

# VeriSafe™ 1kV Absence of Voltage Tester

## Simplify absence of voltage testing

**PANDUIT**  
PRODUCT BULLETIN

When servicing electrical equipment, workers must comply with safety regulations that require a voltage verification test to validate the absence of voltage. This process includes a number of stages that can be complex and time-consuming when using hand-held portable test instruments.

The VeriSafe™ Absence of Voltage Tester from Panduit simplifies this process by automating the voltage verification process.

Once installed, a simple push of a button enables workers to verify the absence of voltage and see an active indication when the absence of voltage is confirmed. This provides a new and innovative way to safely, reliably, and efficiently verify the absence of voltage before accessing potentially dangerous electrical equipment.






By automating this process, the VeriSafe Absence of Voltage Tester:

- Reduces the risk of exposure of electrical hazards for improved worker safety
- Reduces testing procedure time and complexity to improve productivity
- Supports compliance when used to verify the electrical lockout/tagout process as described in NFPA 70E and CSA Z462

The VeriSafe Absence of Voltage Tester minimizes risk by verifying the absence of voltage before equipment is accessed, making it easier for workers to verify an electrically safe work condition has been established in a fraction of the time compared to using hand-held portable test instruments.



## KEY FEATURES & BENEFITS

	<b>Improved safety and risk reduction:</b>	No exposure to electrical hazards while testing Reduces human factors
	<b>Simplified process for easier compliance:</b>	Satisfies criteria in NFPA 70E 120.5(7) Exception 1 & CSA Z462 4.2.5 (g) Exception 2 UL 1436 listing
	<b>Reliable results:</b>	Fail-safe design with active indications Safety functions meet SIL 3 (IEC 61508-1) Redundant channels for measurement and detection
	<b>Increased productivity:</b>	Results within 10 seconds of button push No additional tools required Provides visual alert to abnormal power conditions
	<b>Flexible applications:</b>	Power Distribution, motor control and automation Data Centers, Industrial and commercial facilities Suitable for indoor, outdoor use

# VeriSafe™ 1kV Absence of Voltage Tester

## The Safe Way to Protect Employees and Equipment

The VeriSafe Absence of Voltage Tester simplifies the voltage testing process. With the push of a button, workers can quickly determine voltage status and see an active indication when the absence of voltage is confirmed. This provides a new and innovative way to safely, reliably, and efficiently test for the absence of voltage without exposure to electrical hazards.



### VOLTAGE PRESENCE INDICATION

Red LEDs indicate hazardous voltage present



Lack of red LEDs does not guarantee voltage absence

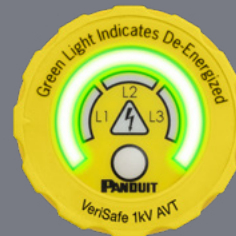


### ABSENCE OF VOLTAGE TESTING

Push to initiate test and see progress

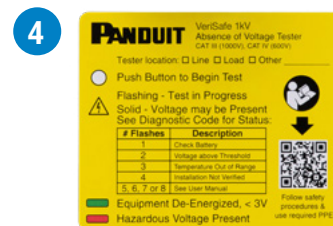
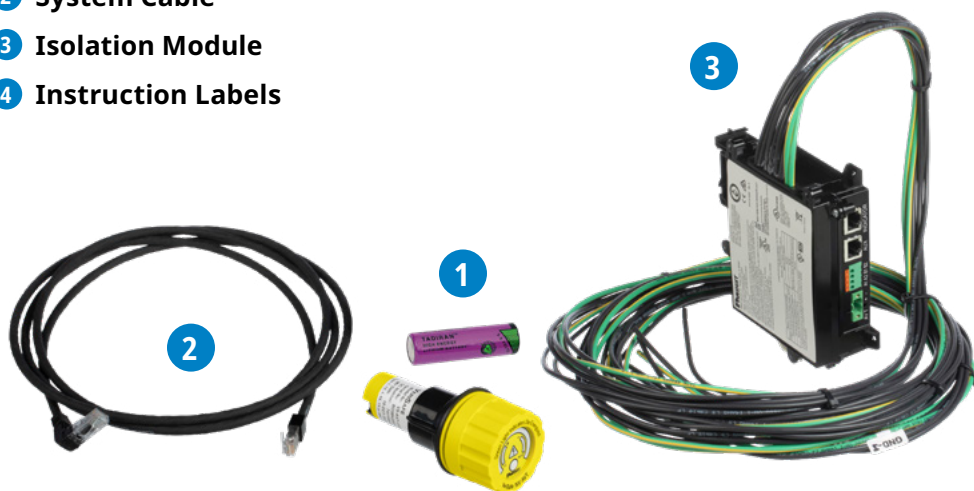


