VeriSafe 1kV Insulation-Piercing Connection Kit

1004350 [English]
Rev. 00 [01-2021]

1kV-rated Insulation-Piercing Connectors for
VeriSafe AVT Sensor Lead Tapping on Copper Conductors

INSTALLATION INSTRUCTIONS
Models: VS-CKP1K4/0-500

Connection Kit Contents:
Contains 1kV-rated insulation-piercing connectors for tapping AWG 4/0 – 500MCM copper wire and ferrules for installation of VeriSafe AVT Sensor Leads into connector screw terminals.

Panduit VSC1K4/0 Insulation-Piercing Connectors

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Panduit F80-12 Ferrules

CONNECTION KIT CATALOG PART NUMBER	"RUN" Wire, Copper (CODE / BUILDING WIRE)		"TAP" Wire AWG (always use ferrule)	Insulation-Piercing CONNECTOR		FERRULE	
	MIN. AWG [METRIC, mm2]	MAX. AWG [METRIC, mm2]		Connector Part No.	Quantity	Catalog P/N	Quantity
VS-CKP1K4/0-500	4/0 STR [109.8, r]	500MCM STR [253.5, r]	14 AWG STR Class K	VSC1K4/0	3	F80-12	12

IMPORTANT REQUIREMENTS:

- **Before terminating Tap Wires into Panduit VSC1K4/0, Ferrules must be installed onto Tap Wires**
- **Before installing Panduit VSC1K4/0 onto Phase (Run) Wire, terminate Tap Wires into Connector**
- **Connector features an integral Insulating Cover that must always be installed before energizing**
- **Read Page 2; contains Safety Information and operating limits for Connector per product listing**

TO REDUCE THE RISK OF INJURY, USER MUST READ INSTALLATION INSTRUCTIONS BEFORE ATTEMPTING TO INSTALL

NOTE: ***In the interest of higher quality and value, Panduit products are continually being improved and updated. Consequently, pictures may vary from the enclosed product.***

NOTE: ***Updates to this Installation Instructions may be available. Check www.panduit.com for the latest version of this manual.***

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Safety Information

This installation instructions contains information and warnings which must be followed to ensure safe termination and operation of the Insulation-piercing Connectors and an AVT Device.

- ***Always de-energize panel and verify absence of voltage in the panel before attempting to install or service connector. Do not install connector on an energized conductor.***
- ***Installer must also follow all AVT safety, installation, commissioning and operating steps from the AVT Device Manual.***
- ***Connector is intended for one-time installation and piercing of a PHASE wire. Do not reuse.***
- ***Connector features an integral Insulating Cover that must ALWAYS be properly installed and present before energizing panel and during panel operation.***

Connector Ratings Information

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LISTED
WIRE
CONNECTOR
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(1) Panduit VSC1K Series Insulation-Piercing Connectors are intended for simplifying installation and connection of PANDUIT VeriSafe AVT Absence of Voltage Testers to phase (run) conductors.

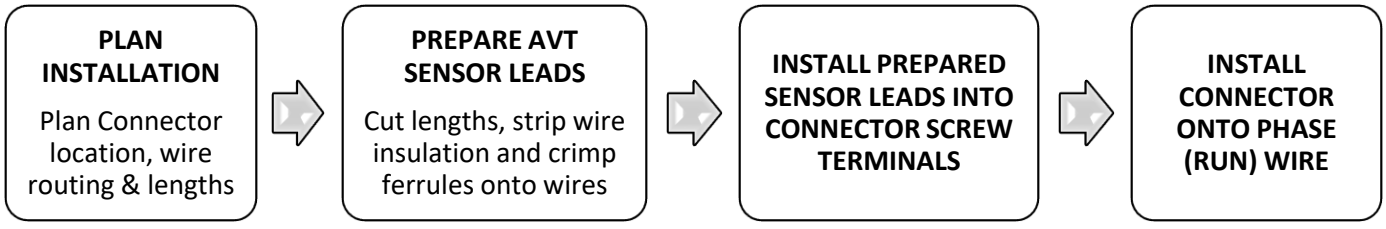
(2) Panduit VSC1K Series Insulation-Piercing Connectors must be used within the rated operating environment and installed according to the Listed product ratings in this Table

