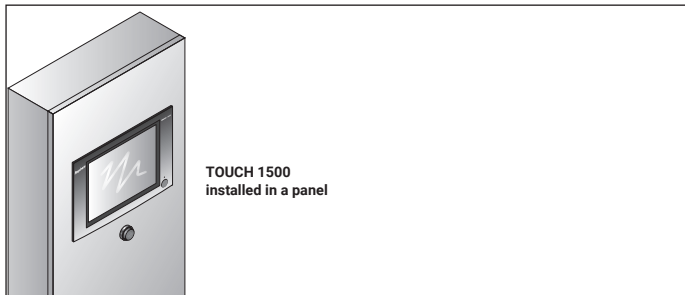




RAYCHEM

TOUCH 1500

User Interface Terminal for RAYCHEM NGC Systems Installation Instructions



KIT CONTENTS

Qty	Description
1	TOUCH 1500 display
10	Mounting clips
1	ADAM 4069-CID2 relay module
1	5-ft 9-pin RS-232 (null modem) cable

APPROVALS/CERTIFICATIONS

Nonhazardous Locations



General

Area of use	Nonhazardous, Indoors (IP65, NEMA 4)	
Supply voltage	10 – 30 Vdc	
Amperage rating	Steady state	1.8 A
	Surge current	16 A
Operating temperature	0°C to 50°C (32°F to 122°F) w/o space heater, -30°C to 50°C (-22°F to 122°F) using space heater and screen cover	
Storage temperature	-20°C to 60°C (-4°F to 140°F)	
Dimensions	449.9 mm W X 315.6 mm H X 141.7 mm D (17.74 in. W X 12.44 in. H X 5.58 in. D)	

Alarm Outputs

Relay output	One Form C relay rated at 3 A @ 250 Vac. Relay is used as a common alarm.
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LCD Display

Display	LCD is a 15-in XGA, color TFT transfective device with integral CCFL backlight
Touch Screen	4-wire resistive touch screen interface for user entry

DESCRIPTION

The nVent RAYCHEM TOUCH 1500 is a panel mounted touch screen display used in conjunction with nVent RAYCHEM NGC-40 and NGC-20 (Europe only) control and monitoring devices. The TOUCH 1500 is rated IP 65 (NEMA 4) and is approved for nonhazardous indoor locations. The TOUCH 1500 kit includes all hardware required for mounting in a suitable electrical panel. These instructions describe how to mount the TOUCH 1500 in an electrical panel and are intended only for personnel experienced in panel construction.

TOOLS REQUIRED

- Masking tape
- Metal file
- Jig saw (recommend using carbon steel blade with 24TPI)
- #16 (3/16) drill bit
- Phillips screwdriver

ADDITIONAL MATERIALS (TO BE ORDERED SEPARATELY)

Qty	Description	Manufacturer	Manufacturer PN
2	9 pin D-Sub to 10 pin terminal block PCB	Phoenix Contacts	2315162
2	Serial Communication cable	L-COM	"CSMN9MF-xx xx=Length in Ft."
11	Terminal Blocks	Weidmuller	163205
1	Type ZS1 Fuse Block	Weidmuller	161649
4	PE Terminal (Earth Ground)	Weidmuller	1632080000
6	End plates / Partition	Weidmuller	1632090000
1	End plate / Partition	Weidmuller	1896330000
6	End Plate Stops	Weidmuller	38356
2	Jumpers, 2 Position	Weidmuller	1608950000
2	Jumpers, 3 Position	Weidmuller	1608960000
1	Fuse, 1 amp, 250 V	Square D	MLD-1
1	Power Supply, 24 Vdc, 2.5 Amp	Mean Well	DR-120-24
1	Push to test alarm light; Idec 24 Vdc	Idec	ALW29911-D-R-24

