VESDA-E Remote Box Installation Instructions

These installation instructions provide essential information for installing VESDA-E Remote Box, wall mount type, in accordance with the system design. Additional installation and product documentation is listed below in the Reference Documents section.

System Components

The VESDA-E Remote Box is shipped with the following components:

- 1 VESDA-E Remote Box (VER Models)
- 1 mounting template for directly mounting VESDA-E Remote Box to mounting surface
- 1 VESDA-E Remote Box Installation Instruction Sheet
- 1 VESDA Safety Instruction Sheet

Prerequisites

- Completed VESDA network design.
- 24V DC Power Supply, compliant with local codes and standards.
- Screws M5 (# No-10) Min 1-1/2" length with Hex head Ø 9 mm (3/8") Max and appropriate wall inserts for the mounting suface.
- Type A to Type B USB Interface Lead for initial configuration of this device.
- Conduit should be used in a way that is suitable to cable glands that are compliant with the IP rating of this device.
- Cable termination for screw terminal blocks (0.2-1.5 sq mm, 24-16 AWG)
- PC or laptop installed with Xtralis VSC for initial configuration.
- Standard connection instructions for where the VESDA-E Remote Box are to be added to a corporate network.

Standards Compliance

UL/ ULC

Please refer to the Regional Regulatory Requirements and Notices section in the VESDA-E Remote Accessories Product Guide (Doc. 37188)

Power Consumption

Supply Voltage	18 - 30 VDC					
	VER-A10-0	**VER-A10-7**	**VER-A10-12**	**VER-A30**	**VER-A40-7**	**VER-A40-12**
Max Power (with Alarm)	2.112 W	3.35 W	4.14 W	1.159 W	2.593 W	2.77 W
Peak Current (with Alarm)	0.09 A	0.14 A	0.17 A	0.0483 A	0.106 A	0.12 A
Relays	Contacts rated 2A @ 30 VDC (Resistive)					

Environmental Requirements

- **Ambient Temperature**: 0°C to 39°C (32°F to 102°F)
- **Humidity:** 5 to 95% RH, non-condensing
- **IP Rating:** IP40

Reference Documents

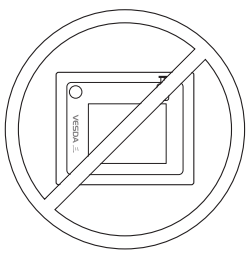
Additional installation and product information is contained in the following documents, which are available for download from Xtralis website (www.xtralis.com).

- 37188 - VESDA-E Remote Accessories Product Guide
- 48996 - VESDA-E Remote Accessories Quick Start Guide

To visit the product's web page, please scan this QR code:

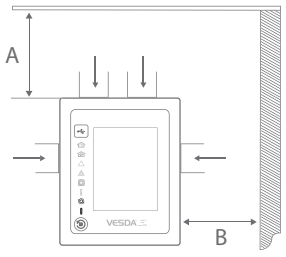
Installation Instructions

Notes



The VESDA-E Remote Box can be mounted in an upright or inverted position. Do not mount this device with a sideways orientation.

Refer to the VESDA-E Remote Accessories Product Guide (Doc. 37188) and the mounting template for information on inverted mounting.

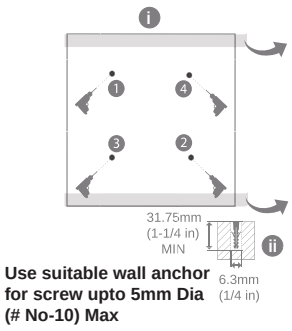


Ensure that there is sufficient clearance to mount this device, noting the location of the cable entry points on the VESDA-E Remote Box. Due to the rigid nature of the plastic conduits for cabling, installation must provide for sufficient movement of the cable conduit pipe ends on the cable glands to be easily fitted and removed.

- **A:** Minimum 152.5 mm (6") below ceiling level.
- **B:** Minimum 152.5 mm (6") against side wall.

