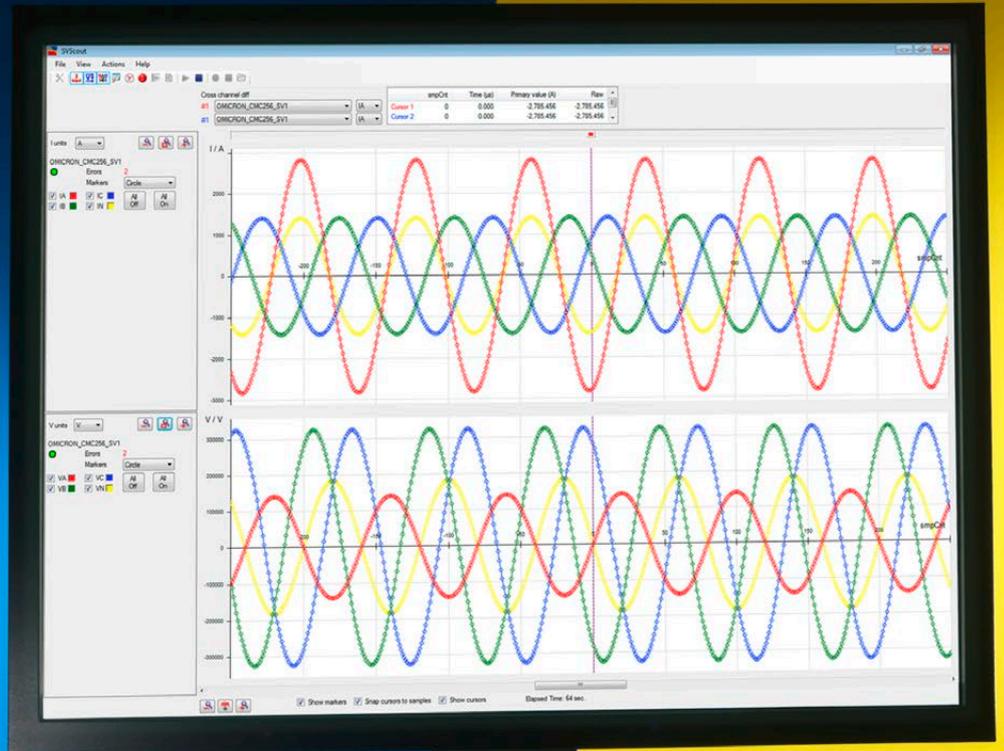
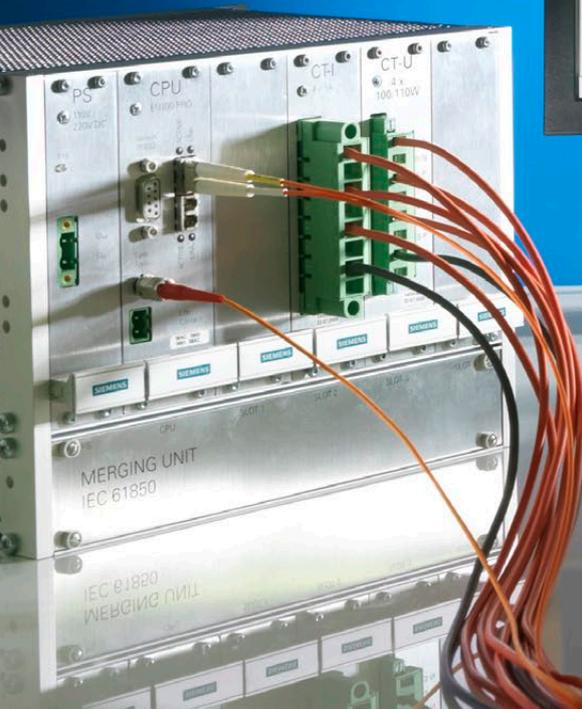


