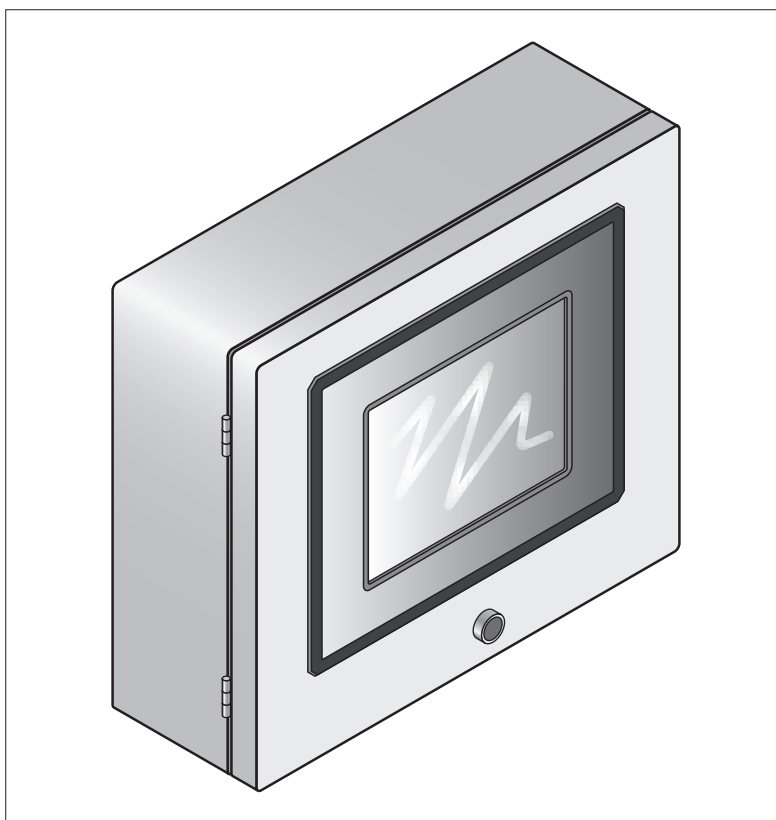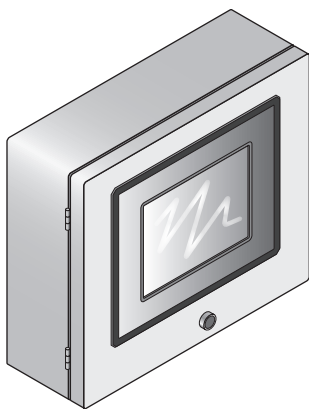# Raychem

ACS-UIT3

Remote User Interface Terminal For Raychem
ACS-30 Systems Installation Instructions

chemelex

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 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)

DESCRIPTION

The 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 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

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

GENERAL

Area of use	Nonhazardous, Indoors and outdoors (IP65, Type 4). Do not expose the touch screen to direct sunlight.
Supply voltage	100 – 240 Vac ±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 187 mm D (15.21 in. W x 13.21 in. H x 7.34 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 12 inch XGA, color TFT transflective device with integral LED backlight
Touch screen	5-wire resistive touch screen interface for user entry.

⚠ WARNING:

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.
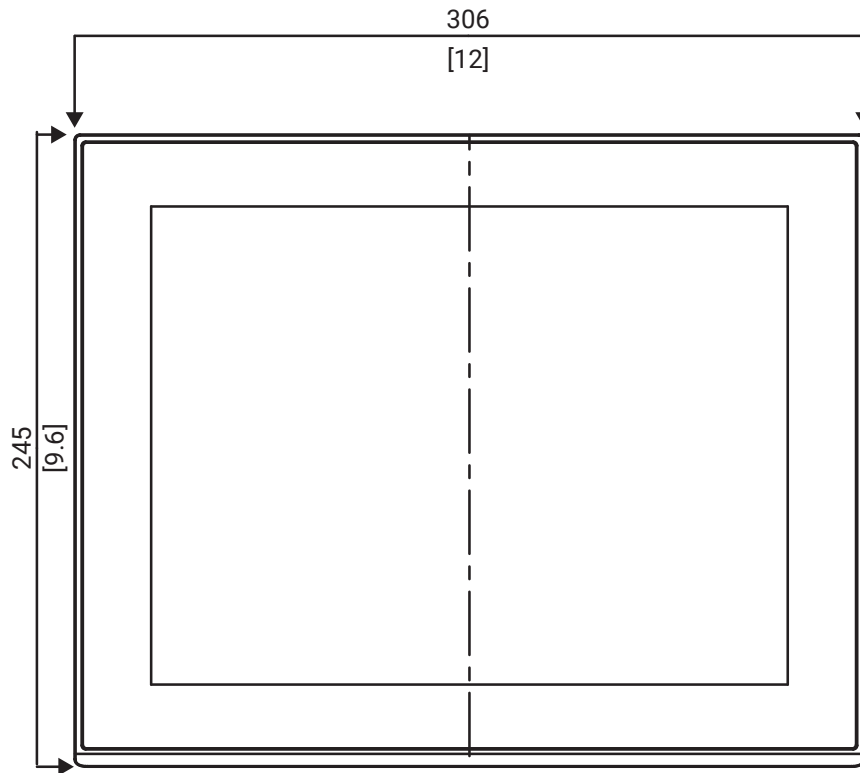
⚠ IMPORTANT:

