VersaVU

Paperless Recorder

6.4" TFT Color Display Full VGA Resolution
Web based visualisation and configuration
Sampling Rate 250 ms
4, 8, or 12 universal 16-bit inputs / 12 Relay Outputs
Up to 8 Display Strategies
USB Stick Memory Downloads
Ethernet interface for configuration
RS 485 for Modbus master or Modbus slave
Mathematical functions in realtime
IP 65/NEMA 4x Front Panel Protection

General

The VersaVU Paperless Recorder is a freely configurable microprocessor-based device for measurement, storage, visualization, monitoring, and documentation. Available with 4, 8, or 12 universal inputs VersaVU is expandable to an additional 12 inputs via Modbus communications.

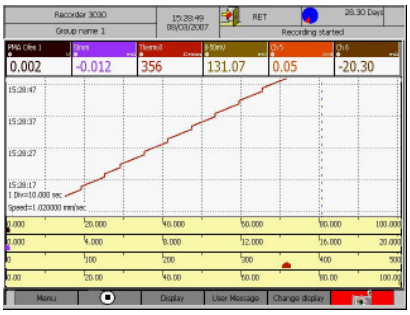
Measured data is buffered in internal flash memory and can be exported to a USB stick via the front USB port. Data can also be viewed via a standard web-browser for quick evaluation and analysis of historical data trends.

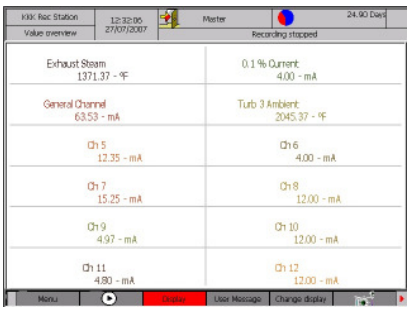
VersaVU has been designed for industrial use incorporating the latest means for communications. Complete configuration can be accomplished using the standard Ethernet interface and on-board webserver which also permits easy to access data monitoring. E-mail messaging and FTP functions add the finishing touches for complete user convenience . . all as standard features!

A Modbus serial interface is also standard allowing the unit to function in slave or master operation.

All of our product features are brought together on our 6.4" TFT color display. We incorporated full VGA resolution (640 x 480 pixels) with wide viewing angles making full use of the screen size. This type of resolution makes it easy to use complex display strategies without sacrifice to visibility.

Measurement values can be displayed either as trend curves in horizontal or vertical direction or bargraphs; a numeric display is also possible.

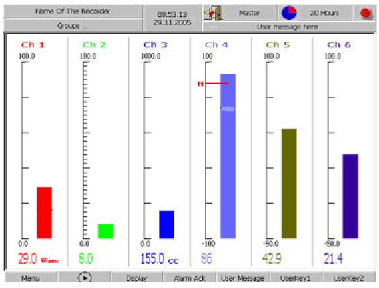




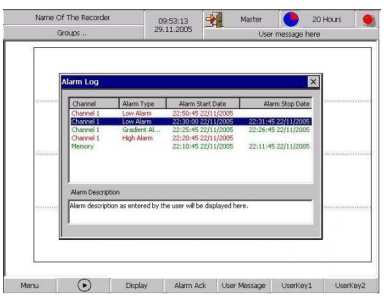
VersaVU features a group manager allowing the user to assign input signals to visualization groups.

Input signals can be assigned to multiple groups improving transparency. Different parameters can be used for every input within a specified group.

VersaVU allows up to 8 visualization groups with up to 12 input channels per group.



Different display views can be activated within each visualization group.



A historical display of the data stored in memory can be viewed via the Horizontal Display.

Technical data

Analog inputs

General

Programmable sensor type and measurement range. Within a measurement range, span start and end can be configured freely.