(3) **Not rated for installation on flexible stranded RUN wire**

Panduit CONNECTOR P/N					**VSC1K4/0**
MAX. Operating Temperature (°C)					90°C
MAX. Operating Voltage (Volts)					1000V
RUN WIRE	Main Fasteners	Torque-driver Bit Hex Size (Bit Shaft Length)			3/16” Allen / Hex (2” shaft length)
		Installation Torque (Required, each fastener)			80 in-lb [9.04 N·m]
	Minimum Rated Wire Size, AWG [Metric, mm2, rigid]				4/0 STR [109.8, r]
	Maximum Rated Wire Size, AWG [Metric, mm2, rigid]				500MCM STR [253.5, r]
TAP WIRE	Screw Terminals	Torque-driver Bit Size			T10 Torx
		Torque-driver Installation Tool (*recommended*)			Wiha P/N 28502
		Installation Torque (Required)			7 in-lb [0.79 N·m]
	Listed Tap Wire and Ferrule Combination		#1	TAP Wire	14 AWG STR Class K
				Ferrule	F80-12 *ferrule*
	Ferrule Crimp Tool (Panduit P/N)				CT-1160

Overview of Installation Process (Connector)

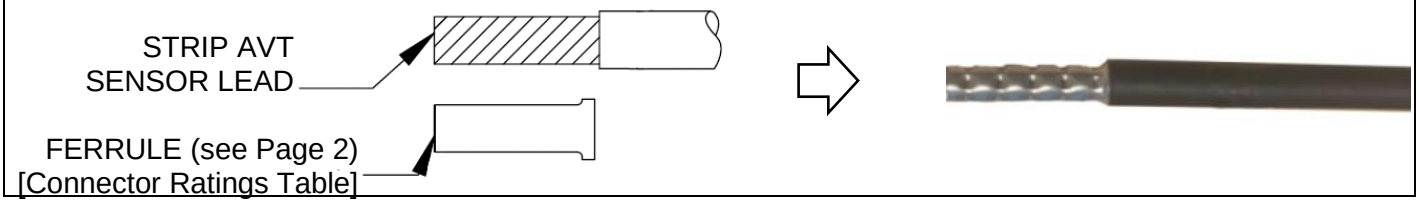
Before proceeding, refer to the simplified flow-chart below. Planning is required to achieve a successful installation. Understand these basic steps and milestones before proceeding further.



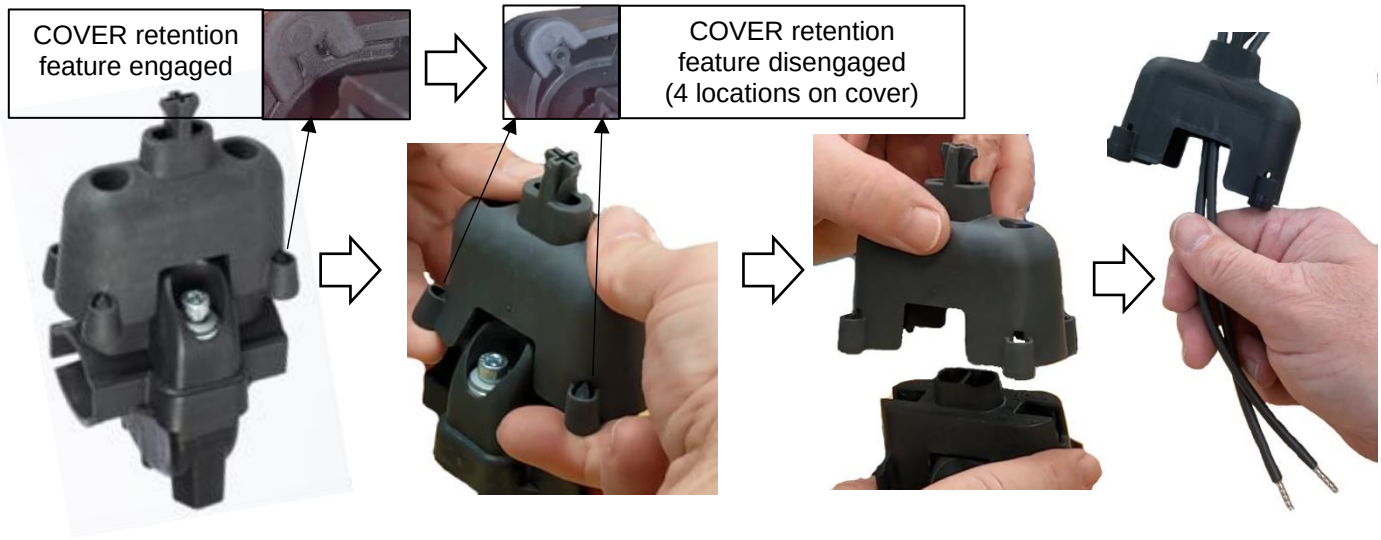
Step-by-Step Installation Procedure

Step-by-step illustrated instructions for installation are as follows;

