

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

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

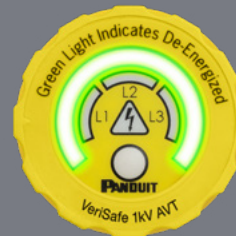


ABSENCE OF VOLTAGE TESTING

Push to initiate test and see progress

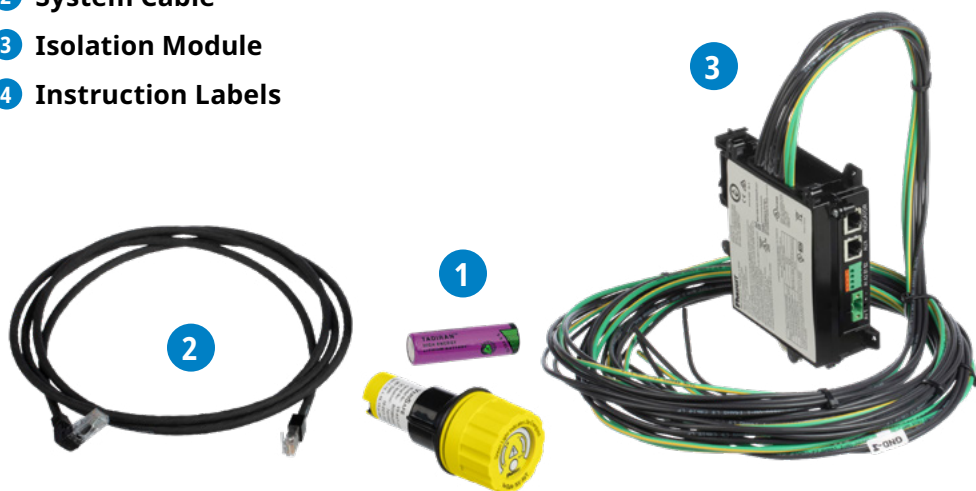


Green indicates absence of voltage is confirmed



WHAT'S INCLUDED

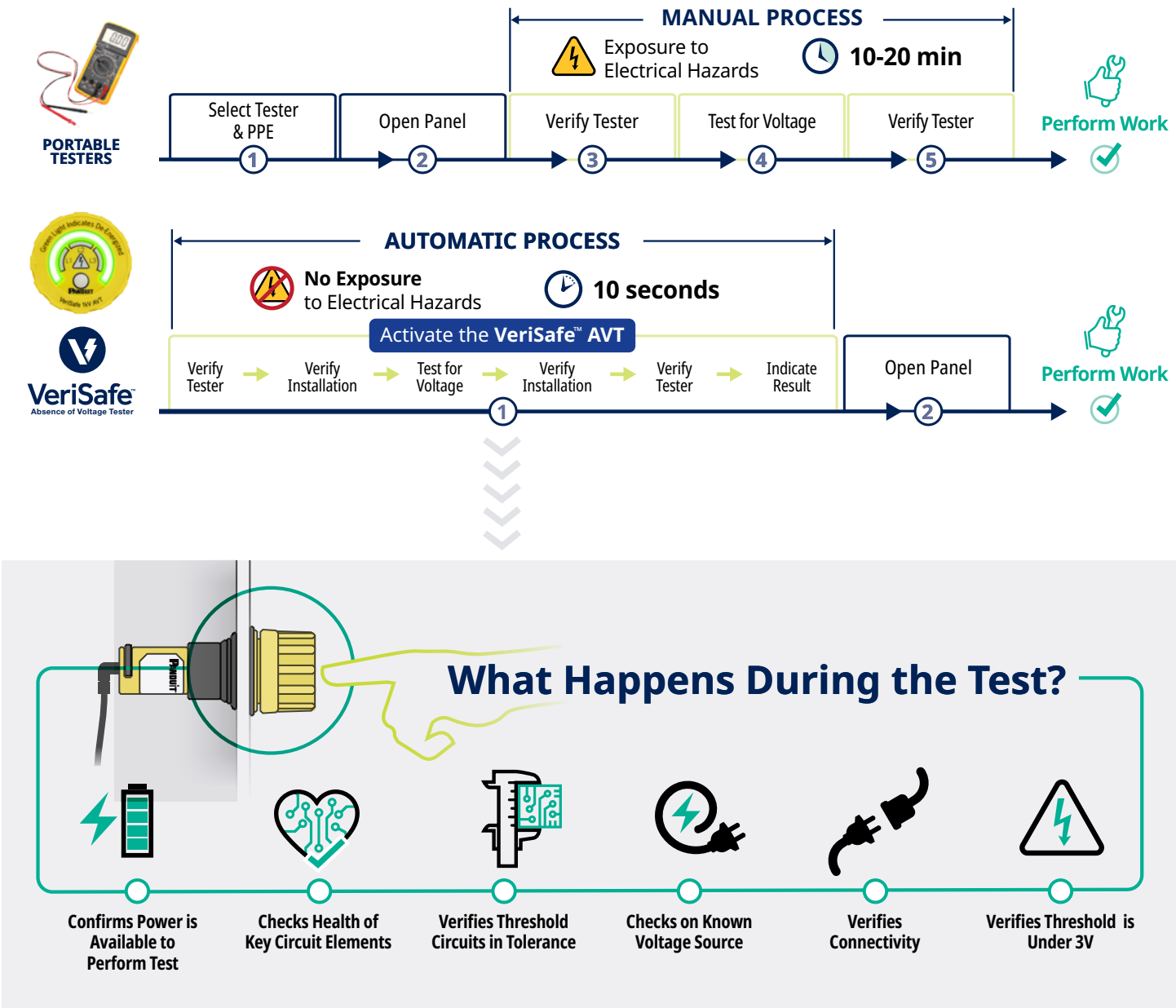
- 1 Indicator Module
- 2 System Cable
- 3 Isolation Module
- 4 Instruction Labels