Scanning cycle

All inputs: Scan Rate: 250 ms

Resolution: 16 bits

Thermocouples

Input Type	Measurement range
L	-0.1 … 761.4 °C
J	-200.1…1200.3 °C
K	-240.1…1372.9 °C
N	0 … 1399.6 °C
S	0 … 1759 °C
R	0 … 1759 °C
T	-240 … 400.5 °C
E	-240 … 1000 °C
B	100… 1824 °C

Resistance thermometers

Type	Measurement range
Pt 100	-199.9 … 800.3 °C
Ni 120	-80 … 260 °C

For all thermocouples and resistance thermometers, the smallest display span is 0.1 °C.

Direct voltage DC

Voltages can be measured and displayed in the following ranges:

Input Type	Measurem. range min	Measurem. range max
DC Linear 0-50 mV	0 …	50 mV
DC Linear 10-50 mV	10 …	50 mV
DC Linear 0-5 V	0 …	5 V
DC Linear 1-5 V	1…	5 V
DC Linear 0-10 V	0…	10 V
DC Linear 2-10 V	2 …	10 V

Direct current

Input Type	Measurem. range min	Measurem. range max
Current 0 - 20 mA	0 …	20 mA
Current 4 - 20 mA	4 …	20 mA

Accuracy and display

The errors specified in the table are referred to the following conditions:
Humidity: 55% ± 10%
Temperature: 23 °C ± 2°C

Supply voltage: 100 to 250 V at 50/60 Hz ± 1%

VersaVU requires a 30 minute warm-up period.

Standard performance

- Measuring accuracy (in %)

DC: +/- 0.1% of Span +/- 1 LSD
RTD: +/- 0.1% of Span +/- 0.3 deg C
TC: +/- 0.1% of Span, + 1 deg C

Cold Junction Compensation Error: +0.3 deg C for 0.1 deg C resolution ranges or 1 deg C for 1 degree resolution ranges

Recording accuracy (in resolution of the digital display)

Fastest recording & displaying rates are 1 second. (1 data point per sec in file & 1 pix per sec on display).

General information

Maximum Input Voltage: DC voltage input (±2V or less)/thermocouple input (burnout disable), ±10 Vdc

Maximum voltage for higher input ranges (5V and 10V): 50Vdc

Input resistance: DC voltage(mV,V), thermocouple input; approximately 1 M[

Input resistance for mA input:
Source Resistance: 6,2□ for current inputs

Allowable Signal Source Resistance:
Thermocouple Input (Burnout Disable)/DC voltage input (±2 V or less):
1 k□ or less
DC Voltage Input (±5 to ±50 V):
100□ or less
Resistance Thermometer:
Per wire 10□ or less (same resistance for 3 wires)
Input bias current: 10 mA or less

Interference across channels: 120 dB (for 500[input external resistance and 60 V input to other channel)

Noise (50/60Hz power supply) for VDC, RTD and TC input

Maximum common mode noise voltage:

250 VAC rms (50/60 Hz)

Normal mode rejection ratio (NMRR):

40 dB (50/60 Hz ±0.1%)

Common mode rejection ratio (CMRR): 120 dB (50/60 Hz ±0.1%, 500 [unbalanced, across minus terminal and ground)

Maximum noise voltage across channels: 250 VAC RMS (50/60 Hz)

Interference across channels: 120 dB (for 500[input external resistance and 60V input to other channel)

Display / Operation

TFT Color Display
Screen Size: 6.4" measured diagonally
Resolution: VGA, 640 x 480 pixels

Operating Languages: English,

VersaVU is operated via a rotary push-button knob on the front panel or through the integrated Webserver.

Configuration is done via the front knob, the integrated Webserver, or USB memory stick. (USB stick not in delivery).

Data storage

Internal data storage: 150MB Flash

Optional external storage:

Data storage will be initiated automatically in a range of 1sec. to 60 min.

Historical data can be downloaded via USB-Stick, Webserver or FTP Transfer.