Network Connection

Local/ Remote Port	* RS-232/RS-485 ports may be used to communicate with host computers DTS (nVent RAYCHEM Supervisor Software) or DCS
Local RS-232	A non-isolated, 9 pin D sub male
Remote RS-485	2-wire isolated, 9 pin D sub male
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 nVent RAYCHEM NGC-40-BRIDGE. Maximum cable length not to exceed 1200 m (4000 ft). Cable to be shielded twisted pair.
Signals	2-wire isolated, 9 pin D sub male
Data rate	To 9600 baud
LAN	10/100 Base-T Ethernet port with Link and Activity Status LEDs (X2)
USB Ports	USB 2.0 Host port Type A receptacle (X4)

WARNING:

FIRE HAZARD: The Touch 1500 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 TOUCH 1500 is an electronic unit. 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.
- Use agency-approved conduit bushings, adapters, and cable glands to keep the enclosure protected from dust and fluids.

Provide Suitable Panel Enclosure, and Determine Locations for TOUCH 1500 Assembly in Panel X

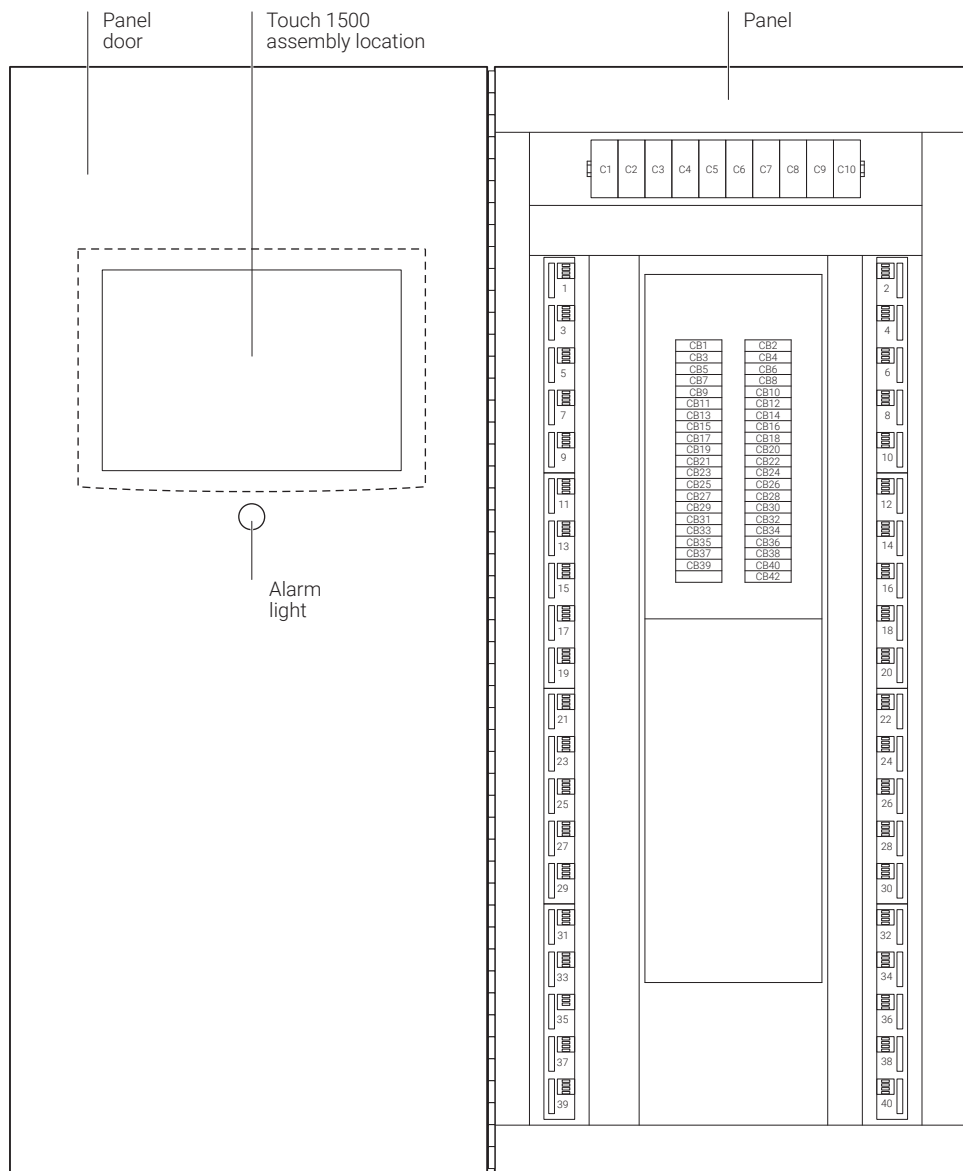
1. Provide suitable panel enclosure

To protect its electronic components, the TOUCH 1500 must be mounted in a non-hazardous location panel with a minimum IP32 (NEMA 1) enclosure. An IP52 (NEMA 12) or better enclosure is recommended. The TOUCH 1500 assembly comes with a sealing gasket and hardware to mount the enclosure.

