VeriSafe™

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The network module is designed to be an optional accessory that enables network capabilities for the VeriSafe 2.0 Absence of Voltage Tester (AVT). The network module provides an integrated web application that is delivered by an on board web server. The web application monitors data from the AVT and provides integration, configuration and firmware update capabilities. The network module supports AVT data over EtherNet/IP and Modbus TCP protocols. The voltage presence discrete outputs may be used as an indication of voltage presence with or without a network connection. The network module provides the ability to log various pieces of data based on built in triggers (see VeriSafe Network Module User Guide, document no. B21176, for more information).
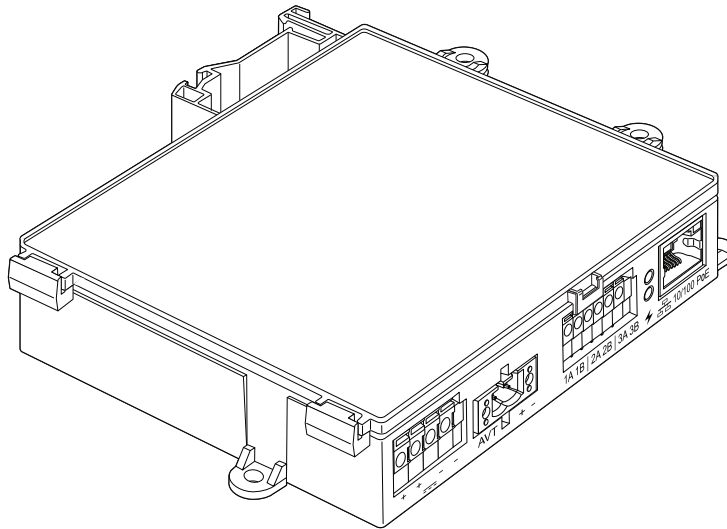
TO REDUCE THE RISK OF INJURY, USER MUST READ INSTRUCTION MANUAL

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 Instruction Manual may be available. Check www.panduit.com for the latest version of this manual.

Safety Information

This manual contains information and warnings which must be followed to ensure safe operation of the Network Module. Failure to comply with the warnings and information in this manual could result in product failure, electrical shock, severe injury or death.

Special Conditions of Use	⚠	Hazardous Locations
		■ The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with IEC 60079-0.
		■ Ambient Temperature Range: -25°C ≤ Tamb ≤ 60°C
		■ The enclosure must only be accessible with use of a tool.

WARNING: ⚠ ⚡ ⚠

- Always de-energize power before accessing an electrical enclosure
- Always follow safety and lockout/tagout procedures when working on or near electrical systems and equipment
- Do not use this product outside of the specified performance and environmental limits
- Always comply with local installation codes and standards
- The data from the network module does not carry a functional safety rating. It should be used for monitoring only. If integrating with a safety-rated system, use the SIL 3 outputs on the AVT isolation module.

The network module contains electronic circuit boards and can be disposed of at an electronics recycling facility.

IMPORTANT This instruction manual is only for the physical installation requirements. Refer to document B21176 (VS2-Net User Guide) for instructions how to utilize VS2-NET functions, the web interface and logging / reporting data from connected 2.0 AVT system.

Updates to the network module firmware and user guide may be available. Visit www.panduit.com to access the latest versions.

INFORMATIONS RELATIVES À LA SÉCURITÉ

Le présent manuel contient des renseignements et des avertissements qui doivent être suivis pour assurer un fonctionnement en toute sécurité du Network Module. Le non-respect des renseignements et des avertissements contenus dans le présent manuel pourrait entraîner une défaillance du produit, des décharges électriques, des blessures graves ou même la mort.

Conditions particulières d'utilisation	⚠	Endroits dangereux
		■ L'équipement doit être installé dans une enveloppe offrant au moins la protection IP54, conformément à la norme IEC 60079-0.
		■ Plage de température ambiante: -25°C ≤ Tamb ≤ 60°C
		■ L'enveloppe doit être accessible uniquement à l'aide d'un outil.

AVERTISSEMENTS: ⚠ ⚡ ⚠

- Toujours éteindre l'alimentation électrique avant d'accéder à une enveloppe électrique.
- Toujours suivre les procédures de sécurité, de verrouillage et d'étiquetage pour exécuter des travaux sur des systèmes et des équipements électriques ou à proximité de tels dispositifs.
- Ne pas utiliser ce produit en dehors des limites de performance et des limites environnementales spécifiées.
- Ce produit doit être installé et mis en serv.
- Les données du module réseau ne portent pas une cote de sécurité fonctionnelle. Il ne devrait être utilisé qu'à des fins de sur-veillance. Si vous vous intégrez à un système de sécurité, utilisez les sorties SIL 3 sur le module d'isolation AVT.

