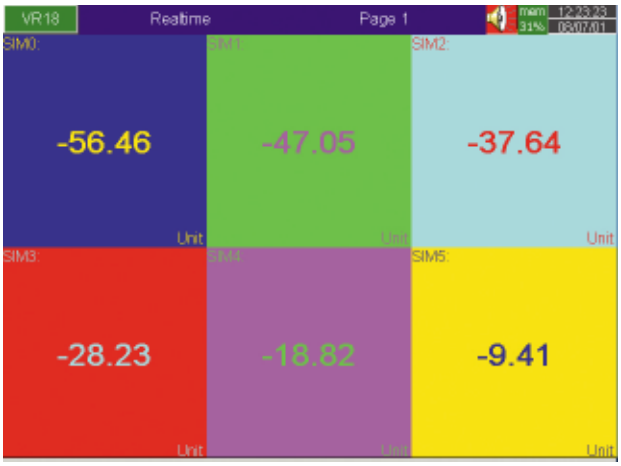
- View max. 6 real time data in bar graphs.
- Scale individually by user in "configuration".
- Display data value and tag name in different colors together with each bar graph.
- Mark "Hi/Lo" alarm limits.
- Display current "Time/Date" information.
- Remind the user of the "Alarm" or "Memory Full".

Alarm List



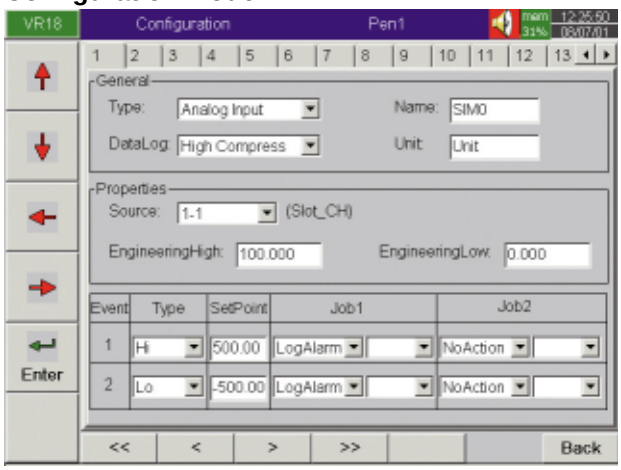
- List all the alarm records clearly with useful information .
- Browse through the alarm list or "acknowledge" alarm easily by function keys on the vertical bar.
- Remind the user of the alarm status in different colors.

Numerical Mode



- View max. 6 real time data in numbers.
- Display data value and tag name in different color.
- Mark "Hi/Lo" alarm limits.
- Display current "Time/Date" information.
- Remind the user of the "Alarm" or "Memory Full".

