DataVU

Paperless Recorders

DataVU Recorders

Introducing DataVU, our family of recorders. The range includes DataVU 6, an affordable and user friendly entry level paperless recorder and DataVU 7, an advanced recorder offering a high level of functionality to its users. The recorders are ideal for use in industrial and scientific processes such as food and beverage, life science and heat treatment.

DataVU 6

The DataVU 6 paperless recorder features a resistive touchscreen and an intuitive, icon-based operation and visualisation concept that makes it very easy to use. There are different versions of the DataVU 6 available for process data recording. These range from the device version without measuring input in which up to 24 process values are read (master) or received (slave) from external systems via Modbus, through to a device version with six measuring inputs (universal analogue inputs), two analogue outputs, 12 digital inputs, and 12 individually switchable digital inputs/ outputs. In the version with FDA-compliant data recording all the requirements are met in accordance with 21 CFR Part 11.

DataVU 6 provides a first class 5.7" TFT colour display for viewing data

DataVU 6 has a TFT display for high image quality, this provides excellent levels of contrast for improved visibility and the 640 x 480 pixel screen provides sharp definition for images and information to be clearly viewed.

The screen supports wide viewing angles with minimal colour distortions and loss of contrast making it ideal for use in all industrial environments.

Features

The DataVU 6 can display data using the default visualisations, such as curve diagram (vertical or horizontal), bar graph, text image (numerical), or digital diagram. For batch related processes a special batch recording is available which allows the storage of additional information. In addition, users can create up to six individual process screens with up to 100 objects per process screen to fit their requirements using the setup program. In addition to the setup program further powerful PC programs are available, e.g. for the evaluation of archived data and for the administration of access control.

Digital Diagram

- Up to 6 digital channels in one group on one screen
- Vertical display (digital tracks running from top to bottom)
- Horizontal display (digital tracks running from right to left)

Text Image

- Numerical display of the measured values from up to 6 analogue channels in one group
- Additional display of up to 6 digital channels in one group as a symbol B1 to B6
- Analogue channels can be displayed individually

Report

- Logging of a batch record
- Display of the completed batch as a report or curve diagram

Inputs / Outputs

Option 1, option 2:
3 analogue inputs,
6 digital inputs,
1 analogue output each
Option 3:
12 digital inputs/outputs, incl. 1 high-speed counting input (up to 12.5 kHz)

Power Supply

AC 100...240V +10/-15%, 48...63Hz
AC/DC 20...30V, 48...63Hz

External Inputs

Up to 24 analogue inputs
Up to 24 binary inputs

Relay Outputs

1 relay (changeover contact)

Internal Channels

6 math channels (optional)
6 logic channels (optional)
6 counters/integrators
1 high-speed counter

Operation

Touchscreen (resistive)

Interface

1 x Ethernet 10/100 Mbits/sec
1x USB host (flash drive)
1x USB device (setup)
1x RS232/RS485
(Modbus master/slave or barcode scanner)

Measurement Data Memory

Internal memory:
1 GByte (data transfer via interface or USB flash drive)

Software

Setup program
PCC, PCA3000
PCS, PCAT

Display

14,5 cm (5,7") TFT colour screen
640 x 480 pixel,
65536 colours

DataVU 7

DataVU 7 provides advanced flexibility to meet a user's specific requirements without the need to change a process to fit the recorder. If process requirements are subject to change at a later date then the user benefits from the ease with which modifications can be made to the recorder configuration. The recorder is fully scalable - cards can be added to the recorder, facilitating future expansion.

Reporting can be tailored to provide the exact information needed. The DataVU 7 allows reports to be created for daily, weekly, monthly and yearly periods. Furthermore if particular data needs to be evaluated then reports can be created using a custom date range to provide maximum flexibility.

Quality problems in production can be minimised with batch logging.

Batch logging is possible for up to three batches simultaneously, independently of each other. The measured data is protected and retained even after a power interruption, preventing loss of important data. Batch entry is also possible using a barcode scanner which is effective in eliminating input errors.

For further customisation a user can create individual comments against a report or display. Adding reference information allows greater meaning and relevancy to be attached to the data being viewed.

Personalise the data presentation screens with annotated comments.

The Ethernet web server connection for DataVU 7 enables the simultaneous display of all analogue and digital I/O on a web page. Additionally it provides the option to view up to four visualisations for one or more recorders concurrently online.

