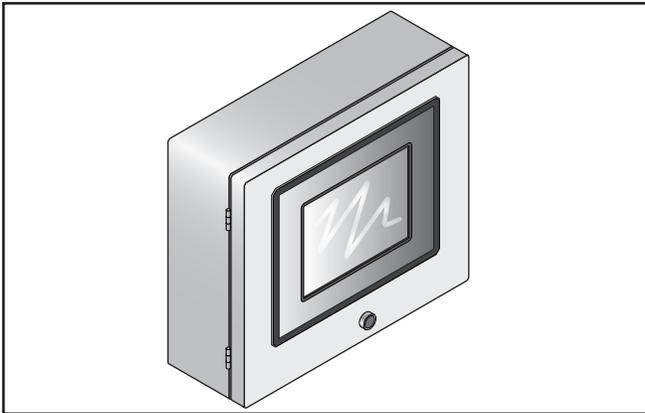


# RAYCHEM

## ACS-UIT2

### Remote User Interface Terminal For nVent RAYCHEM ACS-30 Systems Installation Instructions



#### Kit Contents

Qty	Description
1	ACS-UIT2 display
4	Elastomeric washers
1	5-ft 9-pin RS-232 (Null Modem) cable
4	Enclosure-mounting tabs

#### 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.
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#### 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.

#### Description

The nVent RAYCHEM ACS-UIT2 is a wall-mounted display which allows the User Interface Terminal (UIT) to be installed remotely. The ACS-UIT2 is used with nVent RAYCHEM ACS-30 series control and monitoring systems. The ACS-UIT2 is rated IP 65 (Type 4), and is approved for nonhazardous indoor and outdoor locations. These instructions describe how to mount the ACS-UIT2 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

#### Additional Materials Required

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

#### Approvals

##### Nonhazardous Locations



#### 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 mm <sup>2</sup> ) 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. 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 mm <sup>2</sup> (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)

#### ⚠ WARNING:

Fire Hazard: The ACS-UIT2 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:

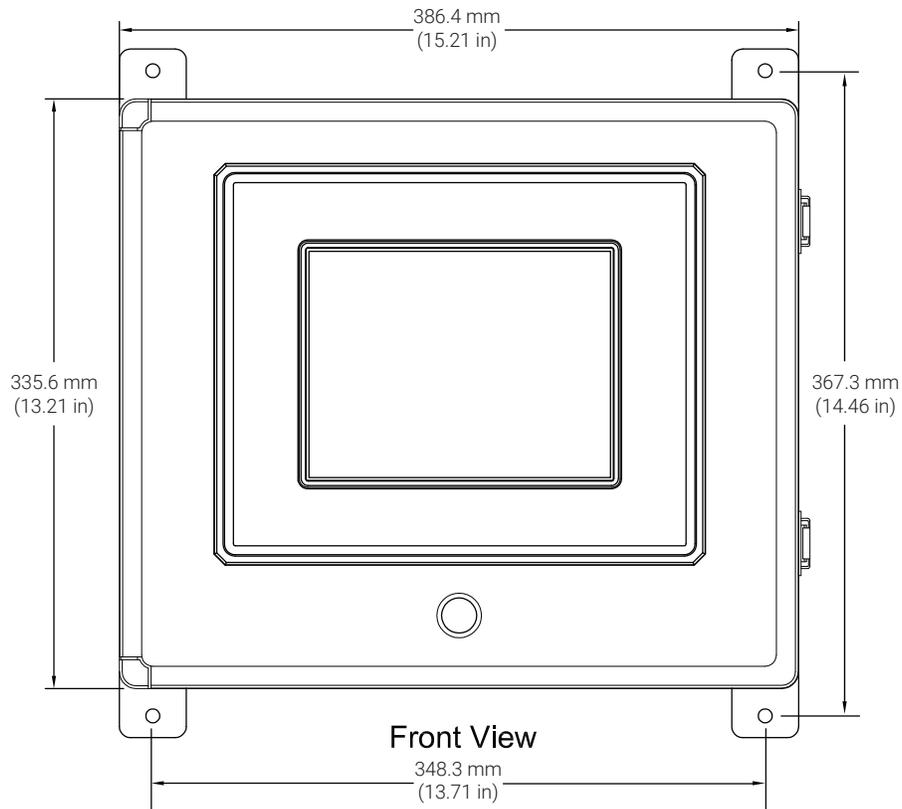
The ACS-UIT2 is an electronic device. During installation, take the following precautions to avoid damage to its electronic components.

