

# SV100A Vibration Dosimeter

**User Guide** 





### ISO 2631-1 and EU Directive 2002/44/EC

The SV 100A measures the A(8) vibration exposure and the overall vibration total value (VECTOR) in accordance with ISO 2631-1 and EU Directive 2002/44/EC. The A(8) result is given in m/s<sup>2</sup> (RMS), m/s<sup>1.75</sup> (VDV) and points. The SV 100A monitors the time left to limits and activates the alarm when the limits are reached.

The force sensors in the SV 100A automatically detect the presence of a user or vehicle driver which enables real daily exposure calculations for the period of time when the user is in contact with the vibrating surface.

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#### List of contents included in the SV 100A box:

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	Description	pcs.
1.	SV 100A vibration dosimeter including 8GB memory	1
2.	SA 54 charger / power supply	1
3.	Set of mains adapters to SA 54	1
4.	SC 56 USB cable	1
5.	SA 145 carrying case	1
6.	Calibration certificate	1
7.	CD with user manual	1
8.	License for Assistant (application available at svantek.com)	1



Please check the list against the contents. If any of the listed items are missing, please contact your local Svantek distributor or send an e-mail to office@svantek.com within 3 days of receiving the parcel.

### List of optional extras not included in the SV 100A box

Hardware accessories:										
Part name	Description	Applications								
SA 136	Calibration adapter	Periodical verification at laboratory								
SV 111	Vibration calibrator	Instrument check before and after series of measurements								

Software options that can be activated by code (with no need to return the meter to factory):

Part name	Description	Applications
SF 100A OCT	1/1 octave analysis	Verification of vibration sources Research and development
SF 100A 30CT	1/1 & 1/3 octave analysis	Verification of vibration sources Research and development
SF 100A WAV	Time domain signal recording during measurement - continuous or triggered	Analysis of vibration signal Post-processing Research and development
SF 100A Wf	Motion sickness filter	Measurement of low frequencies causing motion sickness in accordance to ISO 2631-1

#### Accredited calibration

(requires sending the instrument to SVANTEK authorised laboratory) SV\_CV\_WB Accredited calibration for vibration ISO / IEC 17025 calibration certificate meter

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# **Configuration with Supervisor software**

### **Configuration set-up**

1) To switch the power on hold the <ENTER> button for a couple of seconds.



- 2) Connect the USB cable to PC. Make sure the Supervisor software and USB drivers are previously installed on the PC.
- 3) Open the Supervisor software and go to the Instrument tab.

### 4) Select Settings



5) Download current Settings from Instrument files to Local Files using right arrow and edit SV100A settings using panels on the right hand side

Instrument files Selected: SV 100A #10000			Loc Select	a <b>l files</b> ed: Settings	4 Dosimetry	ne History Display			
Name	Date		Name Date		Measu	irement			E
👏 Settings	[current setti		Settings	2015-03-23 2		Value		- 6	
					Device Function	Dosimeter	+	1	Standard
					Start Delay	1 s			Exposure Action Value
					Start Sync.	Off			EAV X (aw)
					Integration Time	8 h			EAV Y (aw)
					No. of Measurement	1			EAV Z (aw)
					Exposure Time	8:00 h	+		Exposure Limit Value
					Force Detector Mode	Marker	+		ELV X (aw)
					Alarm	EAV EAV			ELV Y (aw)
		4				ELV ELV		1	ELV Z (aw)

#### 6) Save settings file under new name

7) Upload the file to the Instrument Files using left arrow and select Apply

Instrument files Selected: SV 100A #10000				Loc Select	al files ed: Setup1	-	d Dosimetry	Measurement	Time H		
	Name Date			Name Date		Measurement					
	Settings [current setti			Setup1 2015-03-23 2		Value					
	SET Apply	-02-26 0					Device Function	Dosimeter	-		
	Downlo Export	ad					Start Delay	1 s	-		
	Delete	Delete Delete all					Start Sync.	Off	-		
	Delete						Integration Time	8 h	-		

8) Disconnect the USB cable. Instrument is ready to measure.

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# SV 100A User Guide

## In-situ check with SV 111

## Set up of SV 111

1) Open the SV 111 calibrator lid and take out the SA111 adapter Mount the SV 100A on the SA111.



2) Mount the SV 100A on the SA111 (x axis vertical).





4) Enable Calibration menu in SV 100A by holding Right Arrow button. Select the axis.





Check	axis	Z
Level i.	000 r	n/5 <sup>2</sup>
Factor	0.14	dB



5) Start the calibrator using level of 1 m/s<sup>2</sup> at 16 Hz and wait until all 3 LEDs are green.