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.
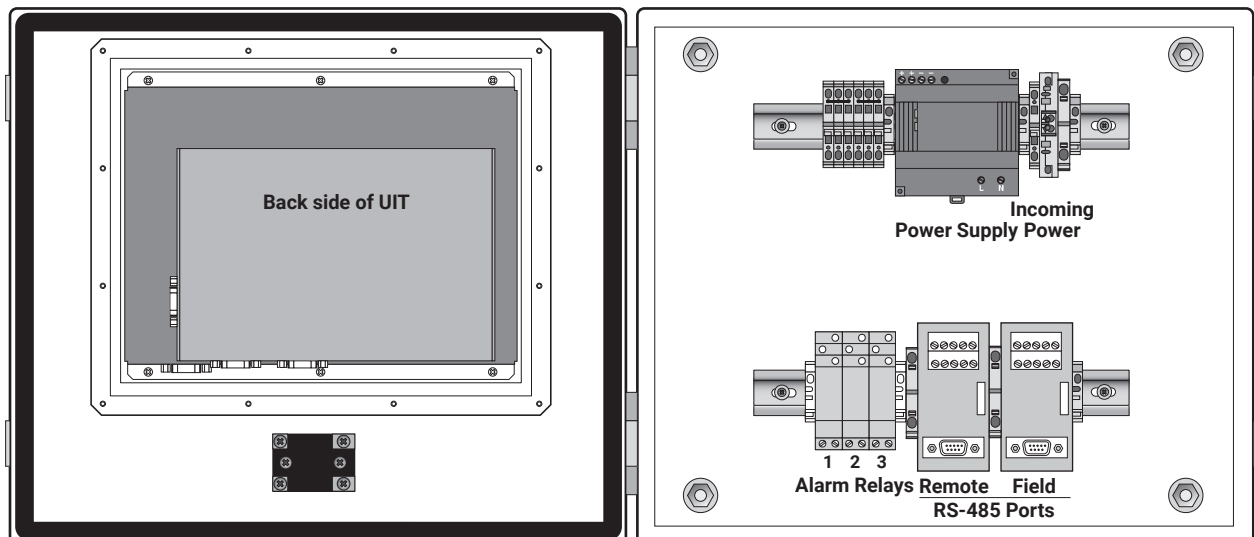
MOUNTING THE ENCLOSURE

The 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.

306
[12]

245
[9.6]

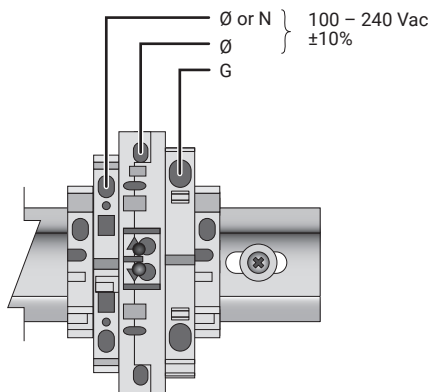Front View

ELECTRICAL SAFETY

Follow electrical safety procedures when installing and maintaining the ACS-UIT3 unit, as line voltage is present inside. The sticker with the ratings is located on the right side on the back of the display.