Note: The RAYCHEM TOUCH 1500 is designed for operation in ambient temperatures from 0°C to 50°C (32°F to 122°F). If the ambient temperature is outside this range, a space heater with screen window kit and/or cooling fan will be required in the panel.

2. Determine locations for the TOUCH 1500 assembly in the electrical panel

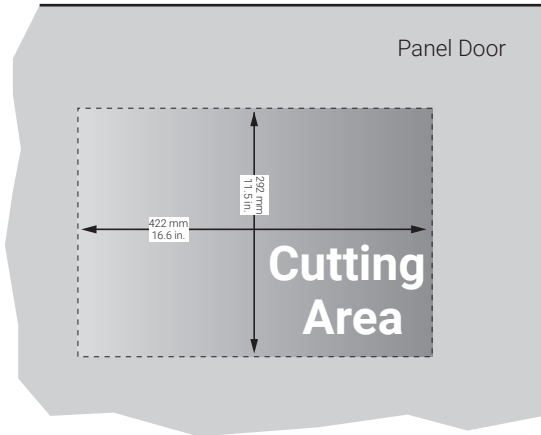
The TOUCH 1500 should be located on the front of the panel near eye level (for convenient viewing). The TOUCH 1500 assembly is an electronic unit and must not be located where it will be exposed to strong magnetic fields or excessive vibration.



Cut Opening and Mount TOUCH 1500 on Front of Panel

1. Locate the TOUCH 1500 on front of panel

Locate the TOUCH 1500 assembly on the front of the panel at a level convenient for viewing. Make sure the cover on the back of the assembly will not interfere with existing panel hardware.



Note: Cutting the opening for the display is a craft sensitive procedure; if it is not done correctly, the panel door can be damaged. The procedure for laying out and cutting the opening for the display must be undertaken with care, and by personnel qualified and experienced in panel construction.

2. Prepare and mark the position of the display opening and mounting holes

- Use the cut-out directions to lay out the opening for the TOUCH 1500 display.
- Apply two layers of masking tape around the outer perimeter of the intended opening to prevent scratching the panel surface with the jigsaw.

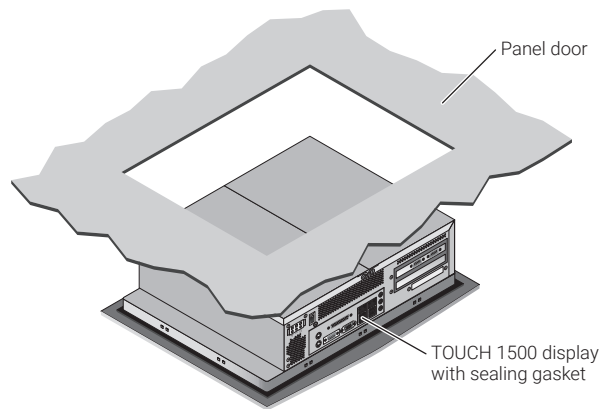
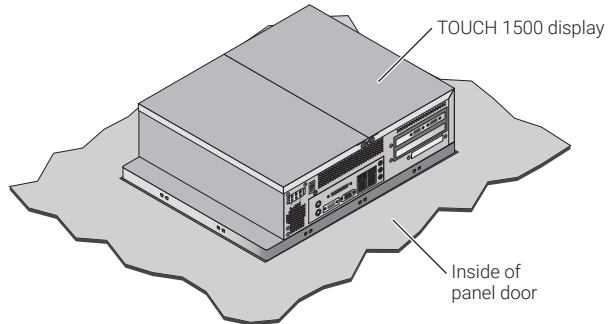
3. Cut the display opening

