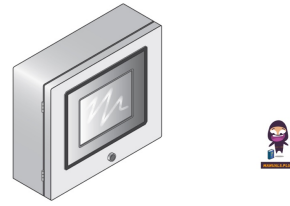


nVent ACS-UIT3 User Interface Terminal



nVent ACS-UIT3 User Interface Terminal Instruction Manual

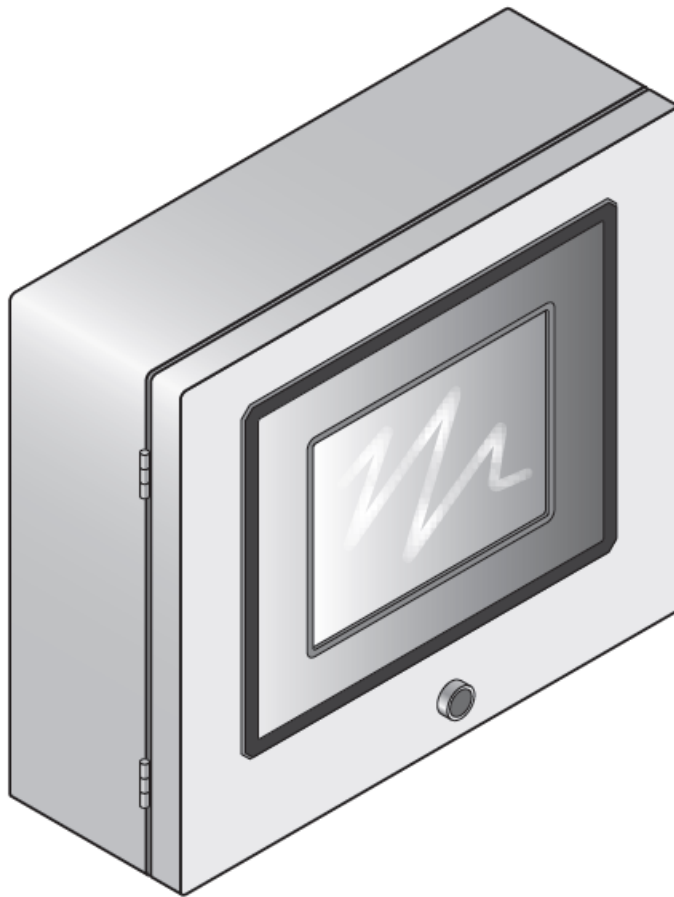
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nVent ACS-UIT3 User Interface Terminal



Specifications

- Area of Use: Nonhazardous, Indoors and outdoors (IP65, Type4)
- Supply Voltage: Supply Terminal
- Dimensions: 386 mm W x 336 mm H x 180 mm D (15.21 in. W x 13.21 in. H x 7.09 in. D)
- Alarm Outputs: Three form C relays rated at 12 A @ 250 Vac. One relay used for common alarm light.
- LCD Display: 8.4-inch XGA, colour TFT transfective device with integral LED backlight
- Touch Screen Interface: 5-wire resistive touch screen interface for user entry

Product Usage Instructions

Mounting the Enclosure Follow these steps to mount the ACS-UIT3 display:

1. Ensure the area of installation is suitable for nonhazardous indoor or outdoor use.
2. Use the provided enclosure-mounting tabs to securely attach the display to the wall.
3. Ensure proper spacing and alignment according to the dimensions provided.

Electrical Safety When installing and maintaining the ACS-UIT3 unit, follow these electrical safety procedures:

- Be cautious as line voltage is present inside the unit.
- Ensure only qualified electricians handle the installation process.

Connecting Main Power Follow these steps to connect the main power to the ACS-UIT3:

1. Use copper conductors for field wiring.
2. Energize the nVent RAYCHEM ACS-UIT3 electronics using the power connection terminals.
3. Note that this connection does not provide power to heat tracing or contactor coils.

4. Consider installing an uninterruptible power supply (UPS) for continuous operation during localized power failures.

Frequently Asked Questions (FAQ)

- Is the ACS-UIT3 suitable for hazardous locations?

No, the ACS-UIT3 is not suitable for hazardous locations and should only be used in nonhazardous indoor and outdoor areas.

- What are the communication ports available on the ACS-UIT3?

The ACS-UIT3 features RS-232/RS-485 ports for local/remote connections, a LAN port, and USB 2.0 Host ports.

- What is the maximum cable length for RS-485 connections?