- 6) Press Enter on SV 100A to start the check procedure.
- 7) Repeat the procedure in all 3 axes.



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## The SV 100A Assistant Application

### Installation of Assistant application

1) Login to svantek.com website and download Assistant from the Support page to your smartphone / tablet with Android system.

Assistant		
v. 1.0.9		1 - C
Application for Android 4.3	James 1	
devices with Bluetooth ver. 4.0		1 DEC
(LE)		
Format: APK		

2) Install Assistant on your Android smarphone.

3) Start the application. The Assistant will ask you to enable Bluetooth and Localization services on your smartphone / tablet.

	LEVELS	POINTS	LEVELS	POINTS
	current exposure	0 points	current exposure	N/A m/s <sup>2</sup>
	A(8)	30 points	A(8)	N/A m/s <sup>2</sup>
Bluetooth is off. Go to System settings?	time to action	>24h	Location service is e settings?	off. Go to System
Yes No	time to limit	>24h	Yes	No
		limit value	action value	limit value

4) The Assistant will detect the SV100A automatically.

5) Enable Start / Stop / Pause menu by clicking on the bottom bar.



6) Swipe the screen to the left or right to switch between display modes.

LEVELS POINTS	TIME HISTORY SUMMARY	RMS (channel x) 0,06 m/s <sup>2</sup>	0.5 65	last setup loaded
urrent exposure 0 points	RMS	10	8.	next file name
(8) <b>30 uts</b>	channel X 0,39 m/s <sup>2</sup>	1.0		instrument clock 2015-09-17 12:38:35
	channel Y 0,19 m/s2	.01	and the second s	standard
me to action >24h	channel Z 0,31 m/s <sup>2</sup>	.001	P=	exposure duration
me to limit >24h		1233-43 1235-13 1236-43 T	A PAR	marker 1 name Bump
	Bump Accelerate	Bump Accelerate	7	marker 2 name Accelerate
50 m/s <sup>2</sup>				marker 3 name <sup>Turn</sup>
	Turn WAVE REC.	Turn WAVE REC.	Speed: 0 km/h Distance: 102,5 m	wave rec. length See



## Data files download

### Downloading with Supervisor

1) Connect the SV100A to PC and open Supervisor software. Click the Download button located next to Settings and Inventory.

File operation	s in progress					Supervisor - Instrument
Instrument	Data Browser	Session (1)				
Instruments	Inv	entory *	Settings	Dowr	lload	
	Connected	Instrument	Clock	Mem.	Firmware v	er. Setup activation
	No	SV 100A #10000	12/03/2014 06:08:	6 🕑 N/A	1.02.1	2015-03-23 20:52:58

2) Select files you wish to download and click the Download button located in the bottom section.

G *	e operations	in progress				9.	upervisor - In	istrument							_ 0 X
Instrum	ient 🛗	Data Browser	Session (1)												4 Þ
Instrum	ients 🕴	Inv	entory -	Settings	Dowr	hload									
	×	Connected No	Instrument SV 100A #10000	Clock 12/03/2014 06:08:36	Mem. N/A	Firmware ver. 1.02.1	Setup act 2015-03-	ivation 23 20:52:58	Activated setup Settings		Cal. validity date N/A	Inst	rument Cal. report		
			1			Se	elected: SV	100A #10000							
SV 10	AOC	Name		Size	[B] Da	ite		Location		🐣 Use	r	3	Task		Refresh
	$\leq$	L10.SVI		28 6	18 20 14 20	014-01-01 00:27: 014-01-05 09:05:	:08 :14	-		-		-			Change dir
		L12.SVI		676 2	50 20	014-01-12 01:31:	:44	-		-		-			Delete
Custom		L13.SVI		42 6	68 20 34 20	2014-02-21 07:19:12 2014-02-22 07:29:26				-					Delete all
E s		L15.SVI	-	5 5	74 20	014-02-22 08:40	52	•		-		-			Select all
E mai		L16.SVI	L	78 6	40 20	014-02-25 00:38 014-02-25 00:43	:12	-		-		-			Decelect all
		L18.SVI		26 7	22 20	014-02-25 06:55	:08	-		-		-			Deselect all
SV 1	02	L20.SVI		32.8	42 20	014-02-26 09:07	:22	-		-		-			
		L21.SV		16	98 20	014-03-12 04:15	:02	-							
		L22.SV		16 6	86 20 74 20	014-03-12 04:17: 014-03-12 04:23:	:46			1		-1:			
		L24.SVI		17	78 20	014-03-12 04:26	:12	-		-		-			
1000		L25.SVI		3 1	22 20	014-03-12 04:58	:36	-		-					
	: ]	L27.SVI		92 0	50 20	014-03-12 04:55	:14	-		-		-			
		L29.5V		3 7	94 20	014-03-12 05:09: 014-03-12 05:15:	:56	-		-		-			
SV 1	01					1		[no cl	nange] -		[no change]		[no change]		
				Download	_						Apply				
(	<u>ک</u> (		Delete	e file(s) after downloading											

3) Once the file is downloaded it will be automatically shown in the Data Browser.