Le module réseau contient des cartes de circuits imprimés électroniques et peut être éliminé dans une installation de recyclage électronique.

IMPORTANT Ce manuel d'instructions concerne uniquement les exigences d'installation physique. Référez-vous au document B21176 (guide d'utilisateur VS2-Net) pour des instructions comment utiliser des fonctions VS2-NET, l'interface web et se connecter/rapportant des données du système 2.0 AVT connecté.

Des mises à jour du micrologiciel du module réseau et du manuel d'instructions peuvent être disponibles. Visitez www.panduit.com pour accéder aux dernières versions.

System Overview

Termination Resistor Switch • System Status • Network Connection

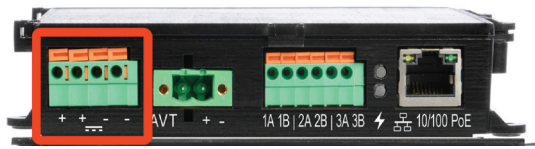DC Intput • AVT Connection • Voltage Presence Contacts • Power Status • Reset Button (not shown)
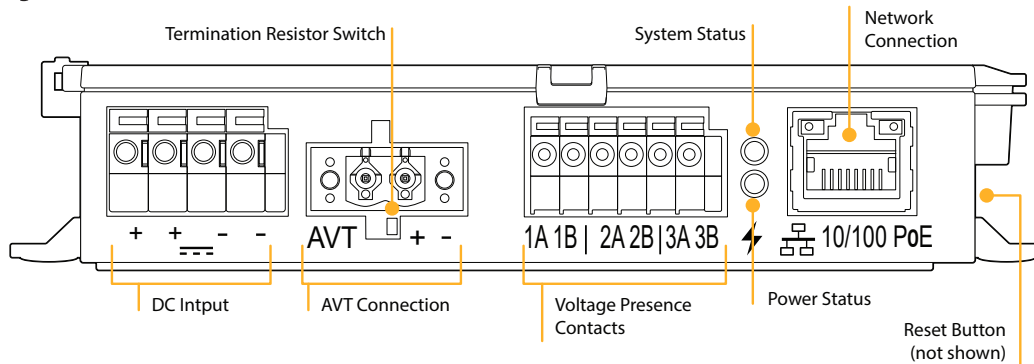
- The termination resistor switch below the AVT connection ports on the network module and AVT isolation module shall be positioned to the right (factory default) when facing the port
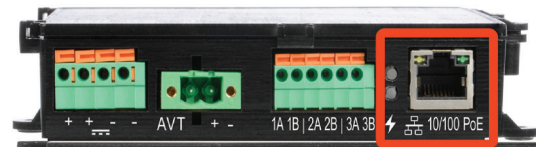

POWER INPUTS

DC Input	Network Connection (PoE)

IMPORTANT The power supply must be surge protected, otherwise external surge protection is required at the input to the supply.

- IEC Class I regulated power supply
  Min. Output: 12 VDC @ 100mA, 24 VDC @ 50mA
- Connector / Wiring Requirements
  Wire Range: AWG #24 - 14 SOL / STR (1 wire only)
  Wire strip length: 9.0mm (min) / 10.0mm (max)

- 10/100 PoE
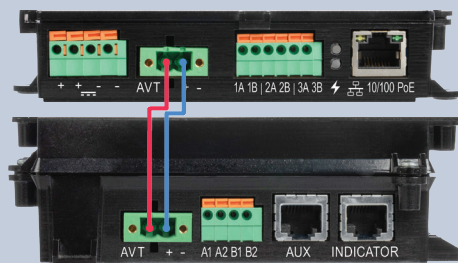- IEEE 802.3af Type 1 Class III PoE topology.

IMPORTANT
When using the network module with the 2.0 AVT isolation module, the network module "AVT Connection" supplies power from the network module to the isolation module. Therefore DO NOT apply an external power source to the 2.0 AVT isolation module when used with the network module.

AVT CONNECTION

Provides power and communications to the AVT isolation module. The connection features a pluggable screw terminal connector.
IMPORTANT Only install the network module in the same electrical enclosure as the VeriSafe 2.0 AVT isolation module.

Recommended Wiring	Connector Specifications
1 Network Module **2** Isolation Module	- Connector / Wiring Requirements; Wire Range: (1 wire): AWG #24 - 12 [2.5mm2] SOL / STR (2 wire): AWG #18 [1.0mm2] SOL AWG #18 [1.5mm2] STR Wire strip length: 7.0mm (min) / 8.0mm (max) Screw Drive Size: M3x0.5 Screw Torque Required: 5.0 in-lb [0.57 N-m] +/- 10%

VOLTAGE PRESENCE OUTPUTS

Reflects status of Voltage presence LEDs on the AVT indicator module. These outputs are updated every 2 seconds based on the state reported from the AVT isolation module. These outputs are not an indication of absence of voltage.