The maximum cable length for RS-485 connections should not exceed 1200 meters (4000 feet) and should be shielded twisted pair cables.

- Can the ACS-UIT3 be used with ACS-30 series control systems?

Yes, the ACS-UIT3 is specifically designed to work with nVent RAYCHEM ACS-30 series control and monitoring systems.

DESCRIPTION

The nVent RAYCHEM ACS-UIT3 is a wall-mounted display which allows the User Interface Terminal (UIT) to be installed remotely. The ACS-UIT3 is used with nVent RAYCHEM ACS-30 series control and monitoring systems. The ACS-UIT3 is rated IP 65 (Type 4), and is approved for nonhazardous indoor and outdoor locations. These instructions describe how to mount the ACS-UIT3 on a wall and how to make connections to the User Interface Terminal and are intended for a qualified electrician.

TOOLS REQUIRED

- Small flat-head screwdriver
- Phillips (cross-head) screwdriver
- Drill or hole punch for electrical conduit entries

APPROVALS

Nonhazardous Locations



ADDITIONAL MATERIALS REQUIRED

- Wall fasteners for surface mounting (four #1/4-20 bolts)
- RS-485 cable (Belden # 8761 or Carol # C2514)

KIT CONTENTS

- Qty Description
- 1 ACS-UIT3 display

- 4 Elastomeric washers
- 1 5-ft 9-pin RS-232 (Null Modem) cable
- 4 Enclosure-mounting tabs

NETWORK CONNECTION

- Local/Remote Port RS-232/RS-485 ports (RS-485, 2-wire isolated) may be used to communicate with host computers (ACS-30 Program Integrator) or DCS
- Local RS-232 A non-isolated, 9 pin D sub male
- Remote RS-485 #2 10 pin terminal block, 24–12 AWG (0.2 mm to 2.5 mm²) wire size
- Data rate 9600 to 57600 baud
- Maximum cable length For RS-485 not to exceed 1200 m (4000 ft). Cable to be shielded twisted pair.
- Field Port RS-485, 2-wire isolated. Used to communicate with external devices, such as ACS-PCM2-5, ACS-CRM and RMM2/RMM3. Maximum cable length not to exceed 1200 m (4000 ft). Cable to be shielded twisted pair.
- Field RS-485 #1 10 pin terminal block, 0.2 mm to 2.5 mm² (24–12 AWG) wire size
- Data rate To 9600 baud
- LAN 10/100 Base-T Ethernet port with Link and Activity Status LEDs
- USB Ports USB 2.0 Host port Type A receptacle (X2)

GENERAL

- Area of use Nonhazardous, Indoors and outdoors (IP65, Type 4)
- Supply voltage 100 – 240 Vac \pm 10%, 50/60 Hz
- Supply terminal 26 – 12 AWG
- Operating temperature –25°C to 50°C (–13°F to 122°F)
- Storage temperature –25°C to 80°C (–13°F to 176°F)
- Dimensions 386 mm W x 336 mm H x 180 mm D (15.21 in. W x 13.21 in. H x 7.09 in. D)

ALARM OUTPUTS

Relay outputs Three form C relays rated at 12 A @ 250 Vac. One relay used for common alarm light. Relays may be assigned for alarm outputs

LCD DISPLAY

- Display LCD is a 8.4 inch XGA, color TFT transfective device with integral LED backlight
- Touch screen 5-wire resistive touch screen interface for user entry.

Fire Hazard: The ACS-UIT3 must not be used in hazardous locations. Electrical components within the unit could ignite flammable gases. Do not install the unit where it may be exposed to flammable gases.