# SVScout

Software Tool for Visualizing IEC 61850 Sampled Values

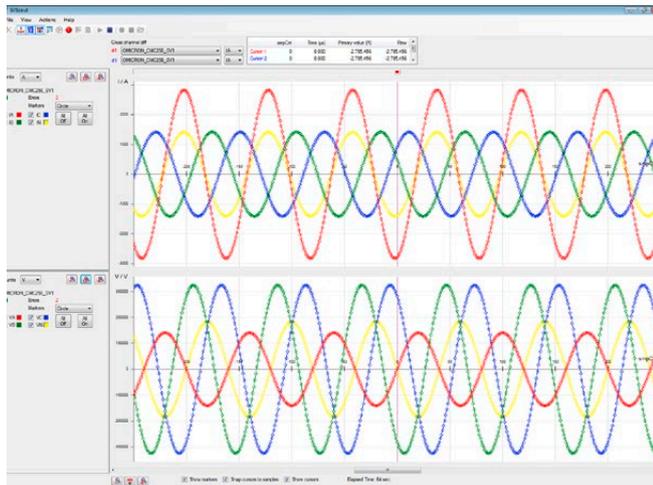


# The Engineers' and Developers' Tool for Visualizing Sampled Values

## Visualize Sampled Values

SVScout (P0006496) is a measurement and testing tool for protection engineers and IED developers working with Sampled Values according to IEC 61850 and IEC 61869-9. It subscribes to the Sampled Values streams from one or multiple merging units and displays the waveforms of the primary voltages and currents in an oscilloscope view. Individual values on the traces can be looked up and compared with each other.

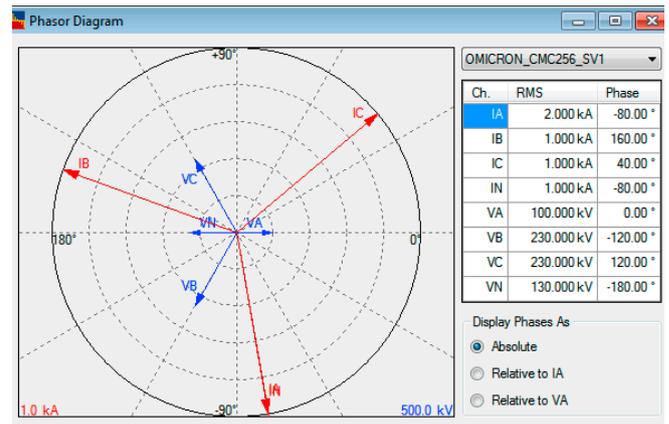
The functionality of SVScout covers many different tasks reaching from the simple display of Sampled Values streams to the detailed investigation of a merging unit. For example, the software can be used for commissioning or for evaluating and developing of IEDs.



SVScout supports Sampled Values according to the implementation guideline of the UCA International Users Group with 80 or 256 samples per cycle as well as IEC 61869-9.

## Phasor Diagram

RMS values and phase angles are calculated from the Sampled Values and displayed in a phasor diagram and a table. The reference for the phase angles is selectable.