Green indicates absence of voltage is confirmed



## WHAT'S INCLUDED

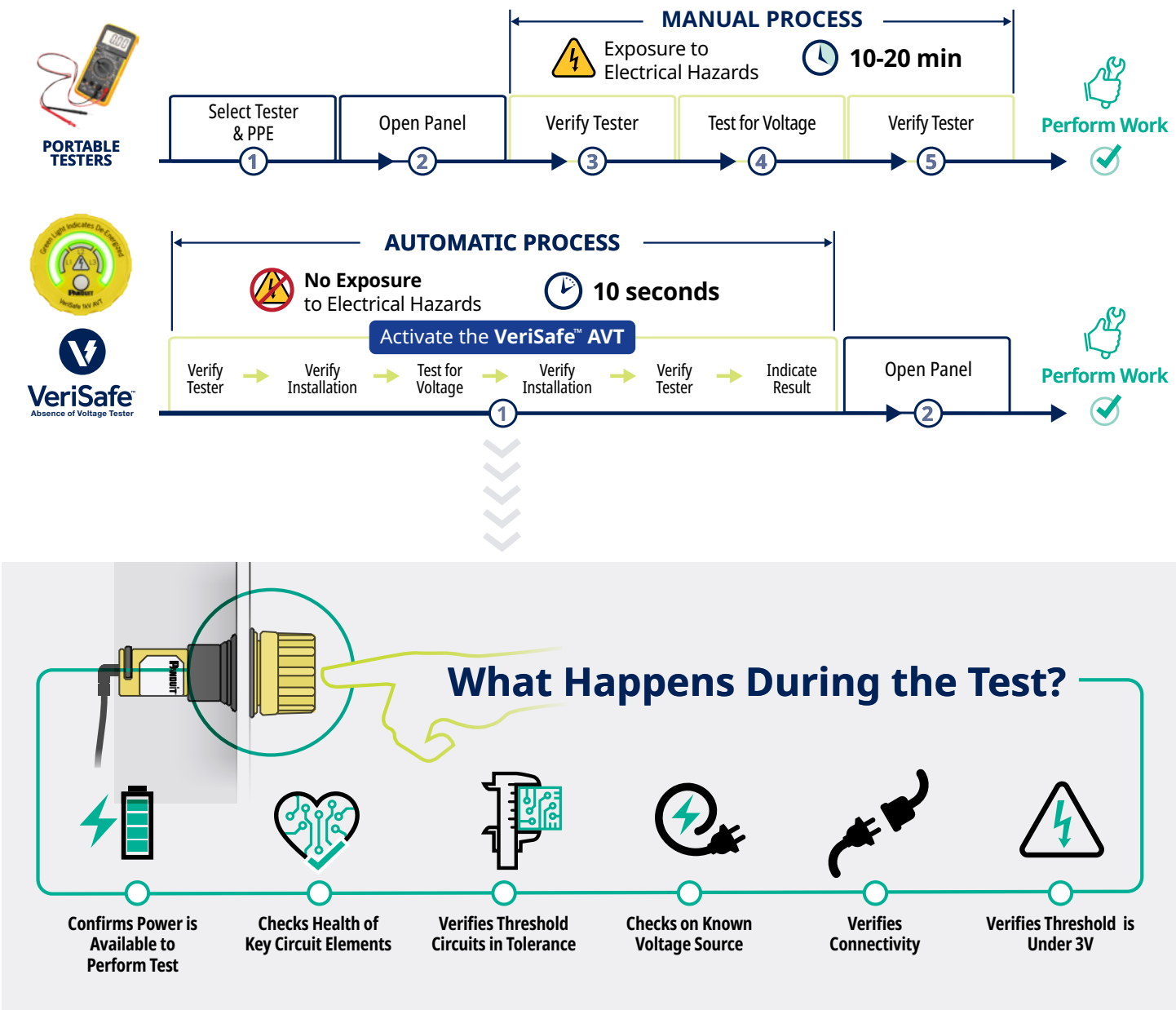
- 1 Indicator Module
- 2 System Cable
- 3 Isolation Module
- 4 Instruction Labels