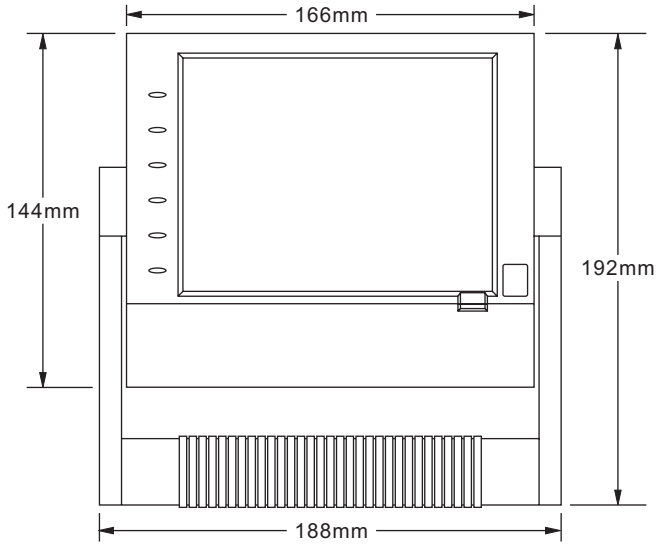
Configuration Mode

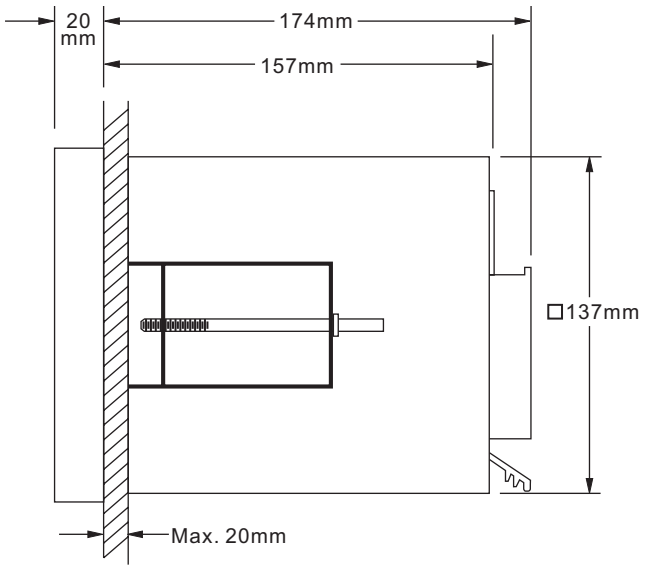


- Configure pen (input/output, pen name, event, j ob.....)
- Configure page (color, pen, decimal, pen width.....)
- Configure timer.
- Configure instrument (storage media, display, communication, time/date....)

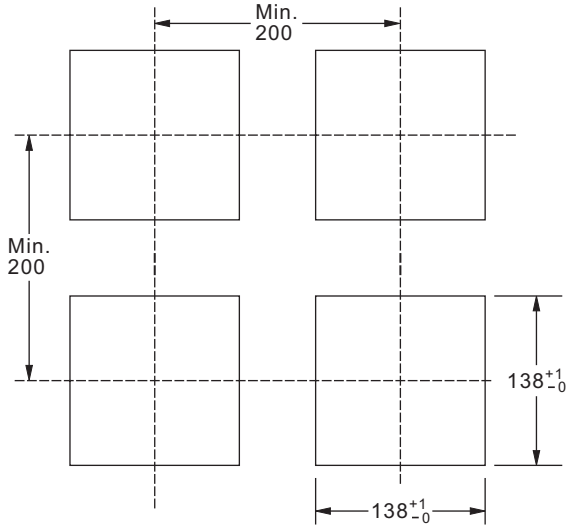
INSTALLATION

Mechanical Data

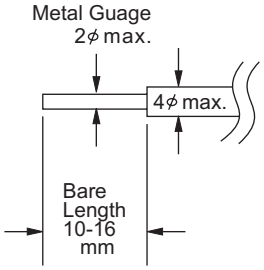




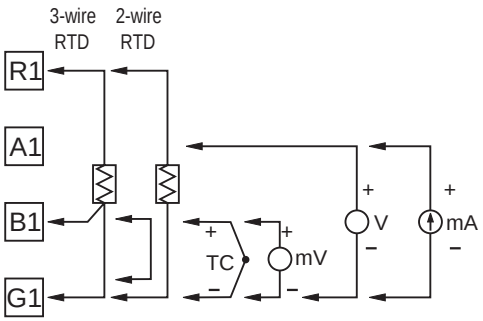
Panel Cutout



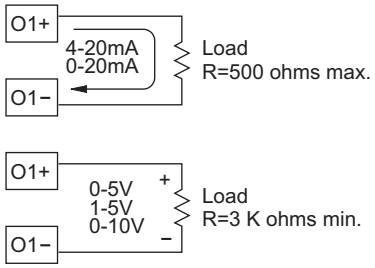
Wiring Cable



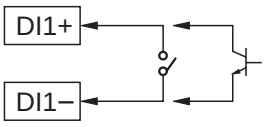
Analog Input Card (AI181, AI182, AI183)



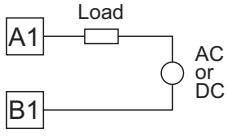
Analog Output Card (AO181)



Digital Input Card (DI181)