Mount VESDA-E Remote Box to mounting surface using the provided template

Position wall mounting template as specified by system designer



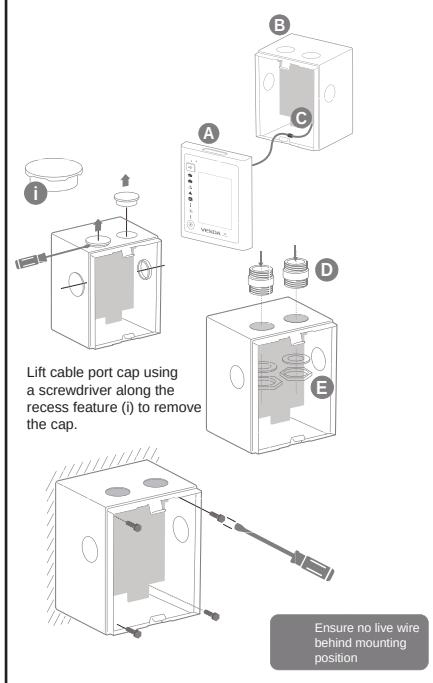
Use suitable wall anchor for screw upto 5mm Dia (# No-10) Max

Peel of the back adhesive tape on the rear side of mounting template (i). Position it on a wall surface, drill the required mount holes on the surface and install the appropriate wall anchors (ii) as illustrated in item (i).

Warning: Make sure that there are no live power wires behind the mounting position as electrocution or severe electric shock may result.

Avertissement : Assurez-vous qu'il n'y a pas de fils électriques sous tension derrière la position de montage, car cela pourrait entraîner une électrocution ou un choc électrique grave.

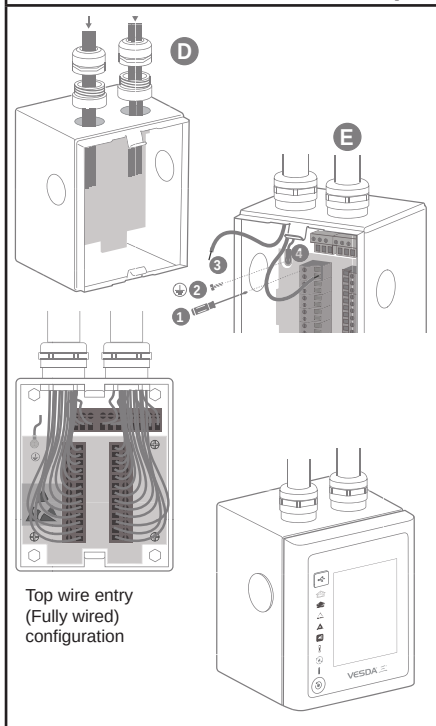
Secure VESDA-E Remote Box to mounting surface (refer to the mounting template)



VESDA-E Remote Box can be mounted on any flat surface:

- Decide the mounting orientation of the VESDA-E Remote Box for wiring (Normal or Inverted).
- To disengage the cable wire, gently pull the Front Fascia (A) by gripping hold along the recess feature provided on top to release the snaps. Make sure to avoid any tension on the connector cable wire assembly (C) connected to the Display/ User Interface while pulling.
- The Remote Back Box (B) has four cable entry ports. Determine the cable entry port that is most appropriate for use. Remove the port cap by lifting the cap using screwdriver along the recess feature (i) provided on the cap as shown.
- Drill the required mount holes on the flat surface using the mounting template sheet provided.
- Secure the Remote Back Box in a horizontally straight position by aligning it to the 4 screw holes (# No-10 Min 1-1/2" length with Hex head Ø 9 mm (3/8") Max).
- As per field requirements, a 25mm (1") cable glands on the Remote Back Box (B) to be used as required across the cable entry port.

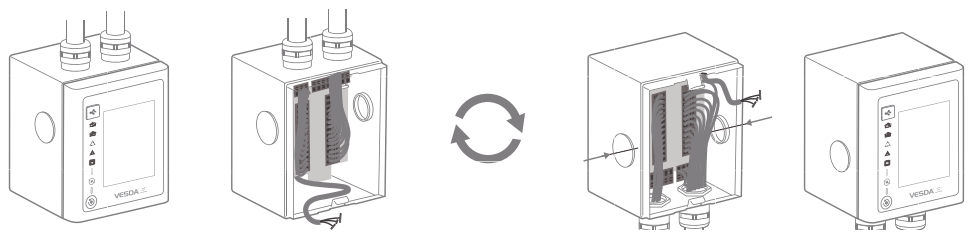
Install VESDA-E Remote Box (Refer to the mounting template)