Instruction Label –  
VS-AVT-RL

# VeriSafe™ 1kV Absence of Voltage Tester

## COMPARISON OF TEST METHODS



# VeriSafe™ 1kV Absence of Voltage Tester

## ORDERING INFORMATION

### Step 1 Select Configuration

VS2-AVT

- XYZ

- ##

Example: VS2-AVT-3PB-08

#### Choose your system

XY



3P

**3-Phase 1kV System**  
10' (3.0 m) Black Sensor Leads



1P

**DC/Single-Phase 1kV System**  
10' (3.0 m) Black Sensor Leads

#### Choose your indicator

Z



F

**Battery Free Indicator**



B

**Battery Powered Indicator**  
(battery included)

#### Choose your cable

##



02

**2' (0.6m) System Cable**

08

**8' (2.4m) System Cable**

16

**16' (4.8m) System Cable**

### Step 2 Select Upgrades (optional)



**VS2-NET**

**Network Module**  
for use with  
VS2-AVT models.



**VS2-AVT-1IF**

**Battery Free Single-Phase Indicator**



**VS2-AVT-3IF**

**Battery Free 3-Phase Indicator**



**VS2-AVT-1IB**

**Battery Powered Single-Phase Indicator**  
No Battery Included



**VS2-AVT-3IB**

**Battery Powered 3-Phase Indicator**  
No Battery Included

**Additional Indicator Options** (system cable not included)

**Replacement System Cable:** For use with VeriSafe 1kV Indicator Modules only



**VS2-CABLE-02**

**2' Cable Length**  
.6 m

**VS2-CABLE-04**

**4' Cable Length**  
1.2 m

**VS2-CABLE-08**

**8' Cable Length**  
2.4 m

**VS2-CABLE-16**

**16' Cable Length**  
4.8 m

**VS2-CABLE-20**

**20' Cable Length**  
6.1 m

**VS2-CABLE-30**

**30' Cable Length**  
9.1 m

### Step 3 Select Connectors (optional)

**VeriSafe Insulation Piercing Connection Kit**

Kits includes 3 connectors and ferrules for installation of 1 AVT.