Digital Output Card (DO181)



SPECIFICATIONS

Power
90-264VAC, 47-63Hz, 60VA, 30W maximum
11-18 or 18-36 VDC 60VA, 30W maximum

Display
6.1" TFT LCD, 640X480 pixel resolution, 256 colors

Memory
Storage Memory on board: 8MB.
CF Card: 16MB standard.
Optional 64,128MB

Analog Input Card (AI181, AI182, AI183)
Resolution: 18 bits
Sampling Rate: 5 times/second
Maximum Rating: -2 VDC minimum, 12 VDC maximum
(1 minute for mA input)
Temperature Effect: ±1.5 μV/°C for all inputs except mA input
±3.0 μV/°C for mA input
Sensor Lead Resistance Effect:
T/C: 0.2μV/ohm
3-wire RTD: 2.6°C/ohm of resistance difference of two leads
2-wire RTD: 2.6°C/ohm of resistance sum of two leads
Burn-out Current: 200nA
Common Mode Rejection Ratio (CMRR): 120dB
Normal Mode Rejection Ratio (NMRR): 55dB
Isolation Breakdown Voltage among channels: 430VAC min.
Sensor Break Detection:
Sensor open for TC,RTD and mV inputs,
below 1 mA for 4-20mA input,
below 0.25V for 1-5V inputs,
unavailable for other inputs.
Sensor Break Responding Time:
Within 10 seconds for TC, RTD and mV inputs,
0.1 second for 4-20 mA and 1-5V inputs.

Characteristics:

Type	Range	Accuracy @25°C	Input Impedance
J	-120°C - 1000°C (-184°F - 1832°F)	±1°C	2.2MΩ
K	-200°C - 1370°C (-328°F - 2498°F)	±1°C	2.2MΩ
T	-250°C - 400°C (-418°F - 752°F)	±1	2.2MΩ
E	-100°C - 900°C (-148°F - 1652°F)	±1°C	2.2MΩ
B	0°C - 1820°C (32°F - 3308°F)	±2°C (200°C - 1820°C)	2.2MΩ
R	0°C - 1767.8°C (32°F - 3214°F)	±2°C	2.2MΩ
S	0°C - 1767.8°C (32°F - 3214°F)	±2°C	2.2MΩ
N	-250°C - 1300°C (-418°F - 2372°F)	±1°C	2.2MΩ
L	-200°C - 900°C (-328°F - 1652°F)	±1°C	2.2MΩ
PT100 (DIN)	-210°C - 700°C (-346°F - 1292°F)	±0.4°C	1.3KΩ
PT100 (JIS)	-200°C - 600°C (-328°F - 1112°F)	±0.4°C	1.3KΩ
mV	-8mV - 70mV	±0.05%	2.2MΩ
mA	-3mA - 27mA	±0.05%	70.5Ω
0~1V	-0.12 - 1.15V	±0.05%	32KΩ
0~5V	-1.3V - 11.5V	±0.05%	332KΩ
1~5V	-1.3V - 11.5V	±0.05%	332KΩ
0~10V	-1.3V - 11.5V	±0.05%	332KΩ

Digital Input Card (DI181)
Channels: 6 per card
Logic Low: -30V minimum, 0.8V maximum.
Logic High: 2V minimum, 30V maximum
External Pull-down Resistance: 1KΩ maximum
External pull-up Resistance: 1.5MΩ minimum

Digital Output Card (DO181)
Channels: 6 per card
Contact Form: N.O. (form A) .
Relay Rating: 5A/240 VAC, life cycles 200,000 for resistive load.