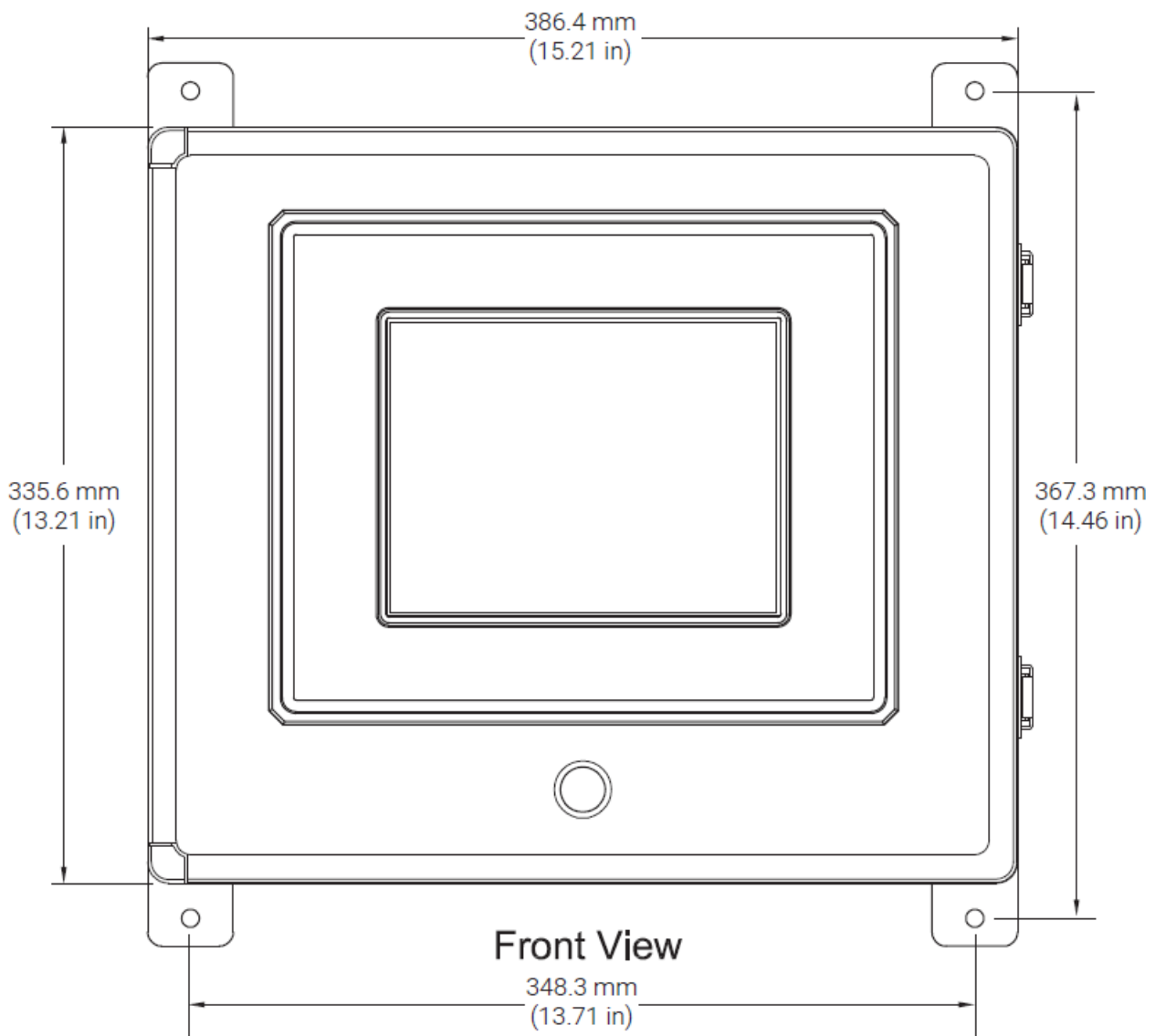
IMPORTANT:

The ACS-UIT3 is an electronic device. During installation, take the following precautions to avoid damage to its electronic components.

- Handle with care to avoid mechanical damage.
- Keep electronics dry.
- Avoid exposure to static electricity
- Avoid contamination with metal filings, liquids, or other foreign matter.
- Take care to protect the user interface board on the enclosure door.
- Use agency-approved conduit bushings, adapters, and cable glands to keep the enclosure protected from dust and fluids.