- Cable entry ports combinations vary depending on the type of installation; such combinations are top cable entry port (TT), sides cable entry port (SS), or top and side cable entry port (TS).
- Cut the cables to the required length and strip its ends. Use 25 mm (1") cable glands to suit the cable used (D), as shown.
- Make sure to pull in 3-4" of the cable length before fitting the conduit pipe (E) onto the cable glands on the Remote Back Box.
- VESDA-E Remote Box can be powered with an external 24 VDC Power Supply (compliant with local codes and standards)/ VESDA-E detector via designated POWER IN socket.
- The VESDAnet A and B sockets are used for loop-in/ loop-out connection shown in section (2.7 VESDAnet) in the Product Guide. Refer to (Figure 3) for Socket Location.
- Connect and terminate the required Relays Socket's plugs following the legend shown for Relays connections to communicate faults, alarms and disabled states as per field requirements. Refer to (Figure 3) for socket locations.
- Once the required cable wires (3) are inserted, crimp and terminate each cable to the respective connector's Plugs following the legend shown in (Figure 3) using flat tip screw driver (1) as shown in the illustration.

  Note: For chassis grounding requirement of VESDA-E Remote Box use the Ring Terminal Grounding Lug (4) of maximum outer diameter 9 mm with the same screw (2) assembled on the chassis as shown. (Torque: 0.8 N-m Max).
- Once the Power, VESDAnet and required Relay cables are connected on the Remote Back Box, position and gently push to snap-in the Front Fascia back to the Remote Back Box with a click sound.

Inverted Mounting



Some system designs require that the VESDA-E Remote Box be inverted depending on cable entry requirements. This can be done by rotating Remote Back Box by 180 degrees to match the four mounting holes while fixing to the flat surface, then reconnecting all the cables back while the Front Fascia can still be assembled in upright same as normal orientation, as shown in the figure above.

Directions for inverting the orientation of the Fascia for an inverted VESDA-E Remote Box are available in the Product Guide.

VESDA-E Remote Box Installation Instructions

Wiring: Power, Relays, VESDAnet

Warning: Always switch accessory power OFF before plugging/unplugging electrical, relay or network connections. Failure to do so may cause data corruption and/or component failure.

Avertissement : Il faut toujours couper l'alimentation des appareils avant de brancher/débrancher les connexions électriques, de relais ou de réseau. Au cas contraire vous pouver entraîner la défaillance corruption et/ou élément de données.