To aid data being presented in a meaningful way relating to the specific process, a user can create three different customised html pages for the data to be visualised within. To tailor the presentation of data to the specific application, the user can create a personalised process image upon which relatable data can be viewed This helps to demonstrate the applicability of the data being shown.

Features
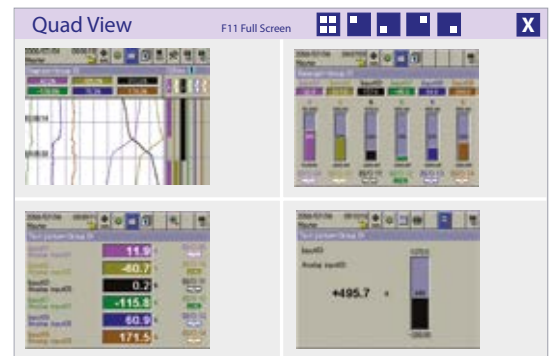
DataVU 7 is a robust and durable recorder that is ideally suited to challenging and harsh environments

The recorder can withstand demanding environmental conditions and meets standards for IP65 ingress protection. It can also endure abrasive substances in its surroundings as it is easy to clean, even with aggressive media.

The practical control knob has been designed so that a user can set up and configure the recorder on the spot even while wearing protective gloves.

DataVU 7 delivers enhanced security to its users through its options for password protection. It ensures that the instrument can only be configured by authorised operating personnel. To further safeguard data, it is stored in an encrypted form and validated by electronic signatures, making it compliant with 21CFR PT11.

DataVU 7 provides upper and lower level alarms for analogue inputs. Limits are set and an alarm is activated if the value falls outside of the set range.

The recorder provides complete peace of mind as it can automatically adjust the recording speed to provide a comprehensive, clear process picture for analysis if an alarm is triggered.

Inputs

18 analogue inputs max.
24 binary inputs/outputs max.
(A maximum of 3 module slots can be fitted with 6 analogue inputs or 3 analogue inputs and 8 binary inputs/outputs)

Power Supply

AC 100...240V +10/-15%, 48...63Hz
AC/DC 20...30V, 48...63Hz

External Inputs

Up to 24 analogue inputs
Up to 24 binary inputs

Interface

1 x Ethernet 10/100 Mbits/sec
4 x USB interfaces
1 x RS232/RS485
1 x RS232 (barcode reader)
1 x PROFIBUS-DP (option)

Relay Outputs

1 relay (standard)
6 relays (option)

External Memory

CompactFlash card to 4GB
USB memory stick

Internal Channels

18 x math channels
18 x logic channels
27 x counters / integrators

Measurement Data Memory

256 Mbytes

Operation

Rotary knob or touchpad

Software

Set up program
PC Evaluation software (PCA3000)
PCC Communications software

Display

5.5" TFT colour display
320 x 240 pixels
256 colours

Set Up Software

Instrument configuration via the setup PC software can be more convenient than using the instrument keys.

The configuration data can be created on a data medium and read by the recorder, or transferred via one of the communication interfaces.
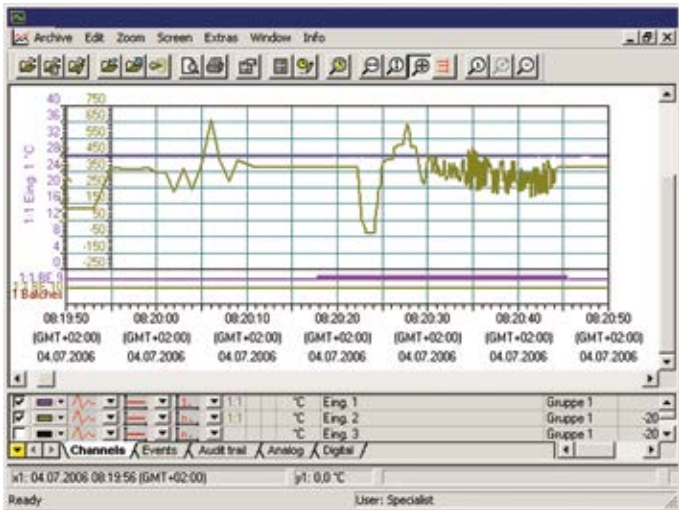
Evaluation Software

DataVU works with PC Evaluation Software (PCA3000), a program which runs under Windows. It can be used to manage, archive, visualise and evaluate the recorder data. Data from multiple and differently configured instruments is recognised by the PC Evaluation Software and stored in an archive database for future evaluation and traceability.