Back side of UIT

Incoming
Power Supply Power

1 2 3
Alarm Relays Remote   Field
RS-485 Ports

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-UIT3 electronics only; it does not provide power to the heat tracing or contactor coils.
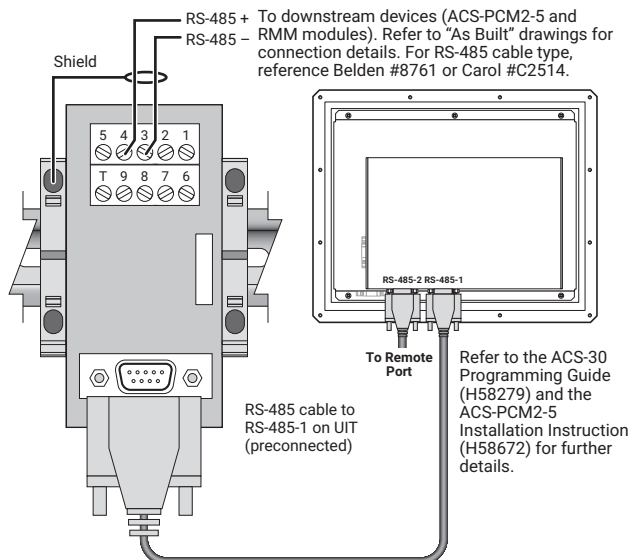
Note: If the Raychem ACS-UIT3 user interface has a different source of power than the heat tracing, it may be worthwhile to install an uninterruptible power supply (UPS) so the unit can continue to control and/or monitor the heat tracing in the event of a localized power failure.

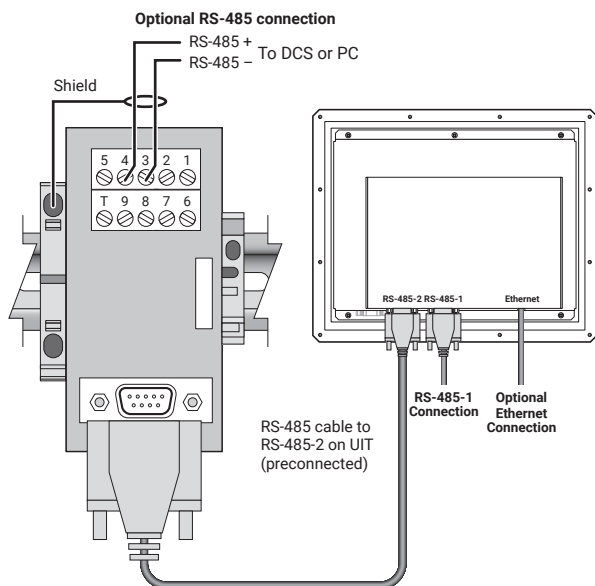Ø or N } 100 – 240 Vac
Ø } ±10%
G

RS-485 NETWORK CONNECTION

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.

RS-485 + To downstream devices (ACS-PCM2-5 and
RS-485 – RMM modules). Refer to "As Built" drawings for connection details. For RS-485 cable type, reference Belden #8761 or Carol #C2514.

Shield

5 4 3 2 1
T 9 8 7 6

RS-485-2 RS-485-1

To Remote Port

RS-485 cable to RS-485-1 on UIT (preconnected)

Refer to the ACS-30 Programming Guide (H58279) and the ACS-PCM2-5 Installation Instruction (H58672) for further details.

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.

Optional RS-485 connection
RS-485 +
RS-485 – To DCS or PC

Shield

5 4 3 2 1
T 9 8 7 6

RS-485-2 RS-485-1 Ethernet

RS-485-1 Connection

Optional Ethernet Connection
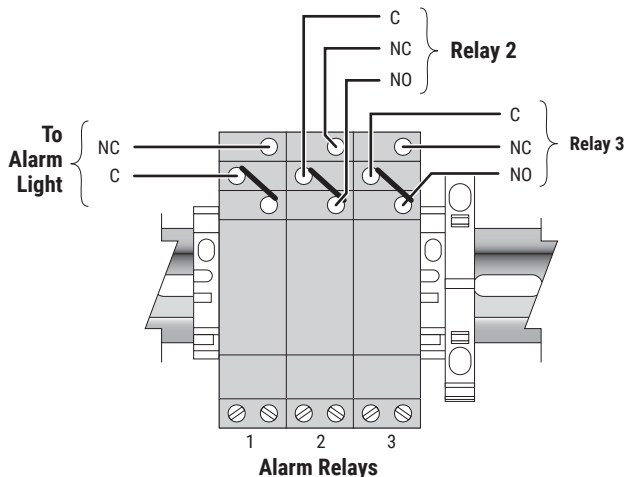
RS-485 cable to RS-485-2 on UIT (preconnected)