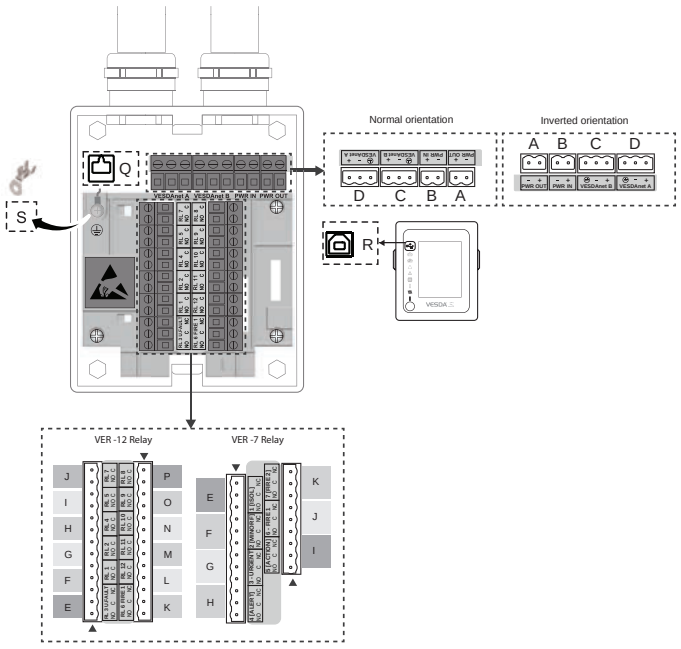


Figure 3: Socket Locations

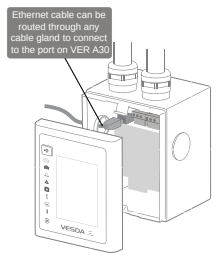


Figure 4: Accessibility for Ethernet Port for VER-A30

Power		
A	Power Out	
B	Power In	
VESDAnet		
C	VESDAnet B	
D	VESDAnet A	
Relays	**12 Relays**	**7 Relays**
E	3 - Urgent Fault	4 - Alert
F	1 - Disable	3 - Urgent Fault
G	2 - Minor Fault	2 - Minor Fault
H	4 - Alert	1 - Isolate (Disable)
I	5 - Action	5 - Action
J	7 - Fire 2	6 - Fire 1
K	6 - Fire 1	7 - Fire 2
L	12 - Scanning	
M	11 - First Alarm Sector 4	
N	10 - First Alarm Sector 3	
O	9 - First Alarm Sector 2	
P	8 - First Alarm Sector 1	
Communications		
Q	Ethernet (ONLY ON VER-A30)	
R	USB (shown in figures 1 & 2 above)	
Chassis Ground		
S	Chassis Ground Terminal For FM Hazardous locations only, connect this terminal to building ground. Note: used only for VER-A30 models as per field chassis grounding requirement.	

Note: For VER-A30 Remote Box wiring includes Ethernet cable connection which needs to be terminated to RJ45 socket as shown in (Figure 4). For chassis grounding requirement specific to VER-A30 Remote Box, use suitable 90 Degree Ring Terminal Lug or bend a regular ring terminal to 90 degree during application.

Note: It is advisable not to disconnect wire cable assembly from Front Fascia Display/ User Interface to avoid any failure related to Electrostatic discharge (ESD).

Caution: DO NOT CHANGE THE POSITIONS OF PLUG CONNECTORS (FOLLOW AS PER LEGEND PROVIDED BOTH FOR VESDANET AND RELAYS CONNECTIONS). DOING SO MAY DAMAGE YOUR HARDWARE.

Attention : NE MODIFIEZ PAS LES POSITIONS DES CONNECTEURS ENFICHABLES (SUIVEZ LA LÉGENDE FOURNIE POUR LES CONNEXIONS VESDANET ET DE RELAIS). CELA POURRAIT ENDOMMAGER VOTRE MATÉRIEL.

Caution: OPERATING THE VESDA-E REMOTE BOX WHEN DC SUPPLY VOLTAGE IS OUTSIDE THE SPECIFIED VOLTAGE RANGE MAY CAUSE DAMAGE TO INTERNAL COMPONENTS. FOR FURTHER INFORMATION REFER TO THE PRODUCT SPECIFICATIONS.

Attention : FAIRE FONCTIONNER LE BOÎTIER À DISTANCE VESDA-E LORSQUE LA TENSION D'ALIMENTATION CC SE TROUVE EN DEHORS DE LA PLAGE DE TENSION SPÉCIFIÉE PEUT PROVOQUER DES DOMMAGES AUX COMPOSANTS INTERNES. POUR PLUS D'INFORMATIONS, REPORTEZ-VOUS AUX SPÉCIFICATIONS DU PRODUIT.

Power and Relay Wiring

Power: There are two sets of power terminals on the main board. Connect a 24 VDC power supply to the PWR IN socket (B). If required, connect to another VESDA-E Remote Box via the PWR OUT socket (A).

Use the designated POWER OUT socket to connect up to 12 VESDA-E Remote boxes in a daisy chained manner in loop to the POWER IN socket on each subsequent VESDA-E Remote Box connected from the same power supply. The VESDA-E Remote Box will not operate if the power supply polarity is reversed.

Relays: The relays interface to the Fire Alarm Control Panel (FACP) to communicate faults, alarms and disabled states. Relay contacts are rated 2 A @ 30 VDC, resistive. Connect as required by the system design. **Use electrical wire sizes from 0.2 mm² to 1.5 mm² (24 -16 AWG)**.

Warning: Ensure that all wiring complies with manufacturer's instructions and local and national fire detection code requirements. Refer to Codes and Standards Information section of the Product Guide for further information on wiring compliance

Avertissement : Adresser aux codes informations sur les normes et reglementations de detection de fume par le notice descriptive du produit pour plus de renseignements au conformite du cablage.

Caution: DO NOT LOOP WIRE UNDER TERMINALS WHEN WIRING VESDA-E REMOTE BOX.

Attention : NE PAS RALIER LES CABLES TERMINAUX PENDANT LES CABLAGES DES FILS.