COMM Module (CM181)
Interface: RS-232 (1 unit), RS-485 or RS-422 (up to 247 units)
Protocol: Modbus Protocol RTU mode
Address: 1-247
Baud Rate: 0.3~38.4 Kbits/sec.
Data Bits: 7 or 8 bits
Parity Bit: None, Even or Odd
Stop Bit: 1 or 2 bits

Standard Ethernet Communication
Protocol: Mod Bus TCP/1P, 10 BaseT
Auto polarity correction for 10 BaseT
Ports: AUI (Attachment Unit Interface) and
RJ -45 Auto- detect capability

Infrared Detector
Distance: Detect moving human body within 2 meters

Environmental & Physical
Operating Temperature: 5°C to 50°C
Storage Temperature: -25°C to 60°C
Humidity: 20 to 80%RH (non-condensing)
Insulation Resistance: 20 Mohms min. (at 500 VDC)
Dielectric Strength: 3,000VAC 50/60 Hz for 1 minute
Vibration Resistance: 10-55 Hz, 10m/S^2 for 2 hours
Shock Resistance: 30 m/S^2 (3g) for operation, 100g for transportation
Dimensions: 166mm(W) x 144mm(H) x 174mm(D) for panel mount

Approval Standards
Safety: UL873 (11' th edition, 1994)
CSA C22.2 No. 24-93
CE: EN61010-1 (IEC1010-1)
Overvoltage category II, Pollution degree 2
Protective Class:
IP 30 front panel, indoor use,
IP 20 housing and terminals
EMC
Emission: EN50081-1, EN61326
(EN55011 class B,
EN61000-3-2, EN61000-3-3)
Immunity: EN50082-2, EN61326
(EN61000-4-2, EN61000-4-3,
EN61000-4-4, EN61000-4-5,
EN61000-4-6, EN61000-4-11,
EN50204)

ACCESSORIES LIST

VR18 Video Recorder (VR18)

Part No.	*Description*
AI181	Single Channel Analog Input Card
AI182	Dual - Channel Analog Input Card
AI183	Triple - Channel Analog Input Card
DI181	6 - Channel Digital Input Card
DO181	6 - Channel Relay Output Card (AC/DC)
CM181	RS - 232/422/485 COMM Module
PM181	90~264 VAC, 47-63Hz Power Supply
PM182	9-18 VDC Power Supply Module
PM183	18-36 VDC Power Supply Module
MK183	Portable Handle/Bench Top Assembly Kit
CF016	16MB Compact Flash Card
CF064	64MB Compact Flash Card
CF128	128MB Compact Flash Card
AS181	Basic PC software Observer I
AS182	Extensive PC software Observer II
UMVR181	User' s Manual

BRAINCHILD Electronic Co., Ltd.

6F., No. 209, Chung Yang Rd., Nan Kang Dist., Taipei, Taiwan, R.O.C.

Tel: 886-2-27861299 Fax: 886-2-27861395

E-mail: sales@brainchild.com.tw

web site: http: //www.brainchild.com.tw

ORDERING CODE

VR18 - □□□□-□□□-□□□

Power
- 4: 90-264 VAC, 47-63Hz
- 6: 11-18 VDC
- 7: 18-36 VDC
- 9: Special Order

Analog Input Card
- 0: None
- 1: 1 Channel
- 2: 2 Channels
- 3: 3 Channels
- 4: 4 Channels
- 5: 5 Channels
- 6: 6 Channels
- A: 9 Channels
- B: 12 Channels
- C: 15 Channels
- D: 18 Channels

Digital Input Card
- 0: None
- 1: 6 channels
- 2: 12 channels

Digital Output Card
- 0: None
- 1: 6 Relays
- 2: 12 Relays

Communication
- 0: Standard Ethernet interface
- 1: RS-232/422/485 (three in one) + Ethernet interface
- 9: Special order

PC sofware
- 1: Free basic software Observer I for non-communication application
- 2: Extensive software Observer II for communication of RS-232/422/485 or Ethernet

Firmware
- 0: Basic Function
- 1: with Mathematics, Counter & Totalizer

Storage Media
- 1: 16MB Compact Flash Card (CF)
- 2: 64MB CF Card
- 3: 128MB CF Card
- X: Other Options

Case / Mounting
- 1: Standard Panel Mounting
- 2: Bench top / Portable style with handle

Special Option
- 0: None
- 1: 24VDC Auxiliary Power Supply (for Transmitter, 6 channels)
- X: Other Options

2003.05