Data from any analogue or binary channels of a paperless recorder (even from different groups) can subsequently be combined into groups, to enable data to be easily interrogated. Since each group is displayed in a separate window, several groups can be shown simultaneously on the screen and compared.

To improve the ability to analyse and compare data it is also possible to restrict the time periods to be evaluated. Using the export filter, it is possible to export the stored data, so that they can be processed in other programs such as Excel.

The PC Evaluation Software has network capability, enabling several users to obtain data from the same archive file in a network directory, independently of each other.

Math/Logic

Up to six math channels are possible on DataVU 6 and up to 18 channels on DataVU 7. The option for math and logic is configurable via the setup software. It combines analogue channels with one another, with counters and / or with the binary inputs. The operators available for formulae are: +, -, *, /, (,), SQRT(), MIN(), MAX(), SIN(), COS(), TAN(), **, EXP(), ABS(), INT(), FRC(), LOG(), LN(), humidity, moving average or logics.

*A maximum of six channels on DataVU 6 and 18 channels on DataVU 7
 can be saved in the unit in total for both analogue + math.

Comparison

DataVU Features

		DataVU 6	DataVU 7
HMI	Screen	5.7" TFT	5.5" TFT
	Rotary knob	X	✔
	Touchscreen	✔	X
Inputs and Outputs	Number of internal channels (max.)	6	18
	Number of external channels (max.)	24	24
	Digital inputs (max.)	18	24
	Relay outputs (max.)	1	7
	Analogue outputs (max.)	2	X
Data	Compact Flash	X	4GB
	Internal Memory	1GB	256MB
	Scan rate per second (input)	125mS	125mS
Comms	RS232/485 Modbus	Option	✔
	Ethernet	✔	✔
	RS232 barcode reader	✔	✔
	USB	✔	✔
	Profibus DP	X	Option
Other Functionality	Counters / Integrators (number of channels)	6	27
	Maths (number of channels)	6	18
	Batch (number of reports)	1	3
	Web server	Option	✔
Software	Set up	✔	✔
	Evaluation	✔	✔
	Communication	✔	✔

Language Capability

Both DataVU 6 and the DataVU 7 come complete with a languages library enabling the user to set the recorder operation to be read in their preferred language. Current available languages include