Output Specification		Output schematic
3 Solid-state Relay Output Contacts	Normally open, relays close when red AVT indicators are illuminated (see AVT manual for red indicator voltage thresholds)	
Wire Size	AWG #26-16 AWG (0.13 - 1.3mm²) Solid/Stranded (1 wire only)	
Isolation	5000 Vrms Input/Output	
Voltage Rating	30V AC/DC	
Current Rating	80 mA (max)	
On-resistance	30 Ω	
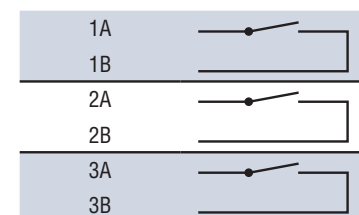
Technical Specifications

⚠️ **WARNING:** Do not use this product outside of the specified performance and environmental limits. **Failure to comply with these specifications could result in product failure, personal injury, or death.**

Environmental Ratings	
Operating Temperature	-25°C to 60°C (-13°F to 140°F)
Storage Temperature	-45°C to 85°C (-49°F to 185°F)
Humidity	5 to 90% non-condensing; Rated 80% at 40°C (104°F), decreasing linearly to 50% at 60°C (140°F)
Pollution Degree	3
Altitude	Up to 5000 meters (16400 feet)
Degree of Protection	Open Type, IP20

Hazardous Locations	
Special Conditions of Use ⚠️	■ The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with IEC 60079-0. ■ Ambient Temperature Range: -25°C ≤ Tamb ≤ 60°C ■ The enclosure must only be accessible with use of a tool.
Network Module (Hazardous Location Ratings)	<u>cULus:</u> Class I, Division 2, Groups A, B, C, D Class I Zone 2 AEx ec IIC T5 Gc; Ex ec IIC T5 Gc

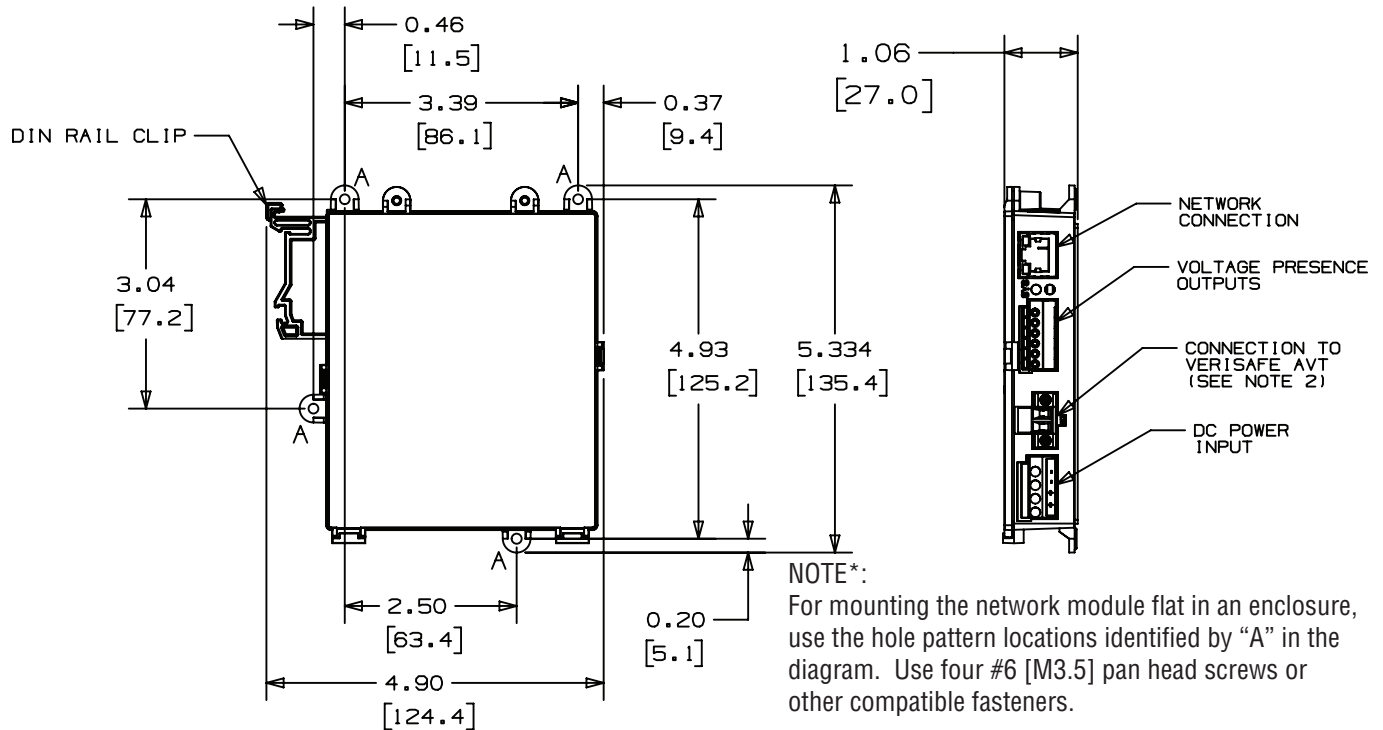| Power Requirements	
DC Input	**IMPORTANT** The power supply must be surge protected, otherwise external surge protection is required at the input to the supply. 12-24 VDC (IEC Class I regulated power supply) Min. Output: 12 VDC @ 100 mA, 24 VDC @ 50 mA Power Draw: 84 mA max @ 12 VDC; 42 mA max @ 24 VDC (Network Module + AVT)
Power over EtherNet (PoE)	PoE (10/100), 15 mA, IEEE 802.at (-af) Type 1 Class III PoE topology