**VS-CKP-14-6**



**Connection Kit**  
For Tapping 14 to 6 AWG conductors.  
Rated up to 600V

**VS-CKP-4-000**



**Connection Kit**  
For Tapping 4 to 3/0 AWG  
conductors. Rated up to 600V.

**VS-CKP-1K4/0-500**

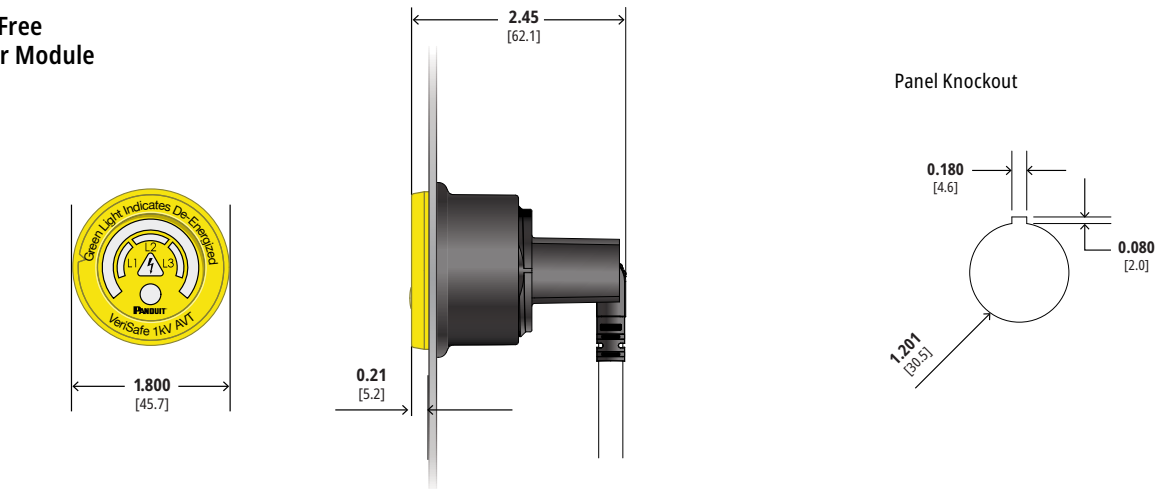


**Connection Kit**  
For Tapping AWG 4/0 to 500 MCM  
conductors. Rated up to 1000V.

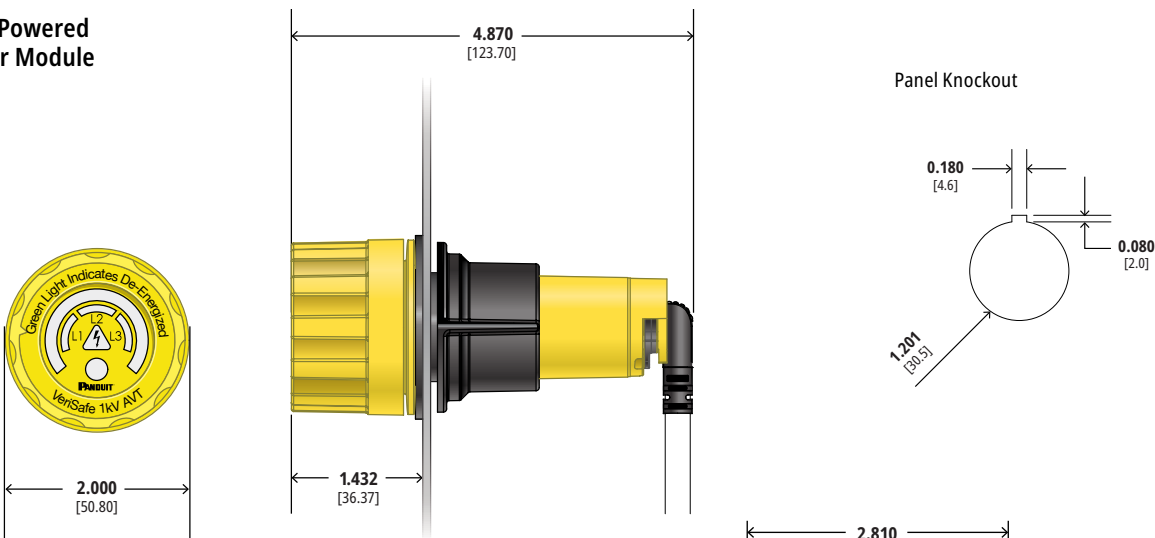
# VeriSafe™ 1kV Absence of Voltage Tester