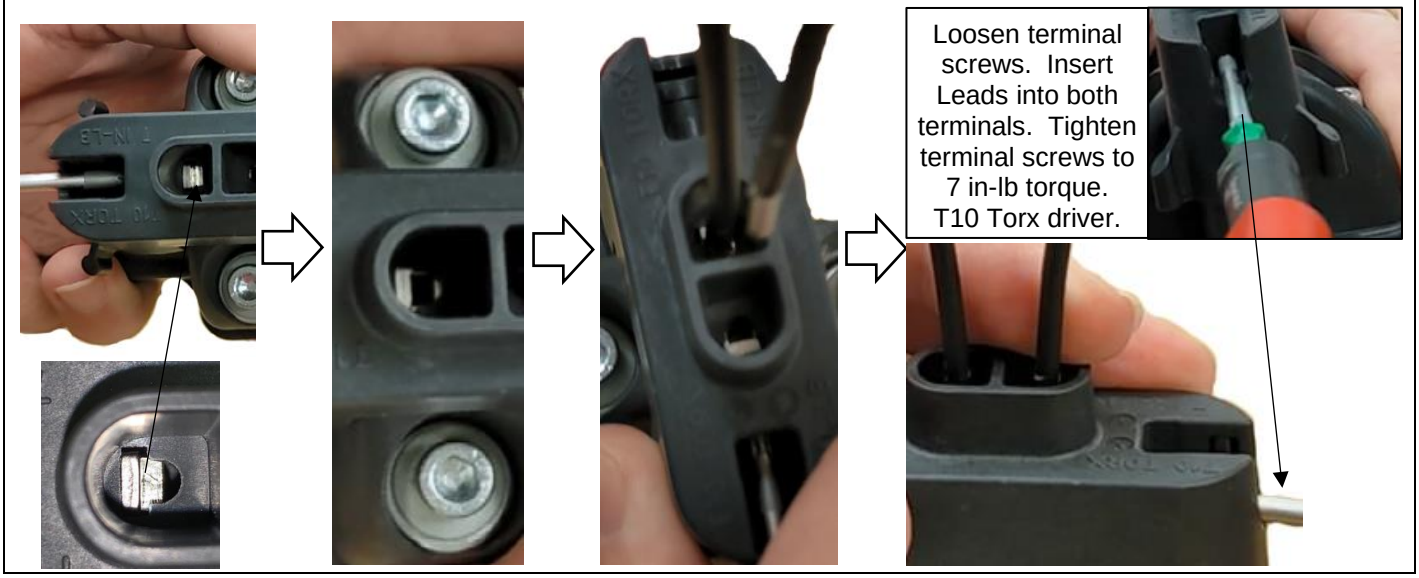
STEP 1a: Strip insulation from AVT Sensor Leads
STEP 1b: Crimp ferrules onto AVT Sensor Leads (CT-1160 crimp tool)



STEP 2a: Disengage INSULATING COVER Retention Features. Lift COVER above TOP HOUSING
STEP 2b: Insert AVT Sensor Leads thru openings in INSULATOR COVER and pull 6" or so thru.

