

VR18 PAPERLESS RECORDER

HIGH RESOLUTION 6.4" SCREEN WITH 18 CHANNELS AND PLUG & PLAY I/O


The VR18 is the newest, most advanced paperless recorder available. It is ideal for monitoring, recording, and evaluating processes in a variety of applications.

The VR18 is a modular paperless recorder that allows for up to 18 analog inputs and/or a mix of analog and digital I/O cards. Other features include: high-resolution color display (640 x 480 pixels), infrared detector for prolonged display life, plug & play I/O card, shallow unit depth, and user-friendly interface. The low-voltage and bench-top kit options also make the VR18 ideal for portable applications.

Multiple display formats and easy-to-access keys make monitoring and setup extremely easy. Data can be stored in flash ROM, on a compact flash card, or on a PC via RS232/422/485 or Ethernet options. The VR18 has UL, CSA, and CE approvals.

- **6.4" Color TFT LCD with 640x480 pixels resolution**
- **6 Slot Plug & Play Supported I/O Cards**
- **Infrared Detector to extend display life**
- **Various Display Formats**
Vertical trend, Horizontal trend, Bar Graph, Numerical or mixed
- **Up to 18 isolated input channels**
- **High Flexibility**
User configurable I/O card;
Expandable modular architecture;



- **User-Friendly**
Soft keys coupled with interactive dialog simplify setup &
Operation with easy-to-access function keys
- **Data Saved in removable Compact Flash ROM**
- **Communication**
Standard Ethernet and optional RS-232/422/485
- **High Accuracy**
18-bit A-D analog input, 15-bit D-A analog output
- **Fast Sampling Rate – 5 times per second**
200ms for all channels; Programmable Filter or
Moving Average Sampling Method
- **Security: Basic or with CFR21 Features**
- **Data Log interval configurable with Instant, Average, Minimum or Maximum Values**
- **Optional Configurable Alarms, Messages**
- **Optional Transmitter Power Supply Module; 24VDC/30mA - six non-isolated channels**
- **Standard Math Module including Boolean logic, totalize, count, timer, etc. Includes formatted reports for daily, weekly & monthly totalize & count values**
- **Portable/Bench-Top Assembly Kit**
- **Agency Approvals – CE, UL component recognition & CSA**
 **RoHS Compliant**

GENERAL SPECIFICATIONS

POWER: 90-250VAC 47-63Hz, 20-28VAC 47-63Hz, 11-18 or 18-36 VDC: all 60VA 30W maximum

DISPLAY: 6.4" TFT LCD, 640X480 pixel resolution, 256colors

MEMORY: Storage Memory on board: 8MB. CF Card: 512MB standard; optional 1 & 2 GB.

OPERATING TEMPERATURE: 5°C to 50°C

HUMIDITY: 20 to 80% RH (non-condensing)

DIMENSIONS (W x H x D): 166 x 144 x 174mm [6.53" x 5.67" x 6.85"] Panel Mount DIN cutout dimensions: 138 x 138mm

ANALOG INPUT CARD (AI181, AI182, AI183) [consult manual for special range Negative/Positive VDC input modules]

RESOLUTION: 18 bits

SAMPLING RATE: 5 times/second

MAXIMUM RATING: -2 VDC minimum, 12 VDC maximum

SENSOR LEAD: T/C: 0.2 μ V/ohm

BURN-OUT CURRENT: 200nA

TEMPERATURE EFFECT: $\pm 1.5 \mu$ V/°C for all inputs except mA input $\pm 3.0 \mu$ V/°C for mA input

RESISTANCE EFFECT: 3-wire RTD: 2.6°C/ohm of resistance difference of two leads

INPUT TYPED: J, K, T, E, B, R, S, N, L, PT100 (DIN), PT100 (JIS), mV, mA, 0~1V, 0~5V, 1~5V, 0~10V

ANALOG OUTPUT CARD (3-Channels: AO183I for mA or AO183V for VDC output)