## Reports

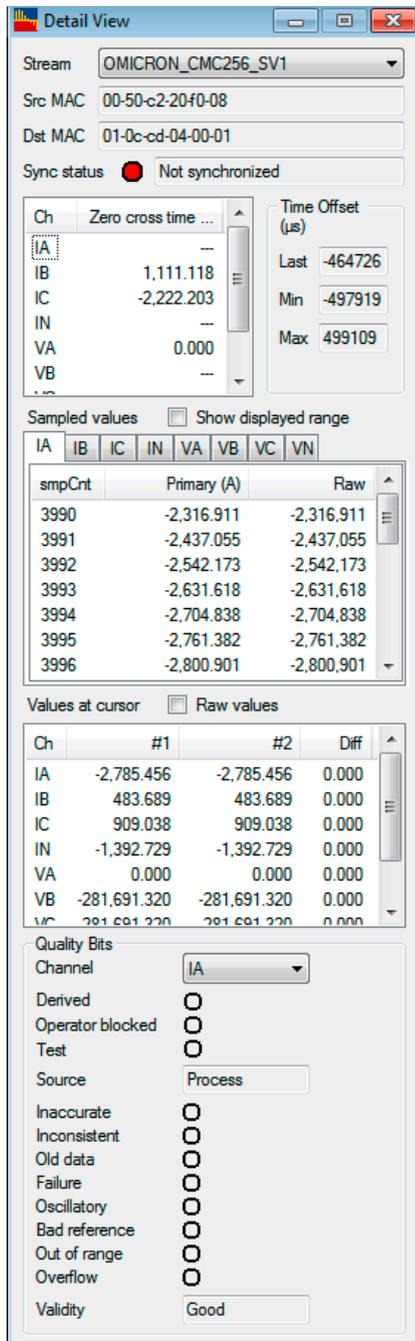
Reports summarize the essential information from a measurement. They contain all information and results provided in the individual views for each captured Sampled Values stream. Additionally, other data, such as basic settings from the configuration and stream information, are included. Printing of reports can be initiated directly from the report window.

## Recording

Captured Sampled Values can be saved to COMTRADE or PCAP files for in-depth offline evaluation or documentation.

## Detail View

The Detail View provides additional information about a selected Samples Values stream and its individual channels. This includes the zero crossings of specific channels, values for individual samples, and the decoded quality information. The simulation indication, as defined in IEC 61850 Ed. 2, is also visualized.



The screenshot shows the 'Detail View' window with the following configuration and data:

- Stream:** OMICRON\_CMC256\_SV1
- Src MAC:** 00-50-c2-20f0-08
- Dst MAC:** 01-0c-cd-04-00-01
- Sync status:** Not synchronized
- Zero cross time (µs):**

Ch	Zero cross time (µs)
IA	--
IB	1,111.118
IC	-2,222.203
IN	--
VA	0.000
VB	--
- Time Offset (µs):**

Parameter	Value
Last	-464726
Min	-497919
Max	499109
- Sampled values:**

Ch	IB	IC	IN	VA	VB	VC	VN
smpCnt	Primary (A)						Raw
3990	-2,316.911	-2,316.911	-2,316.911				
3991	-2,437.055	-2,437.055	-2,437.055				
3992	-2,542.173	-2,542.173	-2,542.173				
3993	-2,631.618	-2,631.618	-2,631.618				
3994	-2,704.838	-2,704.838	-2,704.838				
3995	-2,761.382	-2,761.382	-2,761.382				
3996	-2,800.901	-2,800.901	-2,800.901				
- Values at cursor:**

Ch	#1	#2	Diff
IA	-2,785.456	-2,785.456	0.000
IB	483.689	483.689	0.000
IC	909.038	909.038	0.000
IN	-1,392.729	-1,392.729	0.000
VA	0.000	0.000	0.000
VB	-281,691.320	-281,691.320	0.000
VC	281,691.320	281,691.320	0.000
- Quality Bits:**
  - Channel: IA
  - Derived:
  - Operator blocked:
  - Test:
  - Source: Process
  - Inaccurate:
  - Inconsistent:
  - Old data:
  - Failure:
  - Oscillatory:
  - Bad reference:
  - Out of range:
  - Overflow:
  - Validity: Good

## Configuration

The comprehensive and flexible features of SVScout can be configured in detail with the following settings:

### Network

Sources of the Sampled Values to be processed by SVScout.

### Application

General parameters for the interpretation and scaling of the Sampled Values.

### Recording

Data format, file name, and file location of recordings.

### Report

Headings, fonts, and logo image for customizable test reports.

### Histograms

Parameters for displaying and calculating the timing statistics.

### Expert

Settings for the Detail View and the determination of zero crossings.