- 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.

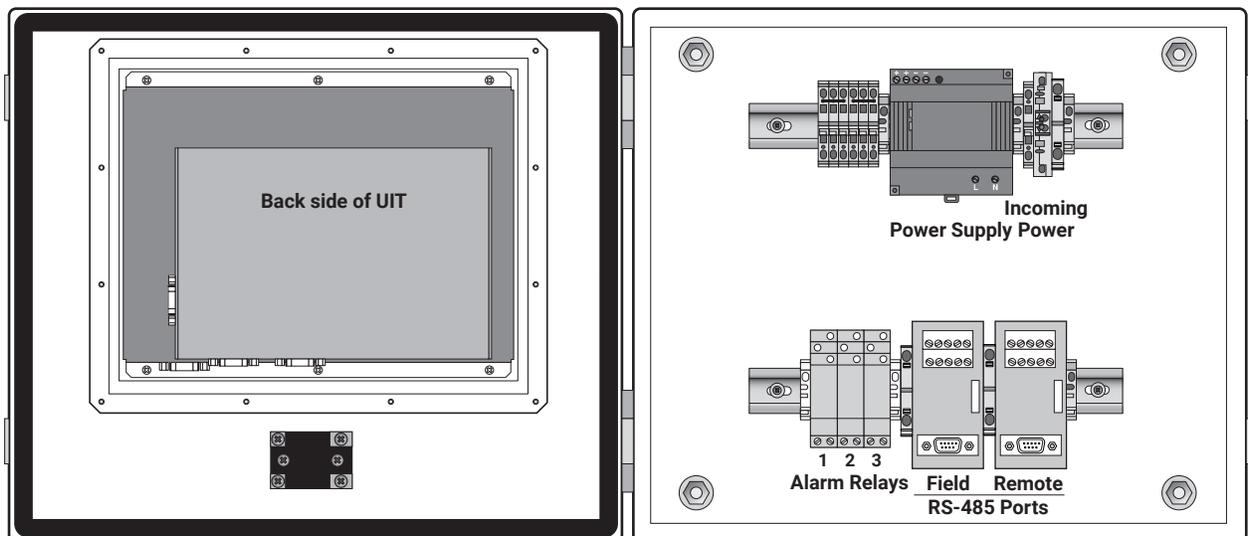
## Mounting the Enclosure

The RAYCHEM ACS-UIT2 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  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) and below  $50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ). Install the enclosure using the four #1/4-20 bolts (not provided) in the mounting holes with centers as shown below.



## Electrical Safety

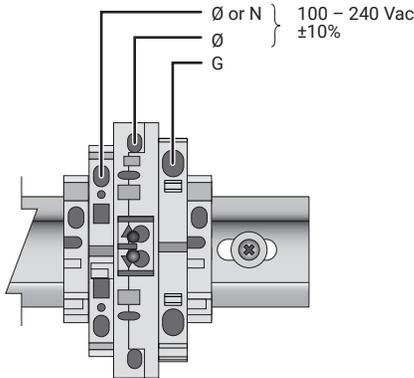
Follow electrical safety procedures when installing and maintaining the ACS-UIT2 unit, as line voltage is present inside.



## 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 RAYCHEM ACS-UIT2 electronics only; it does not provide power to the heat tracing or contactor coils.