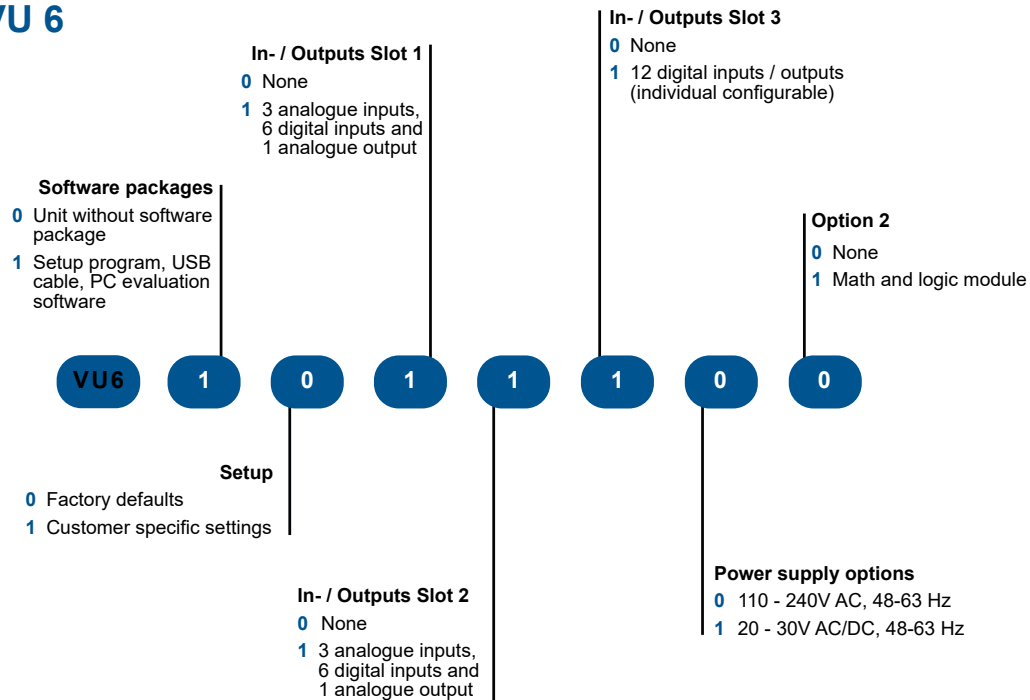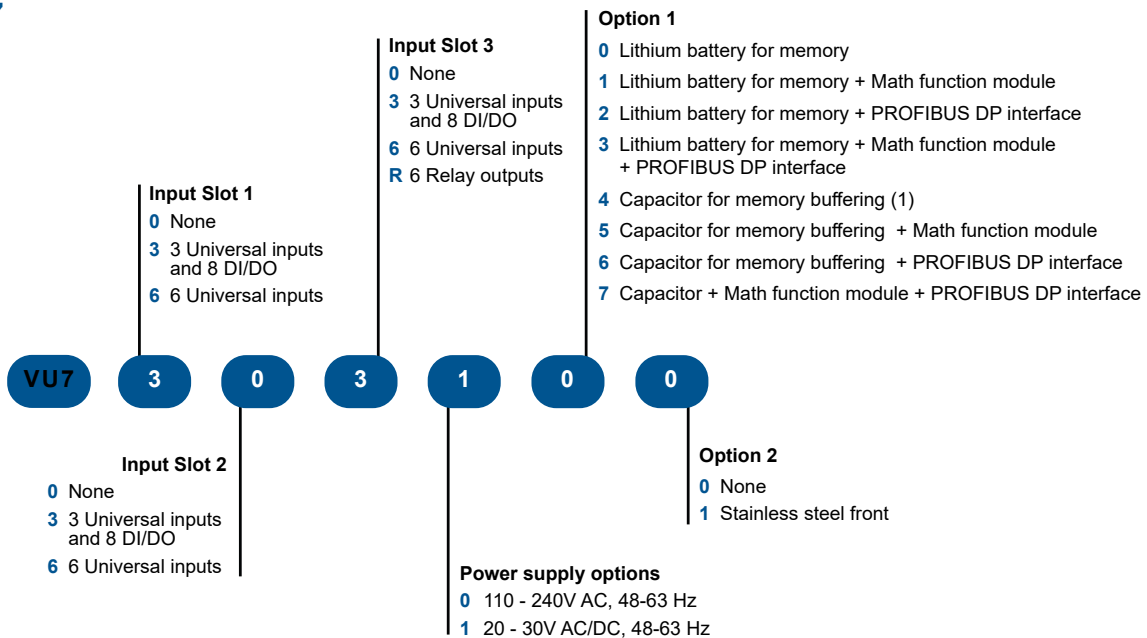Chinese   Czech   English   French   German   Greek   Hungarian   Italian   Japanese   Polish   Romanian   Russian

DataVU 6

Software packages
- **0** Unit without software package
- **1** Setup program, USB cable, PC evaluation software

In- / Outputs Slot 1
- **0** None
- **1** 3 analogue inputs, 6 digital inputs and 1 analogue output

In- / Outputs Slot 3
- **0** None
- **1** 12 digital inputs / outputs (individual configurable)

Option 2
- **0** None
- **1** Math and logic module

VU6 | **1** | **0** | **1** | **1** | **1** | **0** | **0**

Setup
- **0** Factory defaults
- **1** Customer specific settings

In- / Outputs Slot 2
- **0** None
- **1** 3 analogue inputs, 6 digital inputs and 1 analogue output

Power supply options
- **0** 110 - 240V AC, 48-63 Hz
- **1** 20 - 30V AC/DC, 48-63 Hz

DataVU 7

Input Slot 3
- **0** None
- **3** 3 Universal inputs and 8 DI/DO
- **6** 6 Universal inputs
- **R** 6 Relay outputs

Option 1
- **0** Lithium battery for memory
- **1** Lithium battery for memory + Math function module
- **2** Lithium battery for memory + PROFIBUS DP interface
- **3** Lithium battery for memory + Math function module + PROFIBUS DP interface
- **4** Capacitor for memory buffering (1)
- **5** Capacitor for memory buffering + Math function module
- **6** Capacitor for memory buffering + PROFIBUS DP interface
- **7** Capacitor + Math function module + PROFIBUS DP interface

Input Slot 1
- **0** None
- **3** 3 Universal inputs and 8 DI/DO
- **6** 6 Universal inputs

VU7 | **3** | **0** | **3** | **1** | **0** | **0**

Input Slot 2
- **0** None
- **3** 3 Universal inputs and 8 DI/DO
- **6** 6 Universal inputs

Option 2
- **0** None
- **1** Stainless steel front

Power supply options
- **0** 110 - 240V AC, 48-63 Hz
- **1** 20 - 30V AC/DC, 48-63 Hz

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