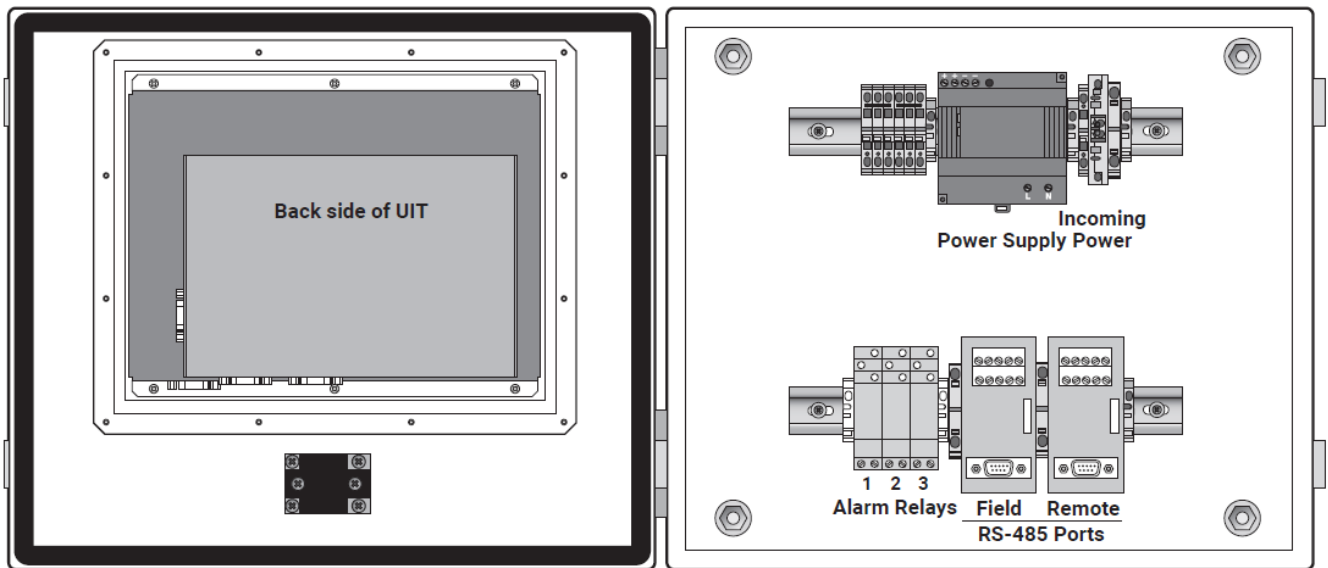
MOUNTING THE ENCLOSURE

The nVent RAYCHEM ACS-UIT3 controller must be mounted in a nonhazardous indoor or outdoor location. Choose a location indoors or outdoors where the controller will be protected from the elements and kept above -25°C (-13°F) and below 50°C (122°F). Install the enclosure using the four #1/4-20 bolts (not provided) in the mounting holes with centers as shown below.



ELECTRICAL SAFETY

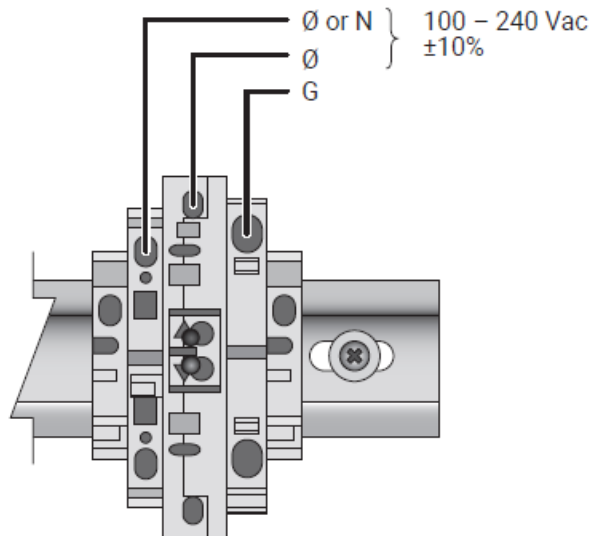
Follow electrical safety procedures when installing and maintaining the ACS-UIT3 unit, as line voltage is present inside.