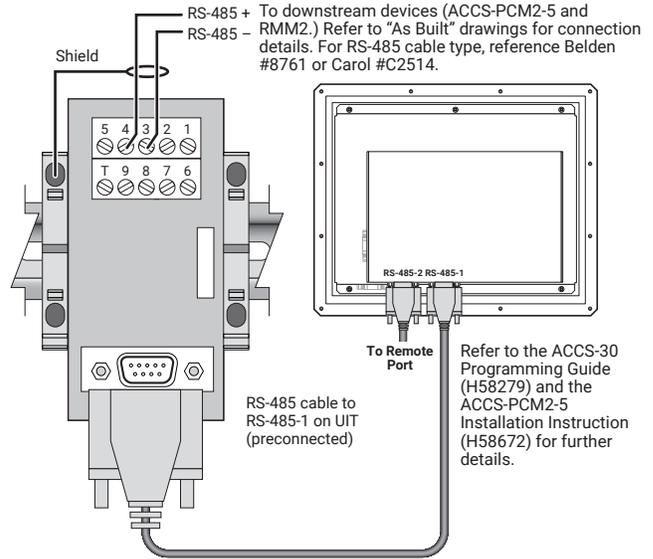
**Note:** If the RAYCHEM ACS-UIT2 user interface has a different source of power than the heat tracing, it may be worthwhile to install an uninterruptible power supply (UPS) so the unit can continue to control and/or monitor the heat tracing in the event of a localized power failure.



## Connecting Main Power

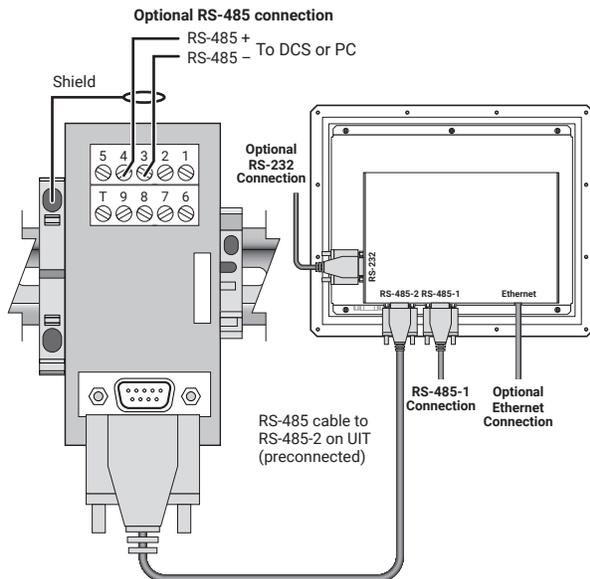
The ACS-PCM2-5 and RMM2 communicate with the ACS-UIT2 over an RS-485 network, which may have a total cable length of 1200 m (4000 ft).

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.