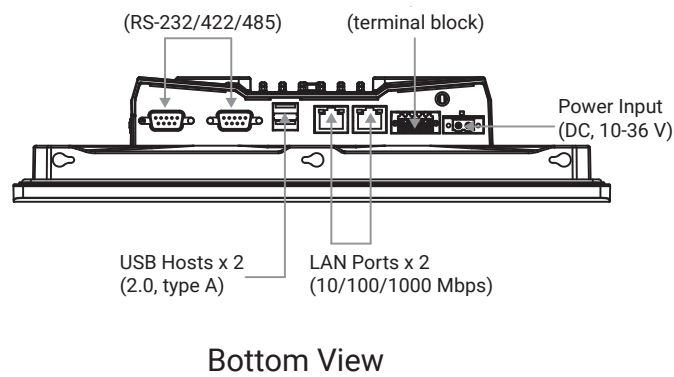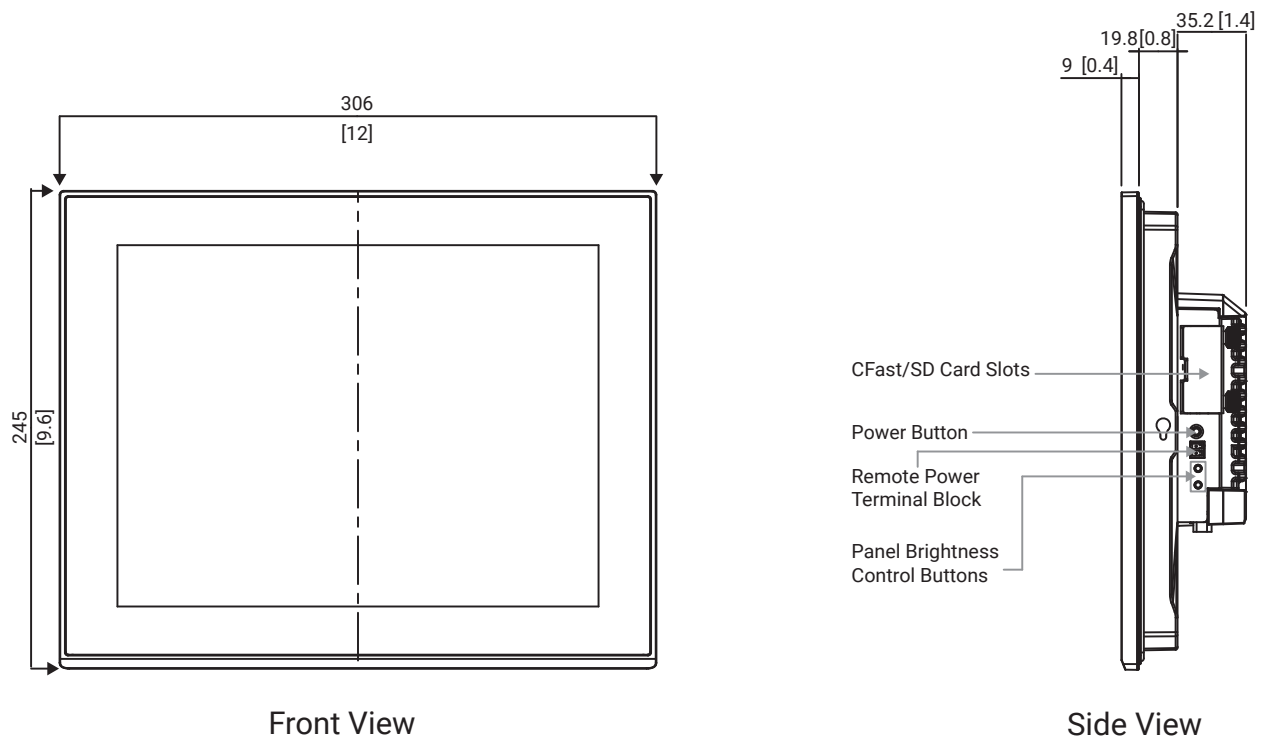## ALARM LIGHT AND OPTIONAL ALARM RELAYS