CONNECTING MAIN POWER

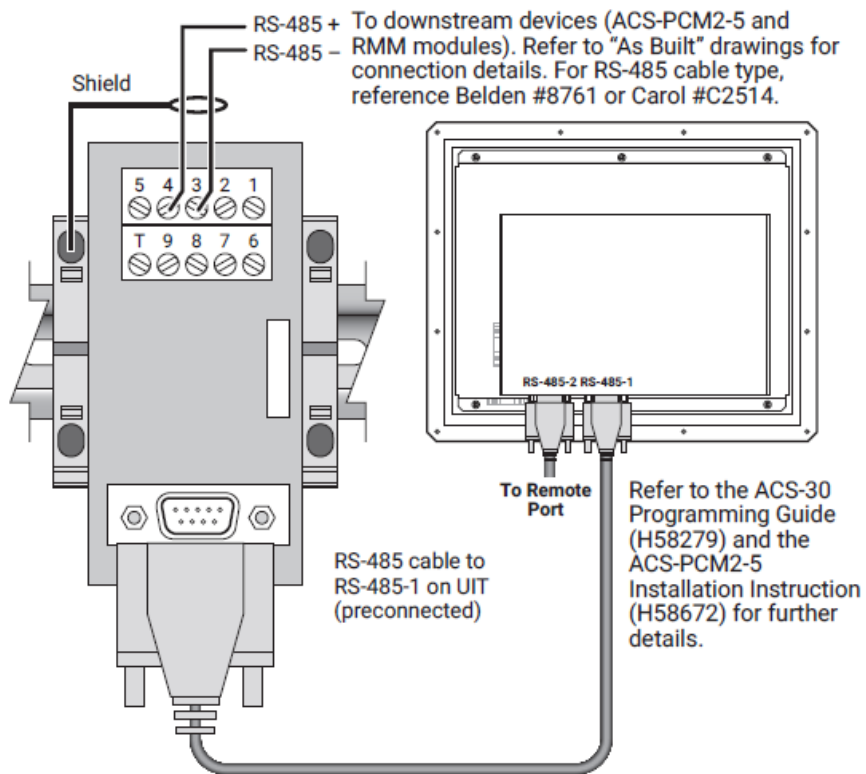
Use only copper conductors for field wiring. A close-up of the power connection terminals is shown below. This connection energizes the nVent RAYCHEM ACS-UIT3 electronics only; it does not provide power to the heat tracing or contactor coils.

Note: If the nVent RAYCHEM ACS-UIT3 user interface has a different source of power than the heat tracing, it may be worthwhile to install an uninterruptible power supply (UPS) so the unit can continue to control and/or monitor the heat tracing in the event of a localized power failure.



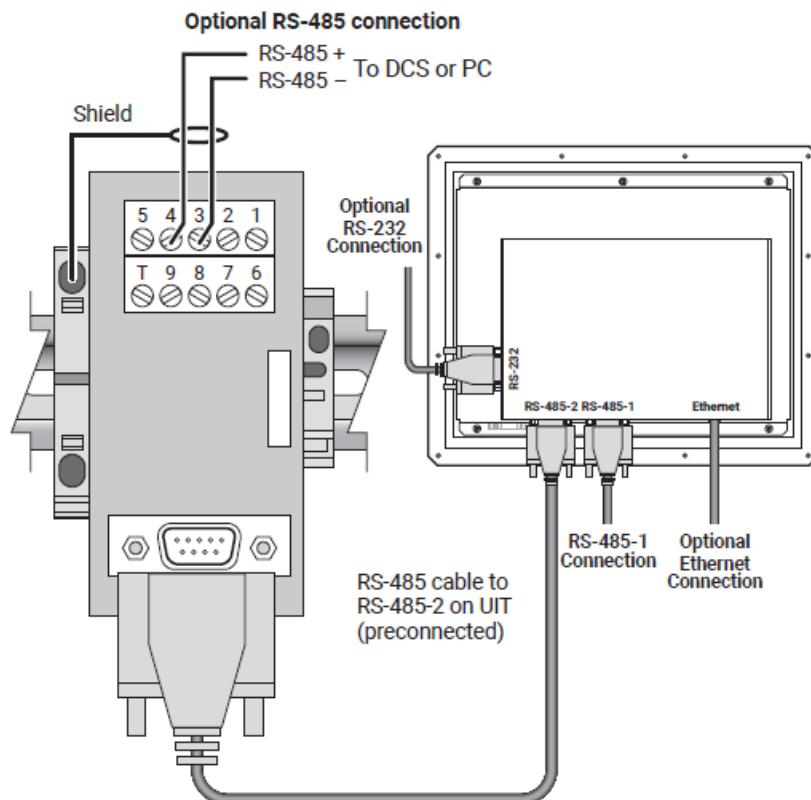
CONNECTING MAIN POWER

- The ACS-PCM2-5 and RMM modules communicate with the ACS-UIT3 over an RS-485 network, which may have a total cable length of 1200 m (4000 ft).
- The RS-485 communicating cable shall be a shielded, two-conductor (twisted pair) cable.



CONNECTING RS-485, RS-232 AND ETHERNET REMOTE PORT COMMUNICATION (OPTIONAL)

These ports are used to communicate to a host computer or DCS and are user-selectable for either RS-485, RS-232 or Ethernet. If the RS-232 port is utilized, the supplied female-to-female, 9-pin null modem adaptor cable must be used.