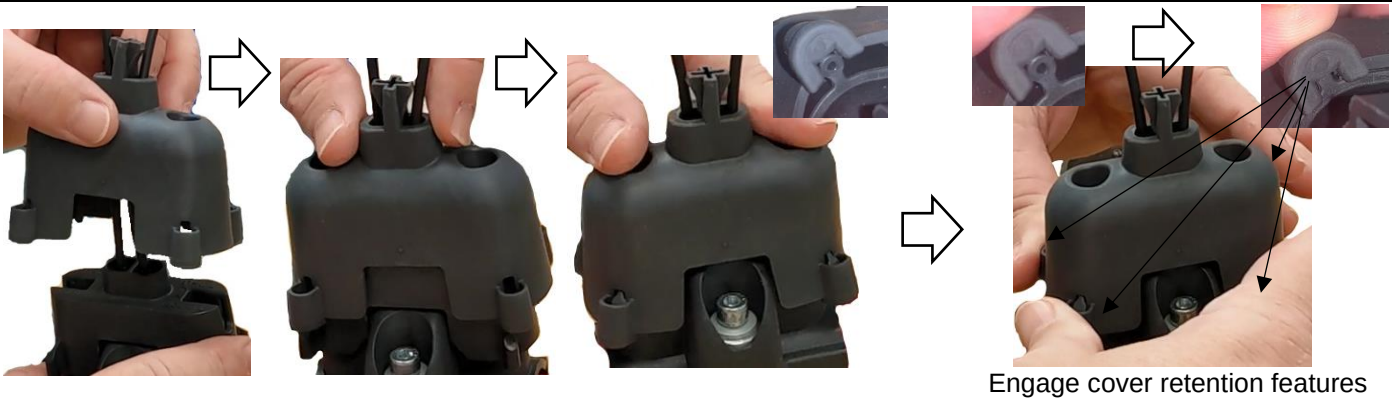


STEP 3a: Loosen connector SCREW TERMINALS to full-open position (use T10 Torx driver)
STEP 3b: Fully-Insert prepared AVT Sensor Lead into SCREW TERMINAL & tighten (7in-lb torque).
STEP 3c: Repeat for the other AVT Sensor Lead and other SCREW TERMINAL



Step-by-Step Installation Procedure (continued from page 3)

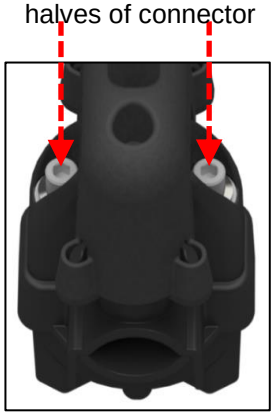
STEP 4: Position Connector INSULATING COVER into position. Engage all 4 Retention Features.



Engage cover retention features at all 4 corners of connector.

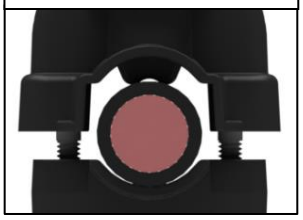
STEP 5a: Separate TOP HALF and BOTTOM HALF Connector and position over Phase (Run) Wire
STEP 5b: Keep Phase (Run) Wire Centered in opening and Tighten MAIN FASTENERS to 80 in-lb.

Loosen fasteners using 3/16" Allen (hex) to separate top and bottom halves of connector

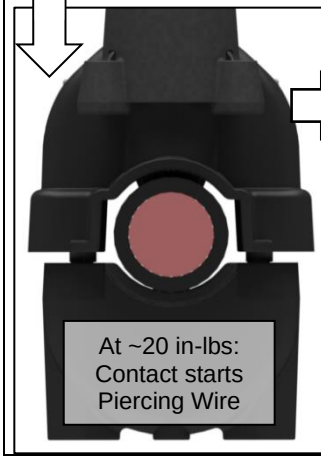


Position top and bottom halves over Phase Wire. Must always keep wire centered.

Use 3/16" Allen (hex) drive, tighten fasteners with equal rotation and movement on both sides of wire. Always keep wire centered. Hand-tighten until wire is held firmly and contact starts to press into wire insulation.



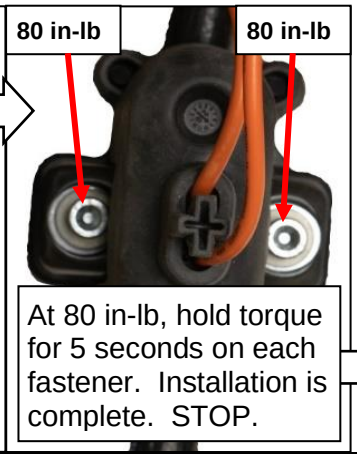
Use Torque Driver on fasteners when the contact visibly starts to pierce wire insulation and pierces conductor.



- Start with 360 degrees rotation per turn for each fastener, alternating to other fastener after turn.
- Torque increases rapidly with tightening of fasteners. Requires less rotation per turn and adjust each side of wire to reach equal torque.

ROTATION SUGGESTIONS:

- Use 1/4 turns after 40 in-lb.
- Use 1/8 turns after 60 in-lb.



At 80 in-lb, hold torque for 5 seconds on each fastener. Installation is complete. STOP.

OPTIONAL
Supplemental wire routing feature exists for wire management at connector exit. Use is not required.