Power supply

Supply voltage: 100..240 VAC
Frequency: 50/60 Hz (automatic detection)
Inrush current: approx 2 Amp.
Power consumption approx: . TBA

Environmental conditions

Normal operating conditions:

Operating Temperature	Industrial 0 to 55 deg C or 32 to 131 deg F
Operating humidity range	Relative Humidity 30 to 90% non-condensing; no specific pressure range

Warm-up time: 30 minutes

Transport and Storage conditions

Temperature: -10...55°C

Humidity: 5...95%, no condensation

Vibration: 10-55 Hz, 10m/ s² for 2 hours

Conformity / Safety

Safety and EMC standards

- UL 508 / CE
- EN 61010-1 (OV II, PD II & Protection Class II)

EMC requirements

- EN 61326-1

Test conditions

- Dielectric Strength: 3000 VAC, 50/60 Hz for 1 minute - per UL test
- Insulating resistance: 20 MÙ or greater across output and main unit ground (500 VDC)
- Withstand voltage: 500 VAC across output and main unit ground (50/60 Hz; I = 10 mA), for one minute

Signal insulation:

- Between communication terminal : 500 V rms withstand voltage and ground (50/60 Hz, for one minute)
- Across input terminals: 500 VAC (50/60 Hz; I = 10 mA), for one minute

Alarm outputs

12 alarm outputs are available (optional)

Type: SPDT (NO) relay

Rating: 3A resistive@240VAC (50/60Hz)

Retransmission outputs

- Retransmission of up to 6 internal channels to analog outputs.
- Analog outputs can be configured to be either internally or externally powered.

Analog Output

Output Range	0-20 or 4-20mA (Configurable through HMI)
Resolution	12 bits
Accuracy at 25°C	+/- 0.1% of full scale
Temperature Drift	+/- 0.01% / °C
Output current Ripple	1%
Output Load (working resistance)	0 – 650 Ohm
Isolation between Channels	500 V (NA if used with external power supply)
Rise time from 10% to 90%	100mS

Serial interfaces

VersaVU comes standard with RS-485 and Ethernet communications.

With Modbus operation, the unit can be configured as Modbus master (external channels) or as Modbus slave .

- Ethernet: Modbus TCP
- RS 485: Modbus RTU

When configured as a Modbus master, VersaVU can be expanded to an additional 12 external channels over communications.

Ethernet interface

The Ethernet interface offers the following protocols and functions:

- Timeserver
- E-mail function for sending alarm messages and data.
- Web server function for displaying a standard operating interface on a browser (IE6 or higher).
- FTP client function for automatic data transfer from the recorder to an FTP server.
- Configuration of the unit with the integrated webserver
- Download of data via browswer

Mathematics function (Option)

The 'Mathematics' function enables up to twelve additional channels to be defined.

The functions include general arithmetic calculations, logic operations, statistical functions, reporting functions, and triggering of automatic sequences.

Digital inputs (Option)

Depending on the model ordered, VersaVU can be fitted with 8 remote control inputs. These inputs can be used to trigger the following functions:

- Start / Stop of recording
- Timer reset
- Counter function
- Operating hours counter
- Display / recording of the digtal input
- Screen dump
- Operator message

Digital Input

Switching thresh-oldsMaximum low level voltage	Ulmax < 5V
Minimum high level voltage	Uh-min>15V
Nominal differential Input voltage	24 V DC
Permissible range of inputs	-3 V to + 36 V DC or 0 to 25 VAC
Nominal Input cur-rent for Uin	5 mA
Permissible cable length to the sensor	100 m
Isolation between channels	500V

Buffer overflow (Option)

The 'buffer overflow' signal is available as a relay output rated at 250 VAC, 3 A. The signal is trig-gered at a specified time during recording. It is always available as standard alarm (alarm list)

General data

Protection mode

To EN 60529

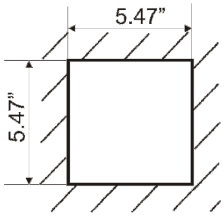
Front IP 65, rear IP 20

NEMA 4X

Housing

Sheet steel housing for mounting in a panel cutout.
Panel fixing elements to DIN.