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.

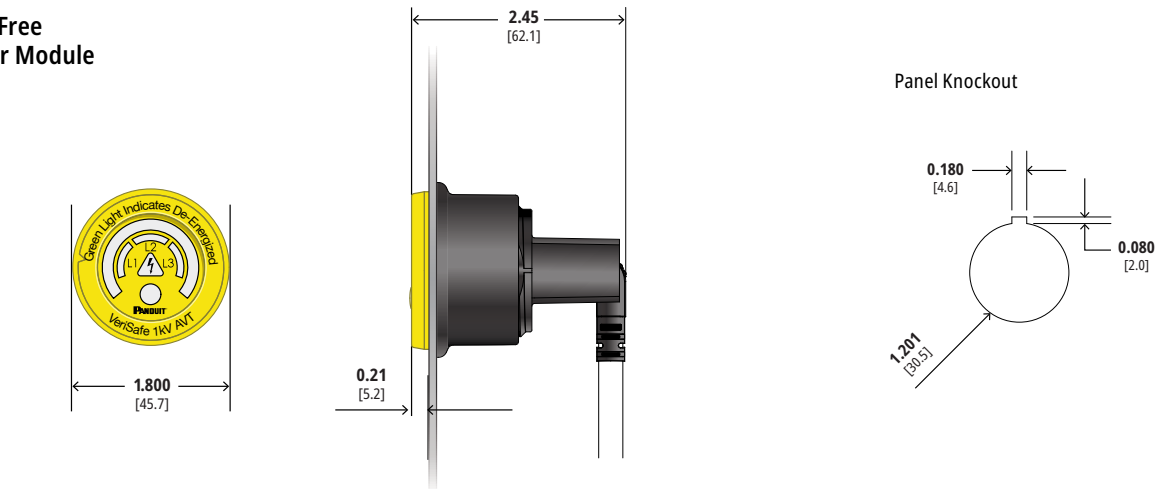
VS-CKP-1K4/0-500



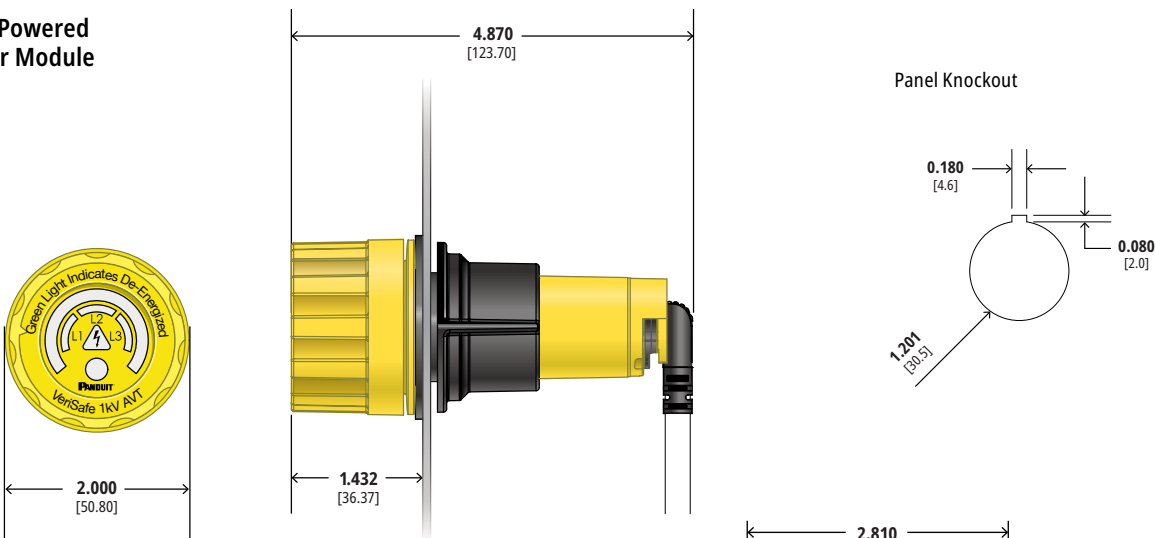
Connection Kit
For Tapping AWG 4/0 to 500 MCM
conductors. Rated up to 1000V.