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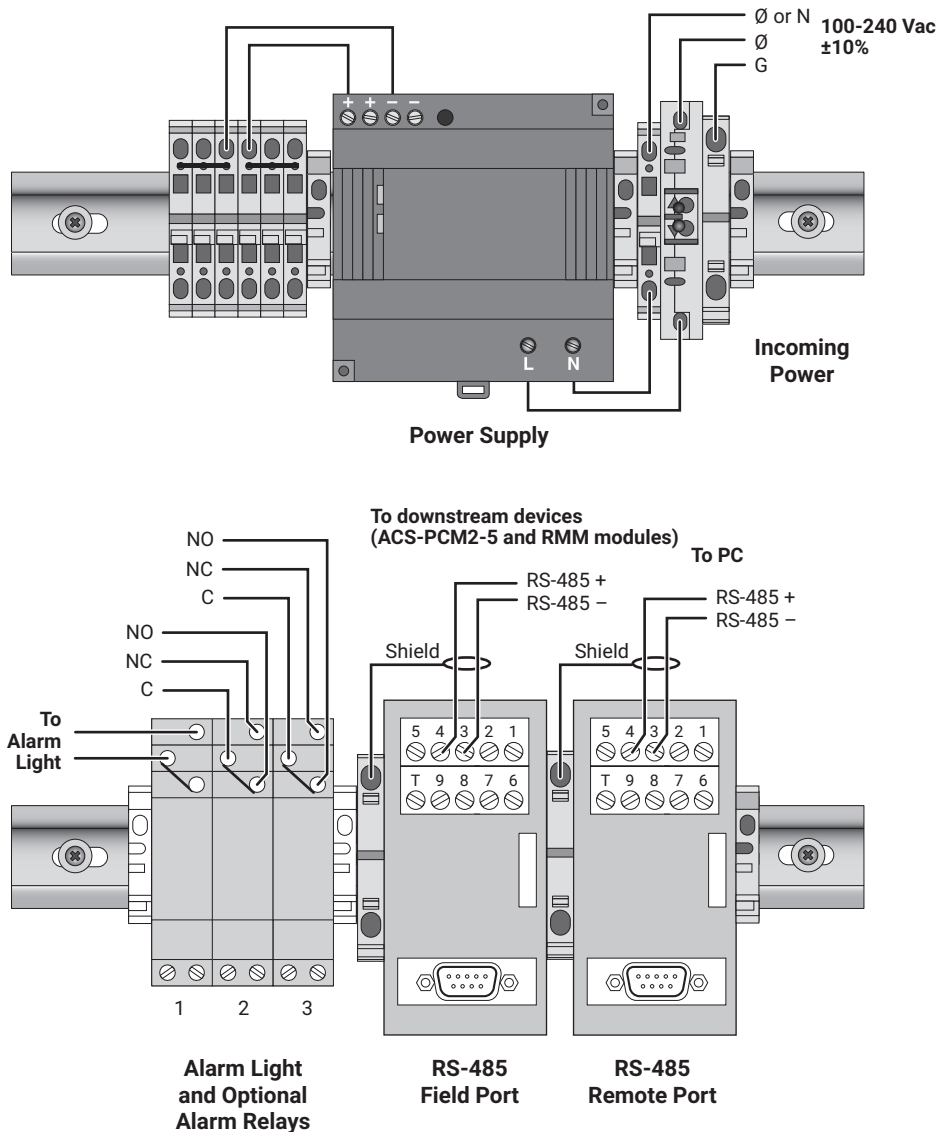
Note: The above relays are shown in the energized position without an alarm condition. The relay will change state with an alarm condition or loss of power.

C
NC **Relay 2**
NO

To Alarm Light
NC
C

C
NC **Relay 3**
NO

1   2   3
Alarm Relays

306
[12]

245
[9.6]

Front View

35.2 [1.4]
19.8 [0.8]
9 [0.4]

CFast/SD Card Slots

Power Button

Remote Power
Terminal Block

Panel Brightness
Control Buttons

Side View

(RS-232/422/485)   (terminal block)

Power Input
(DC, 10-36 V)

USB Hosts x 2
(2.0, type A)

LAN Ports x 2
(10/100/1000 Mbps)