Cut the opening for the TOUCH 1500 with a jigsaw using a 24 TPI blade. Take care not to damage the panel door. Remove all rough edges and burrs with a metal file before proceeding.

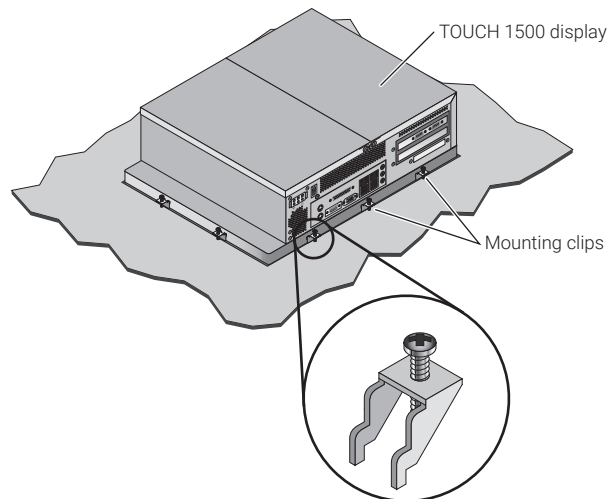
Note: The following steps are most easily accomplished if the panel door is on a horizontal surface.

4. Mount the user interface assembly onto the panel door

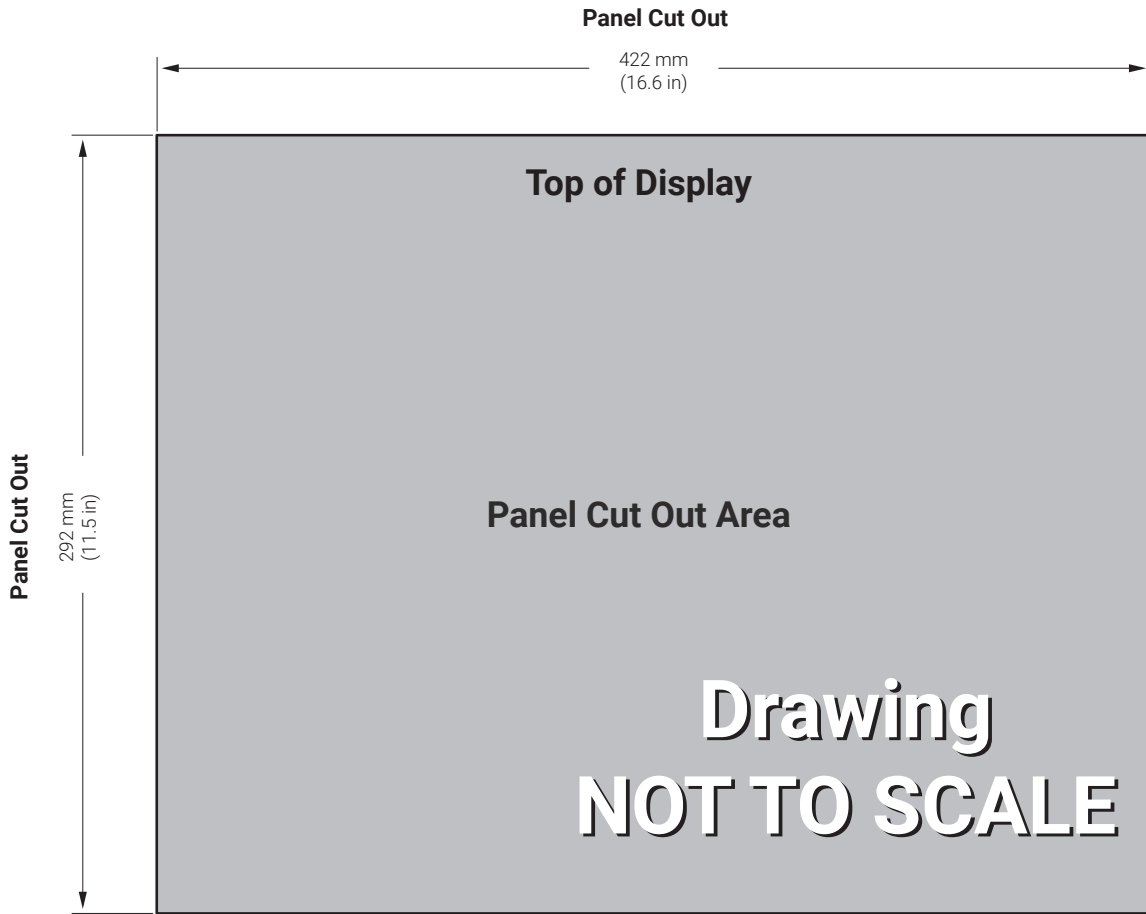
- Place the TOUCH 1500 assembly in position. Secure the screen to the enclosure with the 10 mounting clips.