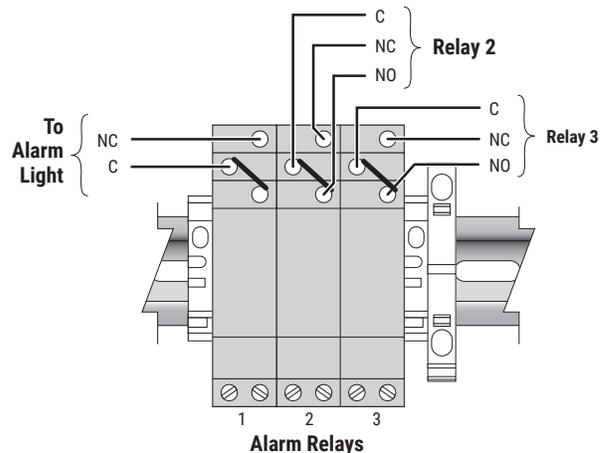


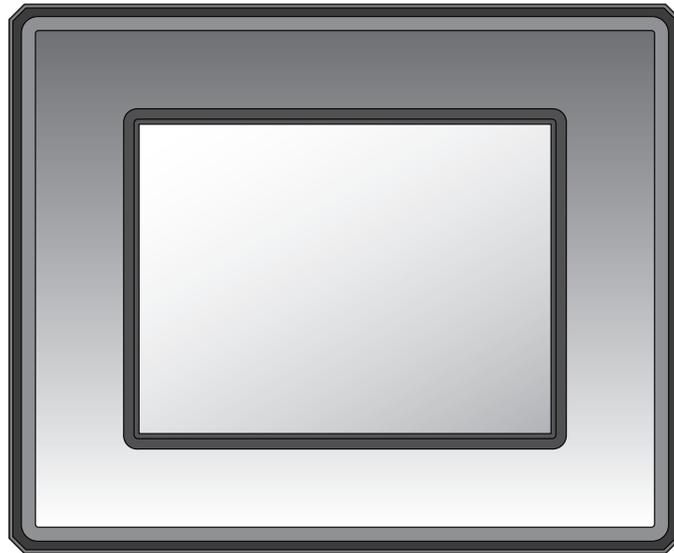
## Alarm Light and Optional Alarm Relays

Relay 1 on the ACS-UIT2 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.

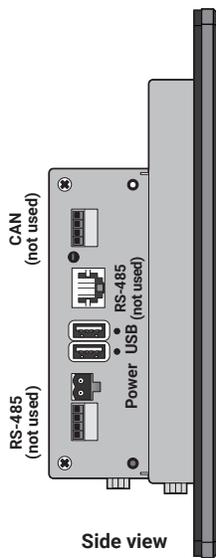
The ACS-UIT2 has two other Form C alarm relays for external alarms. Each relay can be connected to an annunciator light or Building Management System (BMS).