Dimensions



panel cutout:

5.375"H X 5.44"W X 7.0" D (Enclo-sure)

6.5"H X 7.375 X1.06" D (Bezel)

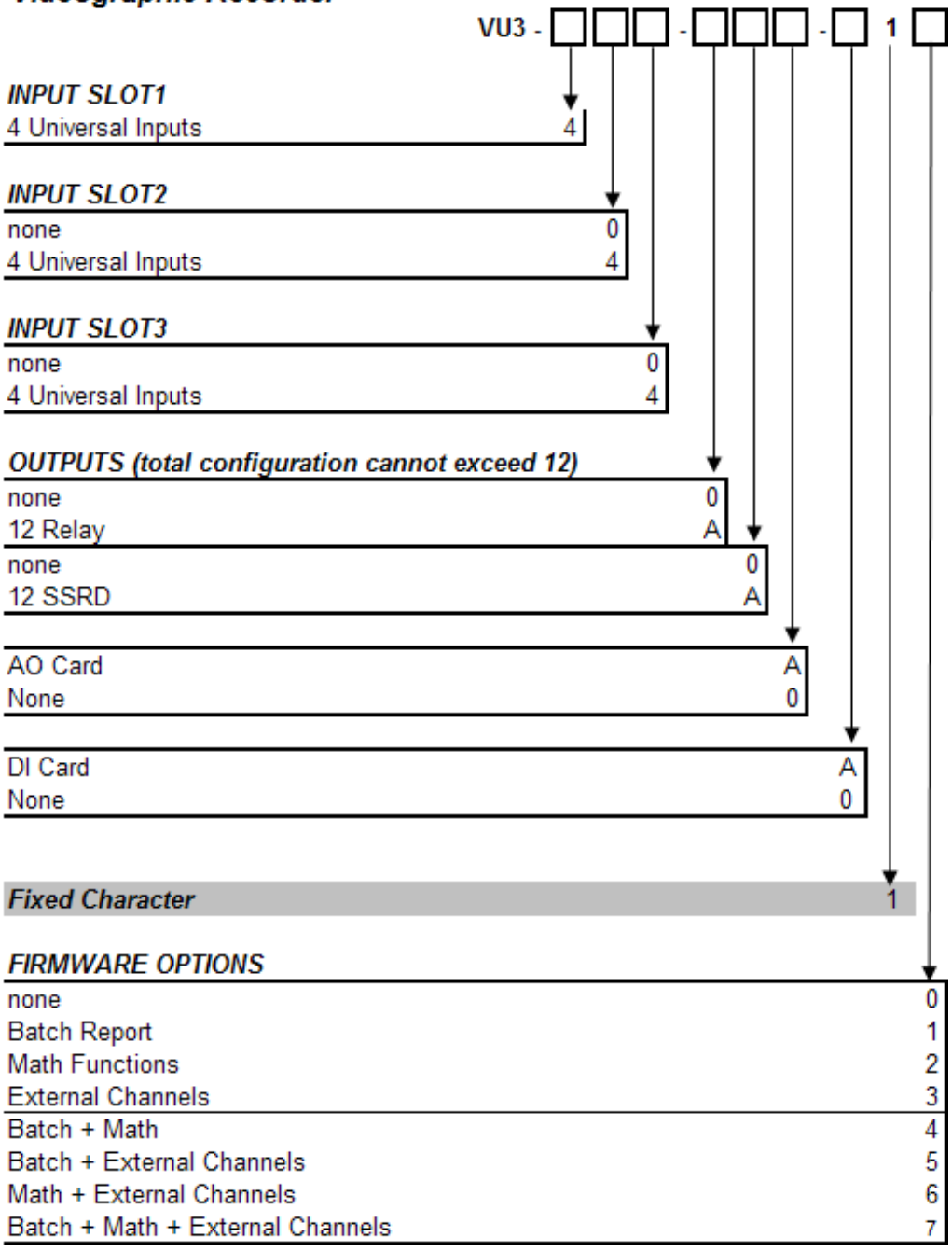
Weight:

5.56 lbs without packaging and
7 lbs with packaging

Order no..

VersaVU

Videographic Recorder



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