DIMENSIONS

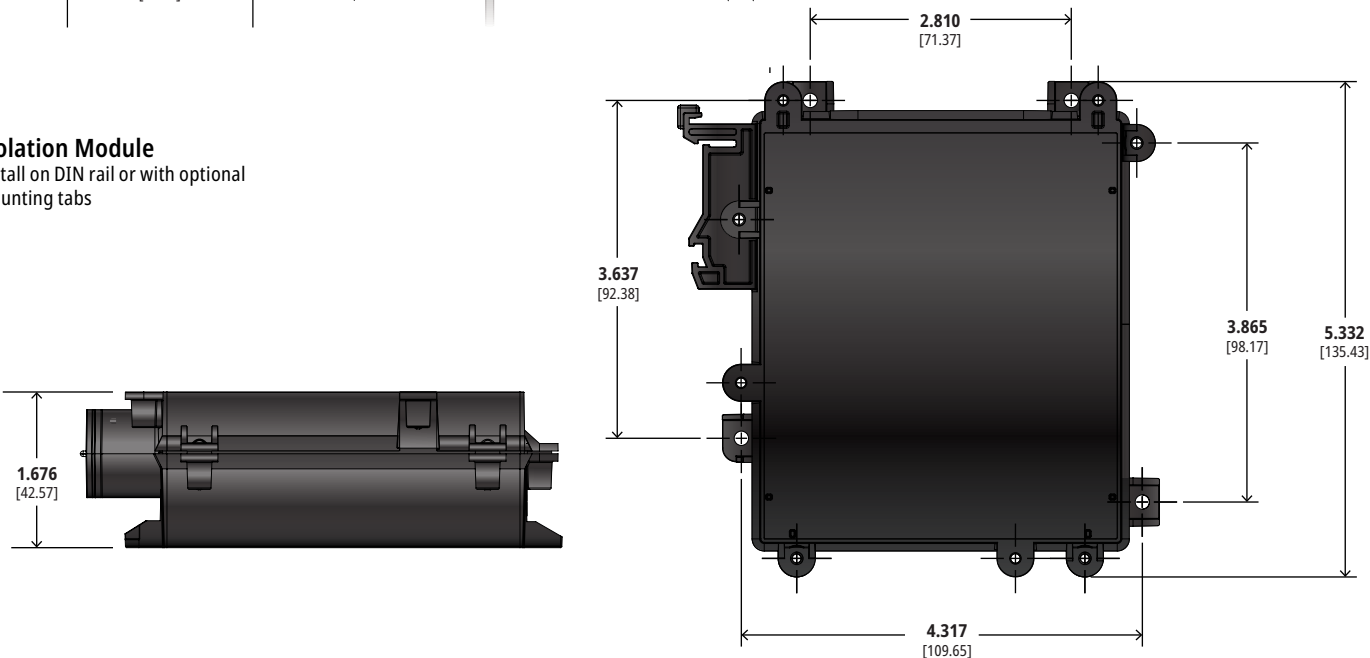
Battery Free Indicator Module



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

Electrical system:	For use in 3-phase AC systems, single-phase AC systems and DC systems
Voltage detection range:	Up to 1,000 VAC (50/60 Hz), 1,000 VDC
Absence of voltage threshold:	3 V (See the Installation Considerations section for additional information)
Overvoltage category:	III (1,000 V), IV (600 V)
Degree of protection*:	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

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

HAZARDOUS LOCATION RATINGS

Isolation module:	cULus: Class I, Division 2, Groups A, B, C, D Class I Zone 2 AEx ec IIC T5 Gc; Ex ec IIC T5 Gc
Voltage indicator modules:	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

Battery:	Industrial 3.6 V Lithium. Refer to User Manual for list of approved batteries
Auxiliary (DC) Power:	35 mA max @ 12 VDC; 17 mA max @ 24 VDC
Power over EtherNet (PoE)*:	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



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

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STANDARDS AND CERTIFICATIONS

IEC/UL/CSA C22.2 No. 61010-2-030:	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 2-030: Particular requirements for testing and measuring circuits
IEC 61508-1, -2, and -3 {SIL 3 Rating}:	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 for complete list of product specifications and standards

Part Number	Description
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VERISAFE 2.0 AVT ABSENCE OF VOLTAGE TESTER

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

VS-CKP14-6	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
VS-CKP4-000	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
VS-CKP1K4/0-500	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