Standards and Certifications	
IEC / UL / CSA C22.2 NO. 61010-1 IEC / UL / CSA C22.2 NO. 61010-2-030	Safety requirements for electrical equipment for measurement, control, and laboratory use
UL 508 & CSA-C22.2 No. 14	Industrial control equipment
FCC - CFR 47 Part 15 Subpart B	Radio frequency devices
CAN ICES-001	Industrial, scientific and medical (ISM) radio frequency generators
EN 55011, CISPR 11, AS/NZS CISPR 11	Radio frequency disturbance characteristics
IEC 61326-1 EN 61326-1	EMC and immunity requirements
IEC / EN 61000-3-2, -3-3, -6-2	Electromagnetic compatibility (EMC)
CE UKCA	Conformity Marking for European Economic Area Conformity Marking for United Kingdom
RoHS	Restriction of hazardous substances

c(UL)us LISTED
E489576
Absence of Voltage
Accessory
Ind. Cont. Eq.

c(UL)us LISTED
E495719

CE

UKCA

Ⓒ

(UL)MX

NOM

RoHS

Dimensions

Dimensions	135 x 112 x 28 mm (5.3 x 4.4 x 1.1 inches), when network connetion is installed

NOTE*:
For mounting the network module flat in an enclosure, use the hole pattern locations identified by "A" in the diagram. Use four #6 [M3.5] pan head screws or other compatible fasteners.

Installation Instructions

Special Conditions of Use ⚠

Hazardous Locations
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- Ambient Temperature Range: -25°C ≤ Tamb ≤ 60°C
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WARNING: ⚠ ⚡ ⚠

- Always de-energize power before accessing an electrical enclosure
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- Do not use this product outside of the specified performance and environmental limits
- Always comply with local installation codes and standards
- The data from the network module does not carry a functional safety rating. It should be used for monitoring only. If integrating with a safety-rated system, use the SIL 3 outputs on the AVT isolation module instead of the network module outputs.

STEP 1: INSTALL NETWORK MODULE INTO ENCLOSURE
- Mount network module flat in enclosure (see *NOTE in dimensional diagram above), or
- Snap the network module onto the DIN rail, or
- Mount the network module to the 2.0 AVT isolation module. See image to the right.

STEP 2: CONNECT POWER TO NETWORK MODULE (DC POWER SUPPY, OR POWER OVER ETHERNET)
- Connect power supply to DC Input, or connect PoE network cable to PoE connection

**STEP 3: CONNECT THE DATA/POWER OUTPUT FROM NETWORK MODULE TO 2.0 AVT ISOLATION MODULE**
- Connect wires into pluggable screw terminal connectors on network module and the 2.0 AVT isolation module. The connector ports are labeled "AVT".

STEP 4: CONNECT NETWORK CONNECTION TO RJ-45 PORT
- if using the DC Input connector for power, and not using PoE, connect RJ-45 network cable,
- if using PoE, connect the PoE network cable to RJ-45 port

STEP 5: BEFORE POWER-UP, READ DOCUMENT B21110 (2.0 AVT INSTRUCTION MANUAL) AND DOCUMENT B21176 (NETWORK MODULE USER GUIDE) FOR USER AND WEB-INTERFACE INSTRUCTIONS. POWER UP THE SYSTEM.

IF DESIRED, ATTACH NETWORK MODULE TO THE 2.0 AVT ISOLATION MODULE USING SCREWS PROVIDED WITH THE NETWORK MODULE
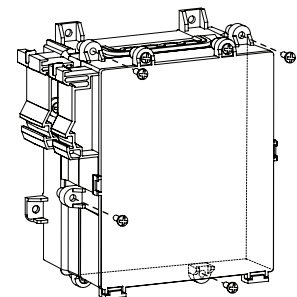
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