## Your benefits

- > Simultaneous investigation of multiple Sampled Values streams
- > Support of established 9-2LE as well as new IEC 61869-9
- > Display of RMS values, phasor diagram, and detailed information
- > Recording of Sampled Values in COMTRADE or PCAP format
- > Play from capture supported
- > Printable reports

We create customer value through ...

## Quality

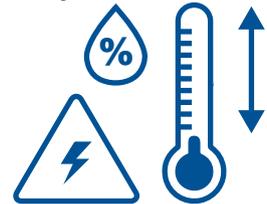
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You can rely on the highest safety and security standards

Superior reliability with up to

72



hours burn-in tests before delivery

100%

routine testing for all test set components



ISO 9001  
TÜV & EMAS  
ISO 14001  
OHSAS 18001

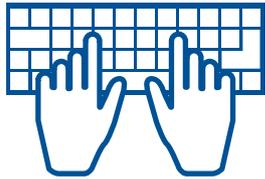


Compliance with international standards

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More than

**200** 

developers keep our solutions up-to-date

 I need...



... a product portfolio tailored to my needs

Save up to

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testing time through templates, and automation

More than

**15%** 

of our annual sales is reinvested in research and development

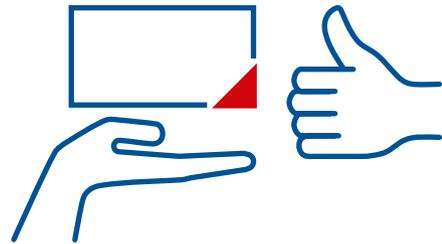
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## Support

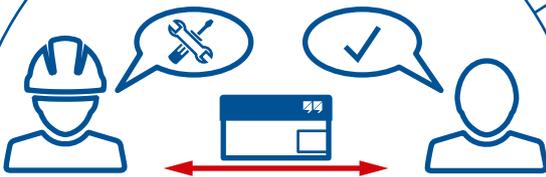
When rapid assistance is required, we're always right at your side. Our highly-qualified technicians are always reachable. Furthermore, we help you minimize downtimes by lending you testing equipment from one of our service centers.



Professional technical support  
at any time



Loaner devices help to  
reduce downtime



Cost-effective and straight-  
forward repair and calibration



offices worldwide for local  
contact and support

## Knowledge

We maintain a continuous dialogue with users and experts. Customers can benefit from our expertise with free access to application notes and professional articles. Additionally, the OMICRON Academy offers a wide spectrum of training courses and webinars.



Frequently OMICRON hosted user meetings, seminars and conferences

More than

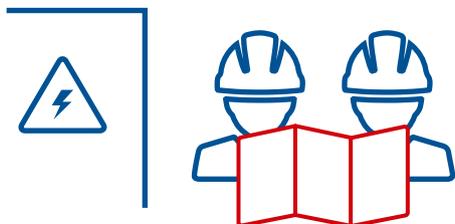
300



Academy and numerous hands-on trainings per year



to thousands of technical papers and application notes



Extensive expertise in consulting, testing and diagnostics

OMICRON is an international company that works passionately on ideas for making electric power systems safe and reliable. Our pioneering solutions are designed to meet our industry's current and future challenges. We always go the extra mile to empower our customers: we react to their needs, provide extraordinary local support, and share our expertise.

Within the OMICRON group, we research and develop innovative technologies for all fields in electric power systems. When it comes to electrical testing for medium- and high-voltage equipment, protection testing, digital substation testing solutions, and cybersecurity solutions, customers all over the world trust in the accuracy, speed, and quality of our user-friendly solutions.

Founded in 1984, OMICRON draws on their decades of profound expertise in the field of electric power engineering. A dedicated team of more than 1250 employees provides solutions with 24/7 support at 22 locations worldwide and serves customers in more than 170 countries.

The following publications provide further information on the solutions described in this brochure:



IEC 61850: Thematic introduction and testing solutions

For more information, additional literature, and detailed contact information of our worldwide offices please visit our website.