ACCESSORIES	
VS2-AVT-1IB	VeriSafe 2.0 AVT single-phase Battery Indicator Module
VS2-AVT-1IF	VeriSafe 2.0 AVT single-phase Battery Free Indicator Module
VS2-AVT-3IB	VeriSafe 2.0 AVT three-phase Battery Indicator Module
VS2-AVT-3IF	VeriSafe 2.0 AVT three-phase Battery Free Indicator Module
VS2-CABLE-02	VeriSafe 2.0 AVT Replacement Cable, 2ft (0.6m), for use with VeriSafe 2.0 AVTs only
VS2-CABLE-04	VeriSafe 2.0 AVT Replacement Cable, 4ft (1.2m), for use with VeriSafe 2.0 AVTs only
VS2-CABLE-08	VeriSafe 2.0 AVT Replacement Cable, 8ft (2.4m), for use with VeriSafe 2.0 AVTs only
VS2-CABLE-16	VeriSafe 2.0 AVT Replacement Cable, 16ft (4.8m), for use with VeriSafe 2.0 AVTs only
VS2-CABLE-20	VeriSafe 2.0 AVT Replacement Cable, 20ft (6.0m), for use with VeriSafe 2.0 AVTs only
VS2-CABLE-30	VeriSafe 2.0 AVT Replacement Cable, 30ft (9.1m), for use with VeriSafe 2.0 AVTs only
VS2-NET	VeriSafe 2.0 Network Module, Compatible with VeriSafe 2.0 AVT
VS2-AVT-RL	VeriSafe 2.0 Replacement Faceplate and Instruction labels in 8 languages. English, German, Mandarin, French Canadian, Italian, Korean, Spanish and French.
REPLACEMENT PARTS	
VS2-AVT-1P-ISO	VeriSafe 2.0 AVT single-phase/DC Isolation Module replacement
VS2-AVT-3P-ISO	VeriSafe 2.0 AVT three-phase Isolation Module replacement
VS-AVT-BATTERY	Replacement Battery, compatible with VeriSafe 1.0 and 2.0, 3.6V lithium ion. AA form factor
VS2-AVT-RL	VeriSafe 2.0 Replacement Faceplate and Instruction labels in 8 languages. English, German, Mandarin, French Canadian, Italian, Korean, Spanish and French
VS2-AVT-NETCON	Replacement RS485 Connector for Network Module, one connector
VS2-AVT-GASKET	Replacement Gaskets for VeriSafe AVT Battery Free Indicator Module
VS-AVT-ROR	Replacement Gaskets for Battery Indicator Module, compatible with VeriSafe 1.0 and 2.0