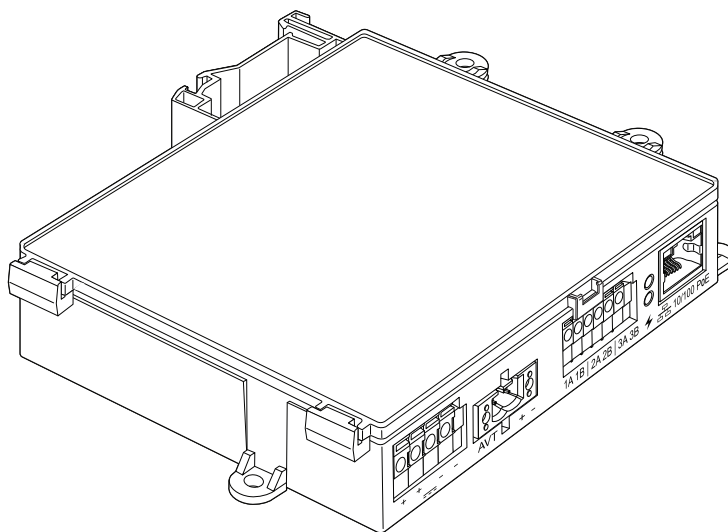


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The network module is designed to be an optional accessory that enables network capabilities for the VeriSafe 2.0 Absence of Voltage Tester (AVT). The network module provides an integrated web application that is delivered by an on board web server. 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.

Tech Support

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 Korea: 02.21827300

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: $-25^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$
- 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: $-25^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$
- 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 surveillance. Si vous vous intégrez à un système de sécurité, utilisez les sorties SIL 3 sur le module d'isolation AVT.

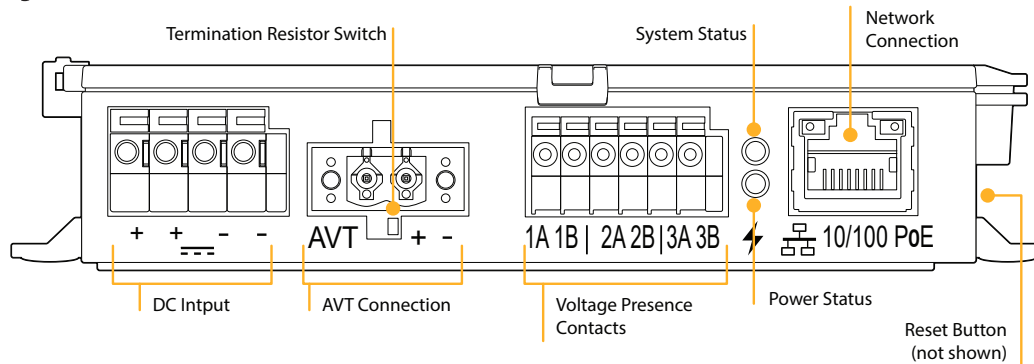


Le module réseau contient des cartes de circuits imprimés électroniques et peut être éliminé dans une installation de recyclage électronique.

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.

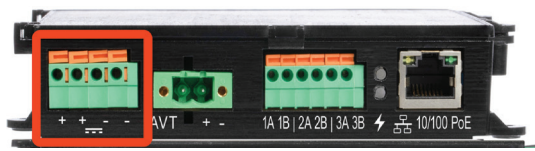
System Overview



- 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

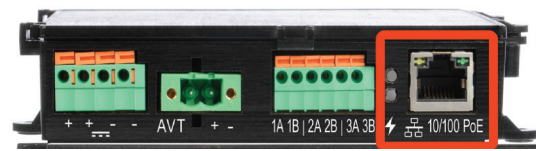
DC Input



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)

Network Connection (PoE)



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

IMPORTANT

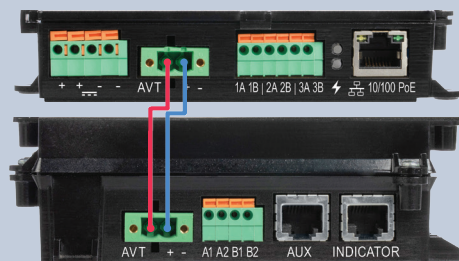
When using the network module with the 2.0 AVT isolation module, the network module "AVT Connection" supplies power from the network module to the isolation module. Therefore DO NOT apply an external power source to the 2.0 AVT isolation module when used with the network module.

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



1 Network Module

2 Isolation Module

Connector Specifications

- 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%

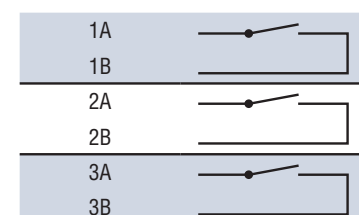
VOLTAGE PRESENCE OUTPUTS

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

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 - 1.3mm ²) Solid/Stranded (1 wire only)
Isolation	5000 Vrms Input/Output
Voltage Rating	30V AC/DC
Current Rating	80 mA (max)
On-resistance	30 Ω

Output schematic



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: $-25^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$ - 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 802.3at (-af) Type 1 Class III PoE topology