Note: For information on wiring for other types of devices that may be required by the system design, refer to the VESDA-E Remote Accessories Product Guide and documentation accompanying the device.

Product Overview

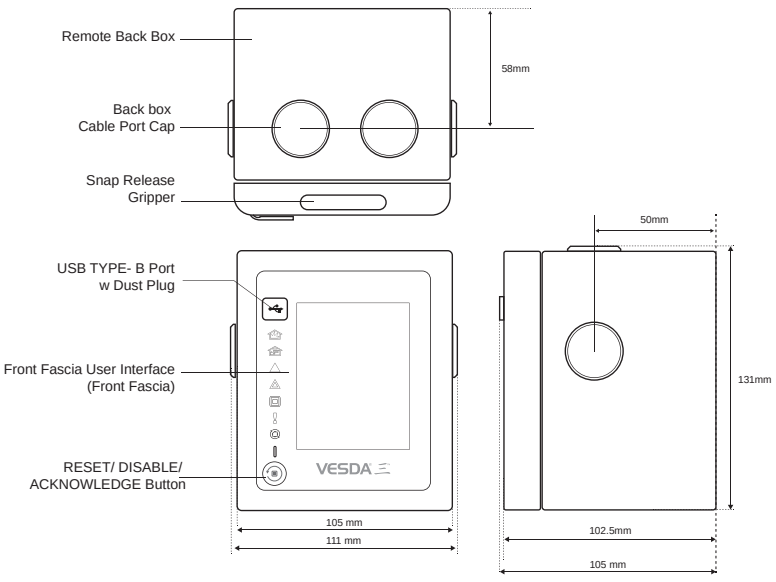


Figure 5: VESDA-E Remote Box

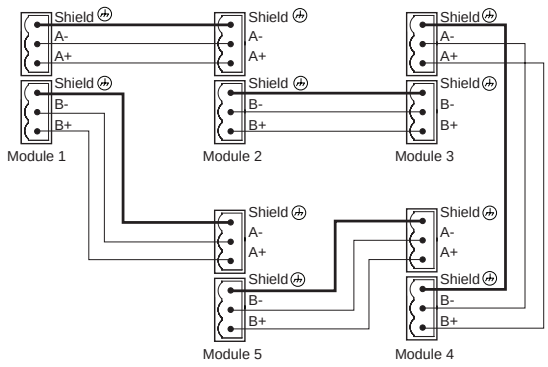
Dimensions: 111mm (4.3 in) x 131mm (5.1 in) x 105mm (4.1 in) (WHD).

RESET/ DISABLE/ ACKNOWLEDGE Button

This button on the VESDA-E Remote Accessories Front Fascia can control multiple functions on the connected VESDA-E detector.

If there is an alarm or fault condition, pressing the button first time will acknowledge the condition. Subsequent presses will reset or disable the VESDA-E detector.

Connection to VESDAnet



The diagram shows an example of the wiring for a closed VESDAnet loop, which is the recommended configuration. It is recommended that 120 Ohm twisted pair cables (e.g. Belden 9841) be used for including the devices in the network, with a maximum length between devices of 1.2 km. The polarity of the data wires must be maintained throughout the network.

Figure 6: VESDAnet Connection

Communications

- **USB:** The USB port (R) is used for initial configuration and local maintenance or servicing of the VESDA-E Remote Box using a PC or laptop installed with Xtralis VSC software. Install Xtralis VSC prior to connecting the VESDA-E Remote Box to the computer. This ensures that the required USB drivers are present.
- **Ethernet:** The Ethernet port (Q) is used for permanent network connection to the VER-A30, and provides a gateway to any other devices on the VESDAnet network. An Ethernet lead can be routed through the cable entry ports and plugged into the Ethernet port. Use a standard cat6 Ethernet lead when connecting the VER-A30 to a network switch, router or directly to a PC or laptop. Ethernet connection must be configured using a USB connection prior to use. Set the VER-A30 access password using Xtralis VSC.

Power Up

VESDA-E Remote Box can be powered with an external 24 VDC Power Supply (compliant with local codes and standards)/ VESDA-E detector via designated POWER IN socket (B).

Note: The VESDA-E Remote Box will not operate if the power supply polarity is reversed.

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