Instrument Data Brows	er Session (1)			
Library	Hand-Arm	Whole-Body	SLN	1 Nois
<ul> <li>Sample files</li> <li>Hand-Arm</li> <li>Noise dosimetry</li> <li>SLM</li> <li>Whole-Body</li> <li>Catalogue</li> <li>Image: Secont</li> </ul>	Date from 2014-09-29	Date to 2014-09-29	<b>S/N</b> 0	✓ Filename
	🕨 Filename 🛛 L	ogger filename	Location	User Tas
	2 L20.SVL -		-	
	L21.SVL -		-	New session
	▷ L22.SVL -		-	-
Flagged				Delete

4) To open file simply double click on it.

Session data	🔄 🖳 🗗 🛱 🌚 🗱 🖉 - 🔎 -	🖬 - 🏭 - T+ T- T*		
aloge.svn	Session header			
M @MRM0'2AN				
	Project name			
	Author name	_		
Add panel	<ul> <li>Location</li> </ul>		·	
1/1 Octave	User name		· ·	
1/3 Octave	Task			
Instrument configuration	Comment			
1/3 Octave				14155
🏫 Logger results	Instrument configuration			Period
Panels		1 11		
1 Session header	Measurement start	2013-09-26 08:22:28		
	Elename	8LOG6.SVN	@WBW0.SVN	
	Measurement stop	2013-09-26 08:38:29	2013-09-26 08:23:28	
	Unit type	SV 106		
	Unit S/N	20907		
	Software version	3.22		
Name Date	Integration period	1 m		
	Logger step	1 s		
	Leq integration	Linear		

5) The detailed information on the operations within the Session panel are described in the SV100A User Manual and Supervisor Software Manual.



Should your SVANTEK professional measurement equipment need to be returned for repair or for calibration, please contact the service office at the following number or contact via the SVANTEK's website.

Service Office: +48 (22) 51-88-320 or +48 (22) 51-88-322. Office hours are 9:00 a.m. to 5:00 p.m. Central European Time. -E-mail at office@svantek.com -Internet at www.svantek.com -Address:

SVANTEK Sp. z o.o. Strzygłowska 81 04-872 Warszawa, Poland





## SV 100A Technical Specification

Application	Whole-body			
Standards	ISO 8041:2005, ISO 2631-1:1997			
Meter Mode	aw (RMS), awmax (RMS MAX), VDV, MaxVDV,_awv (VECTOR), A(8) Daily Exposure, A(8) Daily Exposure,			
	ELV Time (TIME LEFT TO LIMIT), ELV Time (TIME LEFT TO LIMIT), EAV Time (TIME LEFT TO ACTION)			
	EAV Time (TIME LEFT TO ACTION); MTVV, Max, Peak, Peak-Peak			
Filters	Wd, Wk, Wm, Wb (ISO 2631) and corresponding Band Limiting filters			
	Wf for motion sickness filter measurements according to ISO 2631-1 (option)			
RMS & RMQ Detectors	Digital true RMS & RMQ detectors with Peak_detection, resolution 0.1 dB			
Measurement Range	0.01 ms <sup>-2</sup> RMS ÷ 157 ms <sup>-2</sup> PEAK			
Frequency Range	0.1 Hz ÷ 180 Hz			
Data Logger	Time-history data including meter mode results and spectra			
Time-Domain Recording	Simultaneous 3-channel time-domain signal recording (option)			
Analyser	1/1 octave real-time analysis (option)			
	1/3 octave real-time analysis (option)			
Accelerometer	Built-in tri-axial MEMS based			
Display	OLED 128 x 32 pixels			
Memory	8 GB			
Interfaces	USB 2.0 client, Bluetooth			
Keyboard	4 push buttons			
Power Supply				
	Ni-MH rechargeable cellsoperation time > 24 hours <sup>1</sup>			
	USB interface500 mA HUB			
Environmental Conditions				
	Temperaturefrom -10 °C to 50 °C			
	Humidityup to 90 % RH, non-condensed			
Dimensions	Ø235mm x 12 mm			
Weight	0.5 kg			

<sup>1</sup>dependent on instrument operation configuration

The policy of our company is to continually innovate and develop our products. Therefore, we reserve the right to change the specifications without prior notice.

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