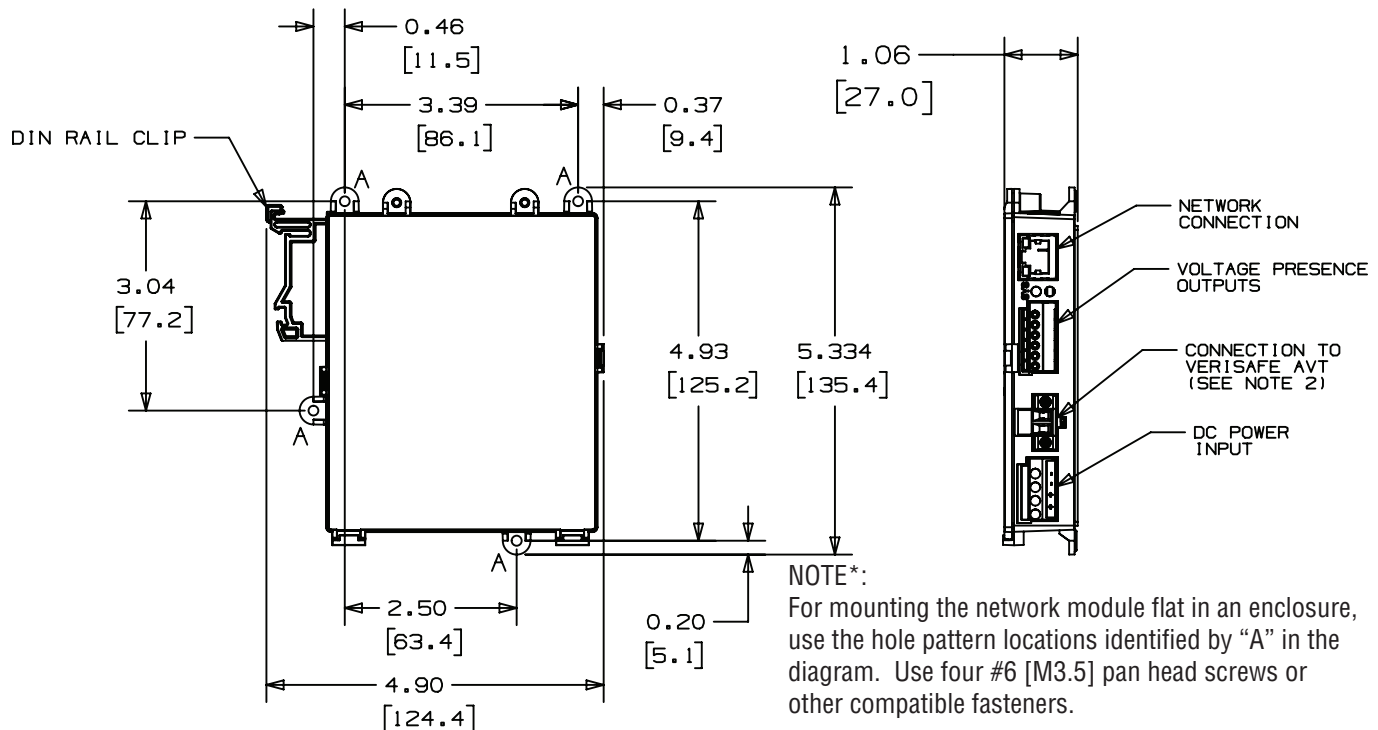
Standards and Certifications	
IEC / UL / CSA C22.2 NO. 61010-1 IEC / UL / CSA C22.2 NO. 61010-2-030	Safety requirements for electrical equipment for measurement, control, and laboratory use
UL 508 & CSA-C22.2 No. 14	Industrial control equipment
FCC - CFR 47 Part 15 Subpart B	Radio frequency devices
CAN 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



Dimensions

Dimensions

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



Installation Instructions

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: $-25^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$
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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 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 SUPPLY, 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

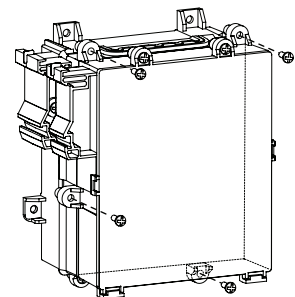
- Connect wires into pluggable screw terminal connectors on network module and the 2.0 AVT isolation module. The connector ports are labeled “AVT”.

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



Warranty

PANDUIT LIMITED PRODUCT WARRANTY

- 1. Limited Product Warranty.** For purposes of this Limited Product Warranty, “**Panduit products**” mean all Panduit-branded products that Panduit sells. Unless a different time period is set forth in the Panduit product manual, user guide or other product documentation, Panduit warrants that the Panduit product, and each part or component of the Panduit product, will comply with Panduit’s published specifications and will be free from defects in material and workmanship for a period of 1 year from the date of invoice from Panduit or its authorized distributor, not to exceed 18 months from the original date of shipment from Panduit’s facility.
- 2. Firmware.** Unless otherwise provided in a separate license agreement, and subject to the limitations for third-party products set forth below, Panduit warrants that any firmware contained in any Panduit products, when used with Panduit-specified hardware and when installed properly, will perform in accordance with the Panduit published specifications for a period of 1 year from the date of invoice from Panduit or its authorized distributor, not to exceed 18 months from the original date of shipment from Panduit’s facility. Any exceptions to this 1 year warranty period will be identified in the Panduit product manual, user guide or other product documentation. Panduit does not warrant that the operation of the firmware will be uninterrupted or error-free, or that the functions contained therein will meet or satisfy Buyer’s intended use or requirements. Any warranties, if any, that Panduit provides for any standalone software that Panduit sells will be stated in the applicable End User License Agreement.
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