FUTUREDESIGN
CONTROLS

NEMA 4X Option for the VR06-18 Paperless Recorders

Polyester Cover with Hinged Transparent Door in Cover
Part #: VR18-NEMA4 CVR

External Width: 11.88 in.(302.00 mm)
External Depth: 1.77 in.(45.00 mm)
Inside Depth: 1.65" (42 Mm)
Inside Height: 10.25" (260 Mm)
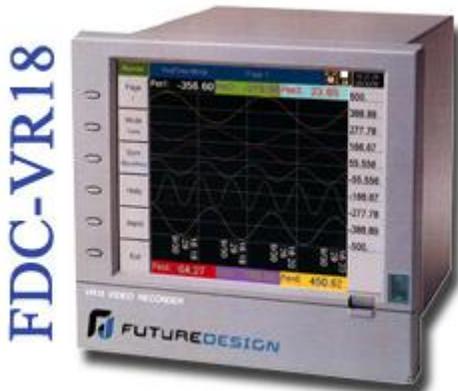**Inside Width:** 8.84" (224 Mm)
Weight: 2.27 lbs.

VR06-18 Paperless Recorder
HIGH RESOLUTION 6.4" SCREEN WITH 18 CHANNELS AND PLUG & PLAY I/O

The VR Series are modular paperless recorders that allows for up to 18 analog inputs 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 VR Series recorders 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 meets UL, CSA, and CE approval standards.

FDC-VR18

- 6.4" Color TFT LCD with 640x480 pixels resolution
- 6 Slot Plug & Play Supported I/O Cards
- Infrared Detector to extend display life
- Up to 18 isolated input channels
- Fast Sampling Rate – 5 times per second
- Various Display Formats
- 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
- Optional Math Module including Boolean logic, totalize, count, timer, etc. Includes formatted reports for daily, weekly & monthly totalize & count values
- Portable/Bench-Top Assembly Kit
- Security: Basic or optional with CFR21 Features
- Agency Approval – CE, UL & CSA ✓ RoHS Compliant

GENERAL SPECIFICATIONS

POWER: 90-264VAC, 47-63Hz, 60VA, 30W maximum 11-18 or 18-36 VDC 60VA, 30W maximum
DISPLAY: 6.4" TFT LCD, 640X480 pixel resolution, 256colors
MEMORY: Storage Memory on board: 8MB.CF Card: 125MB standard. Optional 512MB and 1GB
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
MAXIMUM RATING: -2 VDC minimum, 12 VDC maximum
BURN-OUT CURRENT: 200nA
SAMPLING RATE: 5 times/second
SENSOR LEAD: T/C: 0.2 µV/ohm

TEMPERATURE EFFECT: ±1.5 µV/°C for all inputs except mA input ±3.0 µV/°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
LINEARITY: ±0.005% of Span
OUTPUT REGULATION: 0.01% for full load change
LOAD RESISTANCE: 0-500 ohms (current), 10K ohms minimum (voltage)
ACCURACY: ±0.05% of Span ±0.0025% /°C
TEMPERATURE EFFECT: ±0.0025% of Span /°C
OUTPUT SETTING TIME: 0.1 second (stable to 99.9%)

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: 1.5MOhm 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/1P, 10 Base T
PORTS: AUI (Attachment Unit Interface)/RJ-5

Part Number Matrix

VR06 or 18 – ☐ ☐ ☐ ☐ - ☐ ☐ ☐ - ☐ ☐ ☐
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

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   VR18 only
    B: 12 channel VR18 only
    C: 15 channel VR18 only
    D: 18 channel VR18 only

3 Digital Input Card
    0: none
    1: 6 digital inputs
    2: 12 digital inputs VR18 only
    3: 18 digital inputs VR18 only
    4: 24 digital inputs VR18 only
    5: 30 digital inputs VR18 only
    6: 36 digital inputs VR18 only

4 Digital Output Card
    0: none

    1: 6 relay outputs
    2: 12 relay outputs VR18 only
    3: 18 relay outputs VR18 only
    4: 24 relay outputs VR18 only
    5: 30 relay outputs VR18 only

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
    0: Basic Function & Security
    1: Mathematics, Counter, Totalizer and
        CFR21 Security Features

8 Storage Media [Compact Flash CF]
    1: 128 MB
    5: 512 MB
    6: 1 GB
    X: other

9 Case/Mounting
    1: standard Panel Mounting

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

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
    X: Consult factory and/or manual
       for other combinations
    NOTE: 9-channel Retrans options are available VR18 only

NEMA 4X Option
part #: VR18-NEMA4X CVR

Notes: VR Series have 6 expansion slots for analog & digital I/O and Transmitter Power Supply modules
    Observer I software reads data from VR06-18 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 output