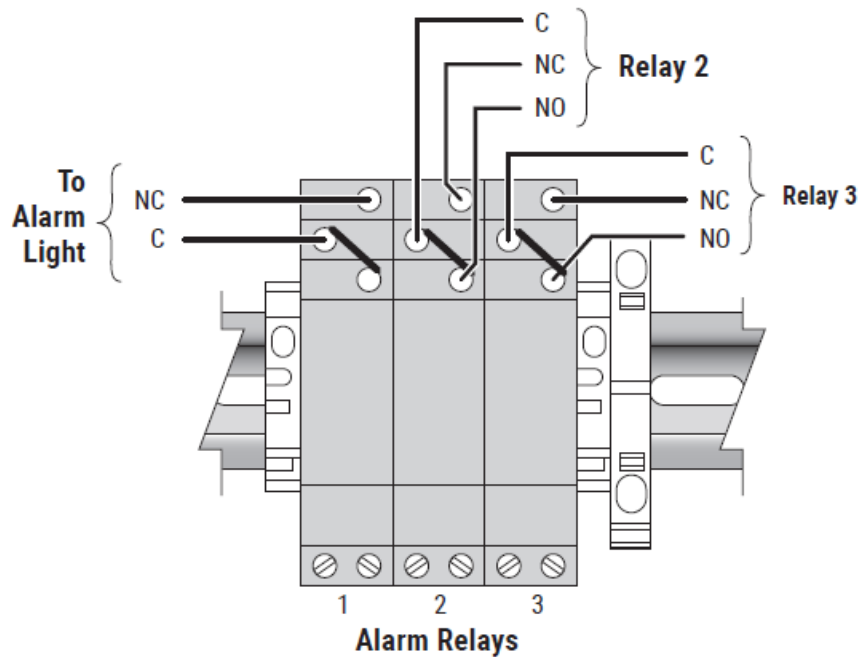


ALARM LIGHT AND OPTIONAL ALARM RELAYS

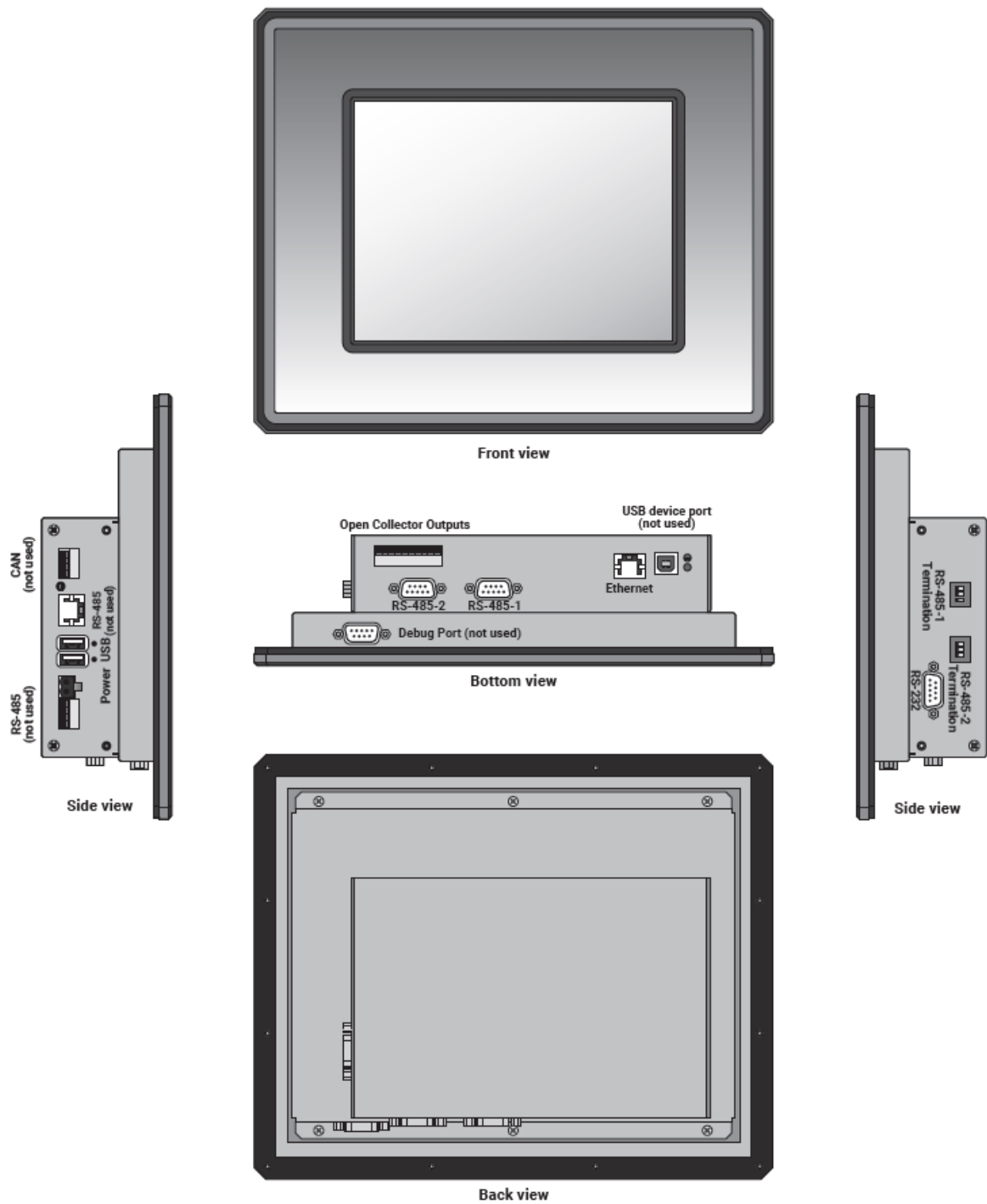
Relay 1 on the ACS-UIT3 is factory-configured and wired for “Any Alarms”. It will energize a push-to test light on the front of the panel if any alarm occurs.