RESOLUTION: 15 bits

ACCURACY: $\pm 0.05\%$ of Span $\pm 0.0025\%$ /°C

LINEARITY: $\pm 0.005\%$ of Span

TEMPERATURE EFFECT: $\pm 0.0025\%$ of Span /°C

OUTPUT REGULATION: 0.01% for full load change

OUTPUT SETTING TIME: 0.1 second (stable to 99.9%)

LOAD RESISTANCE: 0-500 ohms (current), 10K ohms minimum (voltage)

DIGITAL INPUT CARD (DI181)

CHANNELS: 6 per card

LOGIC LOW: -30V minimum, 0.8V maximum.

LOGIC HIGH: 2V minimum, 30V maximum

EXTERNAL PULL-DOWN: 1K Ohm maximum resistance

EXTERNAL PULL-UP: 1.5M Ohm minimum resistance

COMM MODULE (CM181)

INTERFACE: RS-232/422/485, Modbus RTU

BAUD RATE: 0.3~38.4 baud.

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

STANDARD ETHERNET

PROTOCOL: Mod Bus TCP/IP, 10 Base T

PORTS: AUI (Attachment Unit Interface)/RJ-5

Part Number Matrix

VR18 – □ □ □ □ - □ □ □ - □ □ □
1 2 3 4 - 5 6 7 - 8 9 10

1 Power

4: 90-250 VAC, 47-63 Hz

5: 20-28 VAC, 47-63 Hz

6: 11-18 VDC

7: 18-36 VDC

9: Special order

4 Digital Output Card

0: none

1: 6 relay outputs

2: 12 relay outputs

3: 18 relay outputs

4: 24 relay outputs

9 Case/Mounting

1: standard Panel Mounting

2: Bench top/Portable style
w/handle, front power switch
and power cable

2 Analog Input Card

1: 1 channel

2: 2 channel

3: 3 channel

4: 4 channel

5: 5 channel

6: 6 channel

A: 9 channel

B: 12 channel

C: 15 channel

D: 18 channel

5 Communication

0: standard Ethernet interface

1: RS-232/422/485 + Ethernet

9: Special order

6 PC software

1: Observer I: non-communication application

2: Observer II: RS-232/422/485 or Ethernet

7 Firmware

1: Mathematics, Counter, Totalizer and
CFR21 Security Features

10 Special Option:

0: none

1: 24VDC power supply—for 6 channels

2: 3-channel Retrans: current output

3: 6-channel Retrans: current output

4: 9-channel Retrans: current output

D: 3-channel Retrans: voltage output

E: 6-channel Retrans: voltage output

F: 9-channel Retrans: voltage output

5: panel mounting w/rear power plug

6: panel mounting w/front power switch

X: Consult factory and/or manual
for other combinations

3 Digital Input Card

0: none

1: 6 digital inputs

2: 12 digital inputs

3: 18 digital inputs

4: 24 digital inputs

5: 30 digital inputs

6: 36 digital inputs

8 Storage Media [Compact Flash CF]

6: 1 GB

7: 2GB

X: other

NEMA 4X Option

part #: VR18-NEMA4X CVR

Notes: VR18 has 6 expansion slots for analog & digital I/O and Transmitter Power Supply modules

Observer I software reads data from VR18 CF Card; Observer II reads data from CF Card or via communication and offers additional features. For more information refer to Instruction Manual or <http://www.futuredesigncontrols.com>

Each card takes one of the 6 available slots. [Communication option RS232/422/485 does not utilize an expansion slot.]

Universal & Special Range Analog Input Cards are available as one, two or three inputs.

Special Range Analog Input Cards with Negative/Positive mV, VDC & mA spans are available [no t/c or RTD inputs]

Analog Output Cards are available with three outputs.

Transmitter Power Supply Card has 6 non-isolated 24VDC/30mA outputs

Digital Input & Output Cards: Each card has 6 inputs or relay outputs.