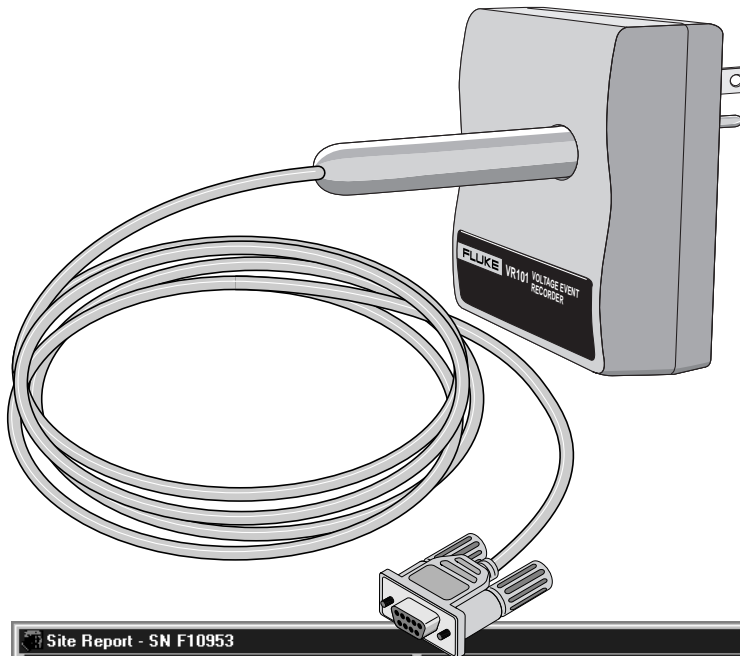


## VR101S Voltage Event Recorder System

Set up, plug in, download, and analyze



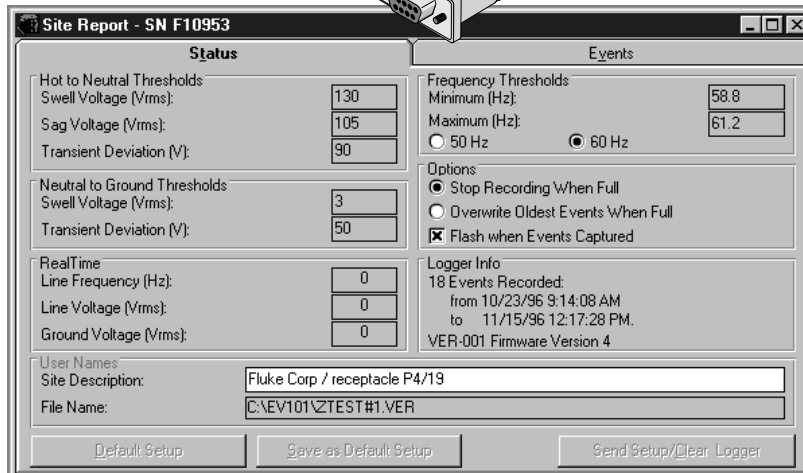
Homes, offices, hospitals, and factories depend on electronic devices. And electronic devices depend on good power quality. The Fluke VR101S is the perfect system for catching sags, swells, transients, outages and frequency variations on line voltage at receptacles, where the most sensitive loads are connected.

The VR101S is a starter system that includes a compact VR101 event recorder, an optical interface cable, and EventView™ software that turns your PC into a power quality reporting tool. Additional VR101 event recorders can be purchased individually, so you can monitor several voltage conditions at multiple locations at once.

To set up a VR101 event recorder, just enter the event capture limit parameters on your PC and load them into the recorder. EventView software and the optical interface cable make it easy. Then plug the recorder into the outlet you need to test, and leave it—there's no need to leave a computer hooked up. The compact recorder stores any voltage event that goes outside your limits. The VR101 recorder can store up to as many as 4000 events and a flashing LED tells you when events have been captured.

To get data out of the recorder, hook it back up to your computer. EventView software can download a complete history of the events that occurred while the recorder was plugged into the receptacle. The software lets you build a detailed report of sags, swells, transients, outages and frequency variations with time-stamps and durations.

Your PC communicates to the VR101 through an optical interface cable. This means the PC and VR101 are insulated from each other for safety. The event recorder is self-powered by a 7-year lithium battery, so it is not affected by power outages. Each VR101 Recorder has its own real-time clock for time-stamping voltage events and is identified by a unique factory-assigned code. With their clocks and ID codes, multiple recorders can be placed throughout a facility to give a complete picture of power quality.