The ACS-UIT3 has two other Form C alarm relays for external alarms. Each relay can be connected to an annunciator light or Building Management System (BMS).

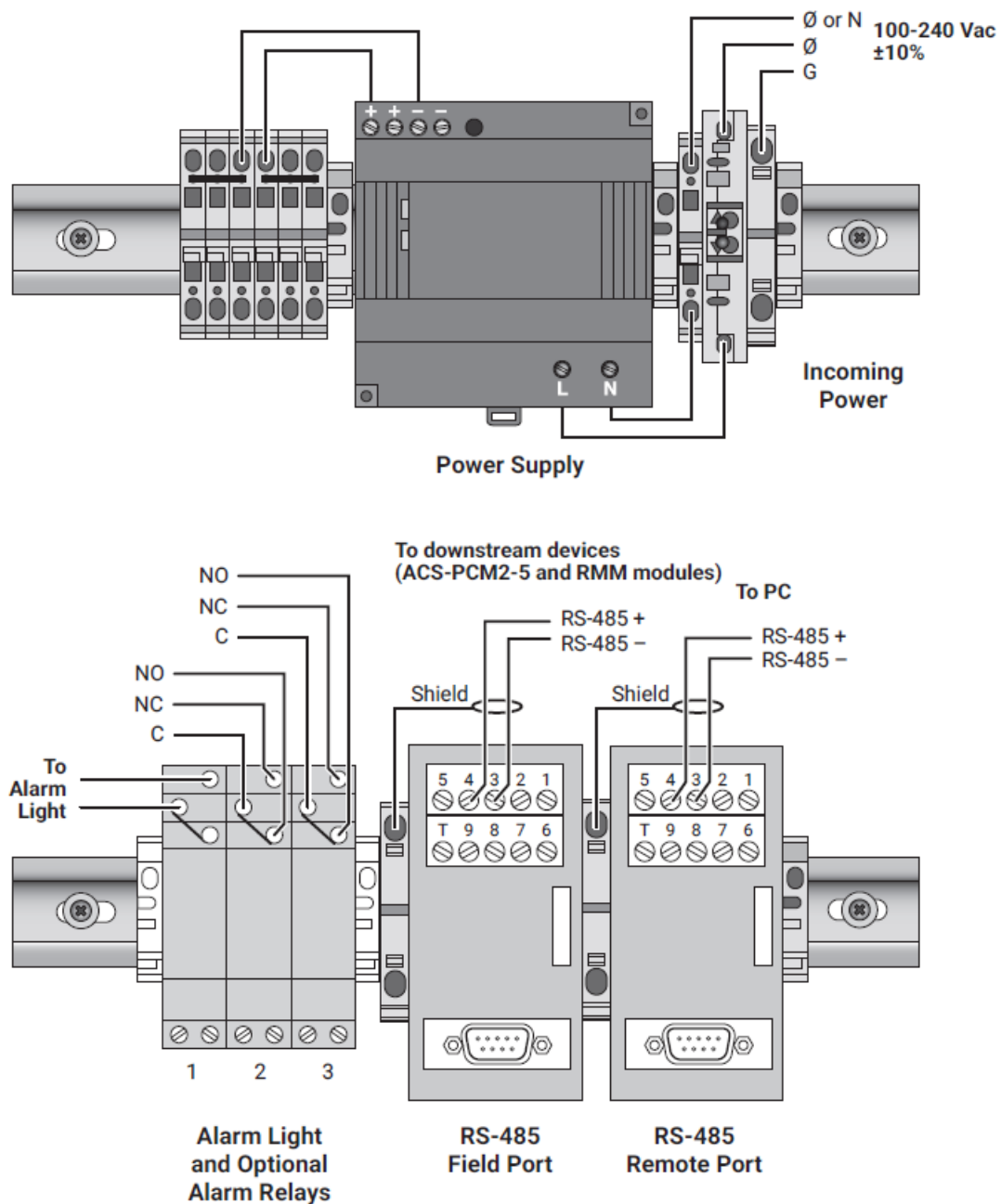
Note: The above relays are shown in the energized position without an alarm condition. The relay will change state with an alarm condition or loss of power.