**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.

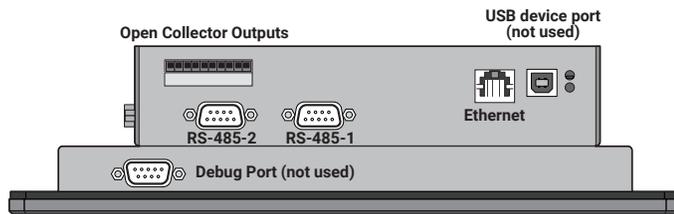




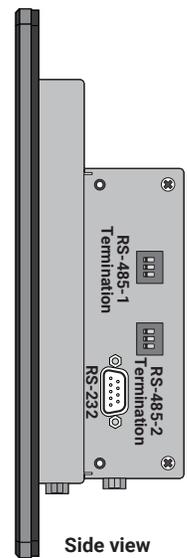
Front view



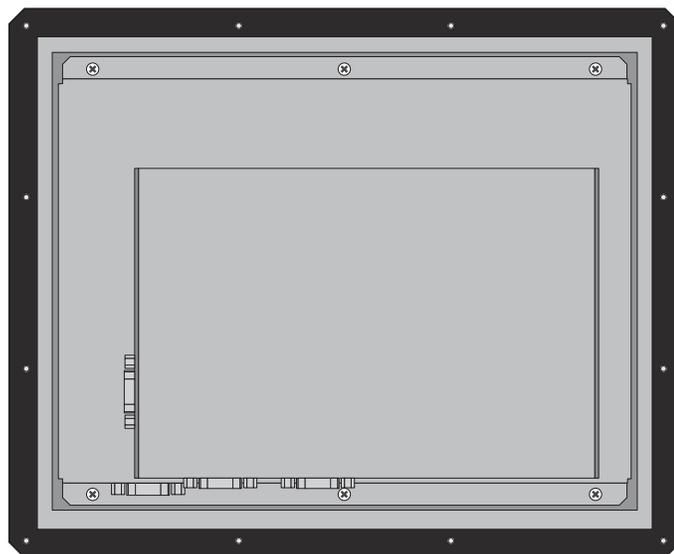
Side view



Bottom view

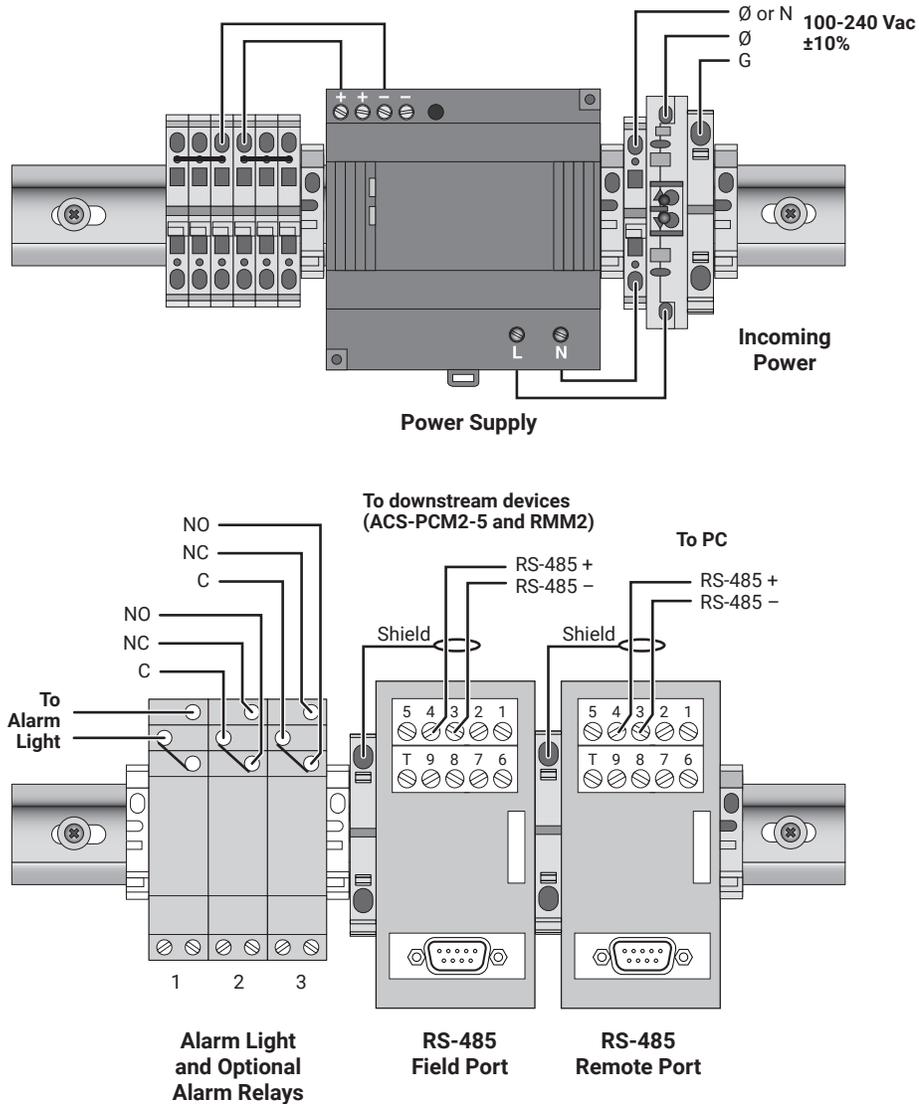


Side view



Back view

## Overview of Wiring



## Servicing

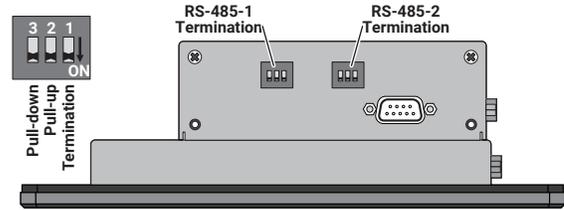
The ACS-UIT2 contains no user-serviceable parts. Contact your nVent representative for service and an authorization number if required.

## Cleaning

The touch screen area of the ACS-UIT2 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

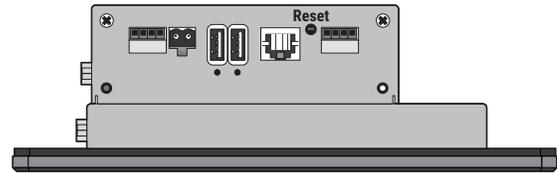
The configuration switches are found on the right side of the ACS-UIT2. Refer to the table below for settings.



Switch	Position	On	Of	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-UIT2) 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-UIT2) 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-UIT2 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-UIT2. A pointed object is required to press the reset switch and restart the ACS-30 software



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