## DIMENSIONS

### Battery Free Indicator Module

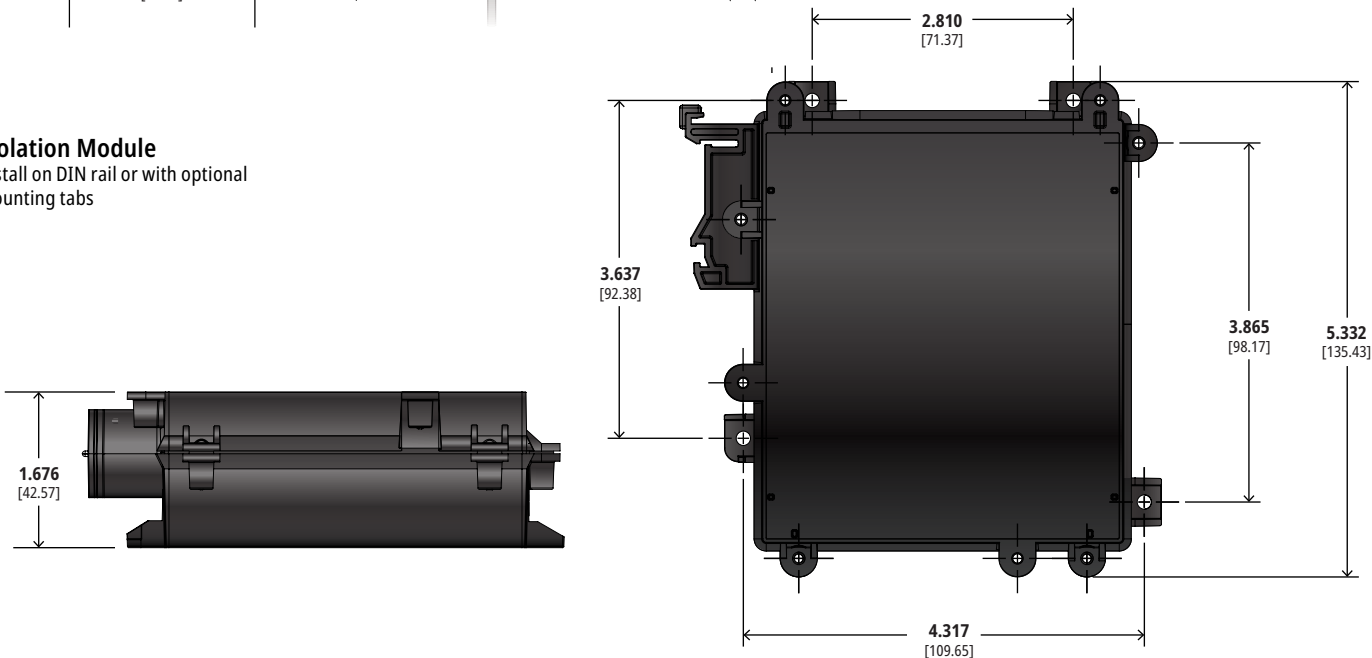


### Battery Powered Indicator Module



### Isolation Module

Install on DIN rail or with optional mounting tabs



Dimensions are in inches. [Dimensions in brackets are metric].

# VeriSafe™ 1kV Absence of Voltage Tester

## TECHNICAL SPECIFICATIONS

### APPLICATIONS

<b>Electrical system:</b>	For use in 3-phase AC systems, single-phase AC systems and DC systems
<b>Voltage detection range:</b>	Up to 1,000 VAC (50/60 Hz), 1,000 VDC
<b>Absence of voltage threshold:</b>	3 V (See the Installation Considerations section for additional information)
<b>Overvoltage category:</b>	III (1,000 V), IV (600 V)
<b>Degree of protection*:</b>	Indicator Module: for flat surface mounting in a TYPE (UL, NEMA and CSA) 1, 12, 13, 4, 4X, IP66, IP67 or IP69 enclosure. Verify that the seal, o-rings and gaskets are clean to ensure proper sealing. Isolation module: Open Type, IP20.

### ENVIRONMENT

<b>Temperatures:</b>	Operating temperature: -13°F to 140°F (-25°C to +60°C) Storage temperature: -49°F to +185°F (-45°C to +85°C)
<b>Humidity:</b>	5 to 90% non-condensing; Rated 80% at 104°F (40°C), decreasing linearly to 50% at 140°F (60°C)
<b>Pollution degree:</b>	3
<b>Altitude:</b>	Up to 16,400 feet (5000 meters)

### HAZARDOUS LOCATION RATINGS

<b>Isolation module:</b>	cULus: Class I, Division 2, Groups A, B, C, D Class I Zone 2 AEx ec IIC T5 Gc; Ex ec IIC T5 Gc
<b>Voltage indicator modules:</b>	cULus: Class I, Division 2, Groups A, B, C, D Class II, Division 2, Groups F and G Class I Zone 2 AEx ic ec IIC T6 Gc; Ex ic ec IIC T6 Gc