Status		Events		
Event #	Start Time	Event	Extreme	End time/Duration/Degree
0	11/15/96 12:15:44 PM	Outage	0 Vrms	Open Event
18	11/15/96 12:15:44 PM	9 N-G Transients	-469 Vp	271°
17	11/15/96 12:15:36 PM	9 H-N Transients	+414 Vp	91°
16	10/25/96 8:51:36 AM	Outage	0 Vrms	11/15/96 12:15:28 PM
15	10/25/96 8:51:20 AM	Outage	0 Vrms	00:00:08
14	10/25/96 8:46:40 AM	Low Frequency	58.8 Hz	0.5 cycles
13	10/25/96 8:44:08 AM	Outage	0 Vrms	00:02:32
12	10/25/96 8:44:00 AM	Outage	0 Vrms	7.5 cycles
11	10/25/96 8:43:52 AM	N-G Swell	26 Vrms	22.0 cycles
10	10/25/96 8:43:44 AM	H-N Sag	86 Vrms	17.5 cycles
9	10/25/96 8:43:44 AM	H-N Swell	141 Vrms	16.0 cycles
8	10/25/96 8:43:44 AM	1 N-G Transient	+414 Vp	330°
7	10/25/96 8:43:36 AM	1 N-G Transient	-405 Vp	266°
6	10/25/96 8:43:36 AM	1 N-G Transient	+423 Vp	111°
5	10/25/96 8:43:36 AM	1 H-N Transient	-1049 Vp	278°
4	10/25/96 8:43:36 AM	1 H-N Transient	+561 Vp	259°
3	10/25/96 8:43:28 AM	1 H-N Transient	929 Vp	100°

## Specifications

**Memory size:** 4000 events

**Battery type:** 3.5V lithium (non-replaceable)

**Battery life:** 7 years

**Electrical** (voltage versions, plug style, and manual languages are determined by country)

Voltage Version	Operating Range	Nominal Frequencies	Power Consumption
120V Version	70V to 140V	50 Hz or 60 Hz	2W
230V Version	140V to 270V	50 Hz or 60 Hz	3W

### Sags, Swells and Outage Measurements

Voltage Version		Range	Accuracy	Resolution
120V Version	Hot-to-neutral	0 to 200V rms	±2V rms	1V rms
	Neutral-to-ground	3 to 200V rms	±2V rms	1V rms
230V Version	Hot-to-neutral	0 to 400V rms	±4V rms	2V rms
	Neutral-to-ground	3 to 120V rms	±2V rms	1V rms

### Transient Measurements

	Range	Accuracy	Resolution
Hot-to-neutral	100 to 2500V peak	±(10% reading +10V)	10V
Neutral-to-ground	50 to 2500V peak	±(10% reading +10V)	10V
Phase angle	20° to 180° 200° to 360°	±1°	1°

Minimum pulse width: 1 μs

### Frequency Measurements

Range	Accuracy	Resolution
45 to 65 Hz	±0.1 Hz (3 cycles min)	0.1 Hz

### Time Measurements: Events < 1 second

	Accuracy	Resolution
Hot-to-neutral	±0.5 cycles	0.5 cycles
Neutral-to-ground	±1 cycle	1 cycle

### Events ≥ 1 second (time stamp)

	Accuracy	Resolution
	±(2 sec/day + 8 sec)	8 sec

### Mechanical

**Physical size:** 3.35 in x 2.65 in x 1.35 in  
(85 mm x 68 mm x 35 mm)

**Weight:** 4 oz (120g)

### Environmental

**Operating temperature:**  
-40 to 160°F (-40 to 70°C)

**Relative Humidity:**  
0 to 95% (non-condensing)

**Safety:** CSA Certification pending,  
CSA-NRTL (to UL 3111) certification  
pending. Complies with requirements  
of EN61010-1:1993

### Computer Hardware Requirements

IBM PC or 100% compatible,  
with Windows® 3.1 or Windows 95  
installed and operating  
At least one free RS-232 serial port  
A pointing device (recommended)  
2 MB hard drive space  
4 MB RAM (8 MB for Windows 95)

### General

**Warranty:** 1 year

## Ordering Information

### Included Accessories

**VR101S**  
VR101 Voltage Event Recorder,  
Optical interface cable, 9-to-25 pin adapter,  
EventView Software on two 3½ inch  
floppies, Users Manual

### VR101

VR101 Voltage Event Recorder,  
Instruction Sheet

### Ordering Information

(Note: At least one VR101S is required  
for proper operation.)

**VR101S** Voltage Event Recorder System  
**VR101** Voltage Event Recorder

Need Technical Assistance? Call:

**1-800-44-FLUKE**

Toll-free in the U.S.

(905) 890-7600 in Canada

(425) 356-5500 other countries

For more information to be sent  
to you by fax, call 1-800-FLUKE-FAX  
in the U.S. and Canada. Or, visit our  
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