Bottom View

OVERVIEW OF WIRING

Ø or N
Ø
G
**100-240 Vac
±10%**

**Incoming
Power**

Power Supply

**To downstream devices
(ACS-PCM2-5 and RMM modules)**

To PC

NO
NC
C

RS-485 +
RS-485 −

RS-485 +
RS-485 −

NO
NC
C

Shield

Shield

**To
Alarm
Light**

5 4 3 2 1
T 9 8 7 6

5 4 3 2 1
T 9 8 7 6

1 2 3

**Alarm Light
and Optional
Alarm Relays**

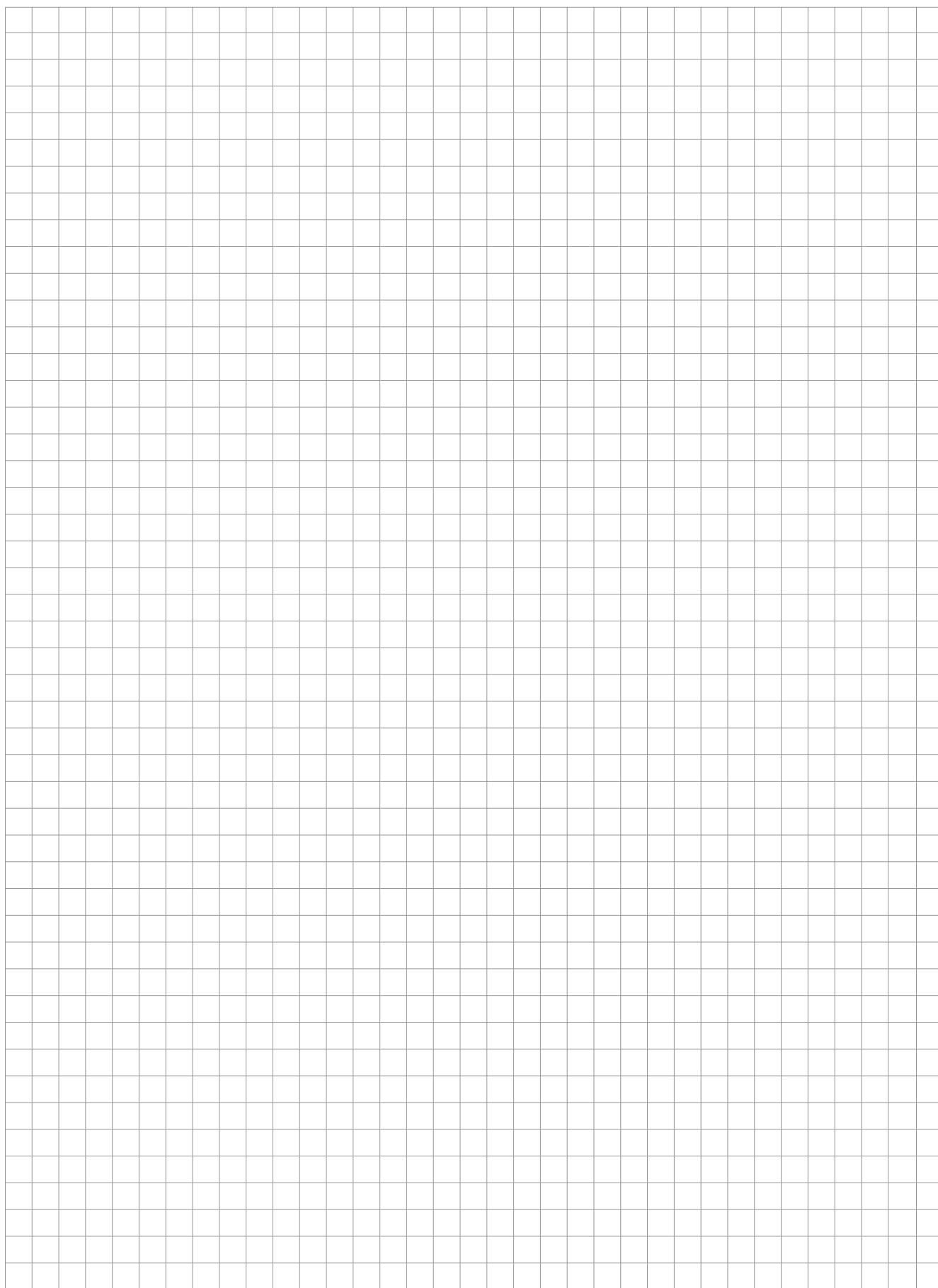**RS-485
Field Port**

**RS-485
Remote Port**

SERVICING

The ACS-UIT3 contains no user-serviceable parts. Contact your Chemelex 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.**

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RAYCHEM-IM-N00729-ACSUIT3-EN-2504

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