### POWER REQUIREMENTS

<b>Battery:</b>	Industrial 3.6 V Lithium. Refer to User Manual for list of approved batteries
<b>Auxiliary (DC) Power:</b>	35 mA max @ 12 VDC; 17 mA max @ 24 VDC
<b>Power over EtherNet (PoE)*:</b>	PoE (10/100), 15 mA, IEEE 802.3at (-af) Type 1 Class III PoE topology

\*Requires optional VS2-NET to use PoE

## STANDARDS AND CERTIFICATIONS



<b>UL 1436:</b>	Standard for outlet circuit testers and similar indicating devices
<b>UL 508 &amp; CSA-C22.2 No. 14:</b>	Industrial control equipment
<b>CAN/CSA-C22.2 No. 160:</b>	Voltage and Polarity Testers
<b>CAN/CSA-C22.2 No. 107.1:</b>	Power Conversion Equipment
<b>IEC/UL/CSA C22.2 No. 61010-1:</b>	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General Requirements

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# VeriSafe™ 1kV Absence of Voltage Tester

## STANDARDS AND CERTIFICATIONS

<b>IEC/UL/CSA C22.2 No. 61010-2-030:</b>	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-030: Particular requirements for testing and measuring circuits
<b>IEC 61508-1, -2, and -3 {SIL 3 Rating}:</b>	Safety of Electrical/Electronic/programmable Electronic safety-related security systems — Part 1: General Requirements Part 2: Requirements for Electrical / Electronic / Programmable safety related systems Part 3: Software Requirements

Refer to Instruction Manual at [panduit.com/verisafe/VS2\\_AVT\\_Manual\\_EN](http://panduit.com/verisafe/VS2_AVT_Manual_EN) for complete list of product specifications and standards

Part Number	Description
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### VERISAFE 2.0 AVT ABSENCE OF VOLTAGE TESTER

<b>VS2-AVT-1PB-02</b>	Single-phase VeriSafe 1kV AVT isolation module, 2ft (0.6m) system cable, 10ft (3m) sensor leads, single-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-1PB-08</b>	Single-phase VeriSafe 1kV AVT isolation module, 8ft (2.4m) system cable, 10ft (3m) sensor leads, single-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-1PB-16</b>	Single-phase VeriSafe 1kV AVT isolation module, 16ft (4.8m) system cable, 10ft (3m) sensor leads, single-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-1PF-02</b>	Single-phase VeriSafe 1kV AVT isolation module, 2ft (0.6m) system cable, 10ft (3m) sensor leads and a single-phase battery-free indicator module
<b>VS2-AVT-1PF-08</b>	Single-phase VeriSafe 1kV AVT isolation module, 8ft (2.4m) system cable, 10ft (3m) sensor leads and a single-phase battery-free indicator module
<b>VS2-AVT-1PF-16</b>	Single-phase VeriSafe 1kV AVT isolation module, 16ft (4.8m) system cable, 10ft (3m) sensor leads and a single-phase battery-free indicator module
<b>VS2-AVT-3PB-02</b>	Three-phase VeriSafe 1kV AVT isolation module, 2ft (0.6m) system cable, 10ft (3m) sensor leads, three-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-3PB-08</b>	Three-phase VeriSafe 1kV AVT isolation module, 8ft (2.4m) system cable, 10ft (3m) sensor leads, three-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-3PB-16</b>	Three-phase VeriSafe 1kV AVT isolation module, 16ft (4.8m) system cable, 10ft (3m) sensor leads, three-phase battery-powered indicator module and an industrial lithium battery
<b>VS2-AVT-3PF-02</b>	Three-phase VeriSafe 1kV AVT isolation module, 2ft (0.6m) system cable, 10ft (3m) sensor leads and a three-phase battery-free indicator module
<b>VS2-AVT-3PF-08</b>	Three-phase VeriSafe 1kV AVT isolation module, 8ft (2.4m) system cable, 10ft (3m) sensor leads and a three-phase battery-free indicator module
<b>VS2-AVT-3PF-16</b>	Three-phase VeriSafe 1kV AVT isolation module, 16ft (4.8m) system cable, 10ft (3m) sensor leads and a three-phase battery-free indicator module