ACS-UIT3 CONNECTION DIAGRAM



OVERVIEW OF WIRING



• SERVICING

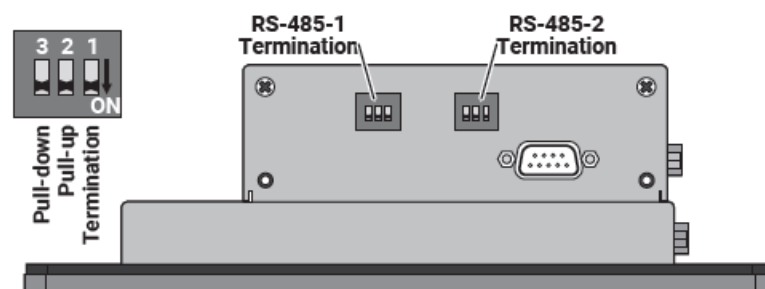
The ACS-UIT3 contains no user-serviceable parts. Contact your nVent representative for service and an authorization number if required.

• CLEANING

The touch screen area of the ACS-UIT3 may be cleaned with a damp or dry cloth. Typical window cleaning agents may be applied to aid in the removal of dirt, dust and grease. Do not use abrasive cleaners.

• RS-485 CONFIGURATION SWITCHES

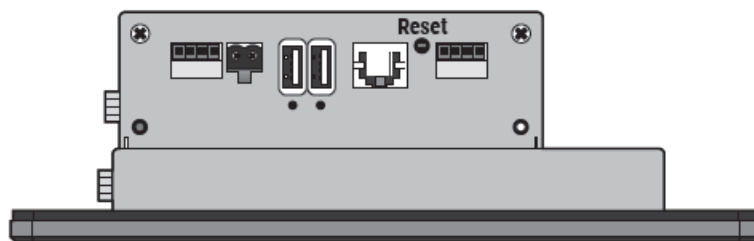
The configuration switches are found on the right side of the ACS-UIT3. Refer to the table below for settings.



	Position		
Switch	On	Off	Comments
Pull-down	(As-shipped default) RS-485 network “–” signal is forced to a determinate state when idle.	RS-485 network “–” signal is not forced to a determinate state when idle.	One device (typically this ACS-UIT3) on the RS-485 network should force the network “–” signal to a determinate state.
Pull-up	(As-shipped default) RS-485 network “+” signal is forced to a determinate state when idle.	RS-485 network “+” signal is not forced to a determinate state when idle.	One device (typically this ACS-UIT3) on the RS-485 network should force the network “+” signal to a determinate state.
Termination	(As-shipped default) RS-485 network is terminated with 120-ohm resistor.	RS-485 network is not terminated.	Terminate the device (ACS-UIT3 or other) that is at each end of the RS-485 network, for a total of two terminated devices. No other devices on the network should be terminated.

• RESET SWITCH

The Reset switch can be found on the side of the ACS-UIT3. A pointed object is required to press the reset switch and restart the ACS-30 software



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Documents / Resources

	<p>nVent ACS-UIT3 User Interface Terminal [pdf] Instruction Manual</p> <p>ACS-UIT3 User Interface Terminal, ACS-UIT3, User Interface Terminal, Interface Terminal, Terminal</p>
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References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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