### SENSOR LEAD TERMINATION KITS

<b>VS-CKP14-6</b>	Insulation Piercing Connection Kit for Tapping 14 to 6 AWG conductors. Rated for 600V installations. Kit includes 3 connectors for installation of a single AVT
<b>VS-CKP4-000</b>	Insulation Piercing Connection Kit for Tapping 4 to 3/0 AWG conductors. Rated for 600V installations. Kit includes 3 connectors for installation of a single AVT
<b>VS-CKP1K4/0-500</b>	Insulation Piercing Connection Kit for Tapping AWG 4/0 to 500MCM copper conductors. Rated for 1KV installations. Kit includes 3 connectors for installation of a single AVT

# VeriSafe™ 1kV Absence of Voltage Tester

Part Number	Description
<b>ACCESSORIES</b>	
<b>VS2-AVT-1IB</b>	VeriSafe 2.0 AVT single-phase Battery Indicator Module
<b>VS2-AVT-1IF</b>	VeriSafe 2.0 AVT single-phase Battery Free Indicator Module
<b>VS2-AVT-3IB</b>	VeriSafe 2.0 AVT three-phase Battery Indicator Module
<b>VS2-AVT-3IF</b>	VeriSafe 2.0 AVT three-phase Battery Free Indicator Module
<b>VS2-CABLE-02</b>	VeriSafe 2.0 AVT Replacement Cable, 2ft (0.6m), for use with VeriSafe 2.0 AVTs only
<b>VS2-CABLE-04</b>	VeriSafe 2.0 AVT Replacement Cable, 4ft (1.2m), for use with VeriSafe 2.0 AVTs only
<b>VS2-CABLE-08</b>	VeriSafe 2.0 AVT Replacement Cable, 8ft (2.4m), for use with VeriSafe 2.0 AVTs only
<b>VS2-CABLE-16</b>	VeriSafe 2.0 AVT Replacement Cable, 16ft (4.8m), for use with VeriSafe 2.0 AVTs only
<b>VS2-CABLE-20</b>	VeriSafe 2.0 AVT Replacement Cable, 20ft (6.0m), for use with VeriSafe 2.0 AVTs only
<b>VS2-CABLE-30</b>	VeriSafe 2.0 AVT Replacement Cable, 30ft (9.1m), for use with VeriSafe 2.0 AVTs only
<b>VS2-NET</b>	VeriSafe 2.0 Network Module, Compatible with VeriSafe 2.0 AVT
<b>VS2-AVT-RL</b>	VeriSafe 2.0 Replacement Faceplate and Instruction labels in 8 languages. English, German, Mandarin, French Canadian, Italian, Korean, Spanish and French.
<b>REPLACEMENT PARTS</b>	
<b>VS2-AVT-1P-ISO</b>	VeriSafe 2.0 AVT single-phase/DC Isolation Module replacement
<b>VS2-AVT-3P-ISO</b>	VeriSafe 2.0 AVT three-phase Isolation Module replacement
<b>VS-AVT-BATTERY</b>	Replacement Battery, compatible with VeriSafe 1.0 and 2.0, 3.6V lithium ion. AA form factor
<b>VS2-AVT-RL</b>	VeriSafe 2.0 Replacement Faceplate and Instruction labels in 8 languages. English, German, Mandarin, French Canadian, Italian, Korean, Spanish and French
<b>VS2-AVT-NETCON</b>	Replacement RS485 Connector for Network Module, one connector
<b>VS2-AVT-GASKET</b>	Replacement Gaskets for VeriSafe AVT Battery Free Indicator Module
<b>VS-AVT-ROR</b>	Replacement Gaskets for Battery Indicator Module, compatible with VeriSafe 1.0 and 2.0