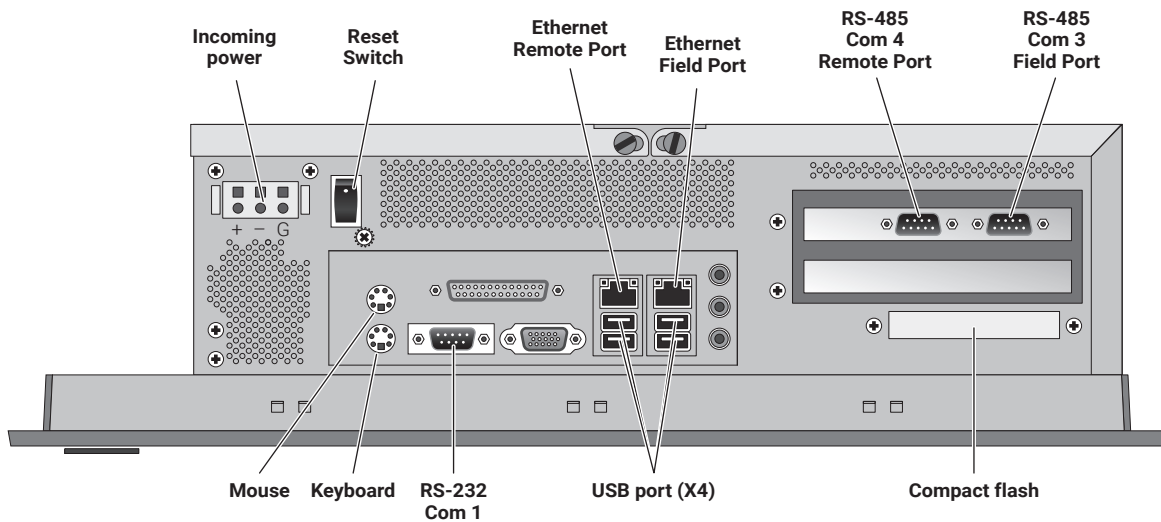
- Place the supplied mounting clips in each slot along the sides of the TOUCH 1500. Fasten only hand tight.



- Look at the front of the panel, and align the TOUCH 1500 assembly so it is level (loosen clips if necessary to reposition the assembly).
- After the display is properly positioned, tighten the mounting clips. **Do not overtighten and risk damage to hardware.**

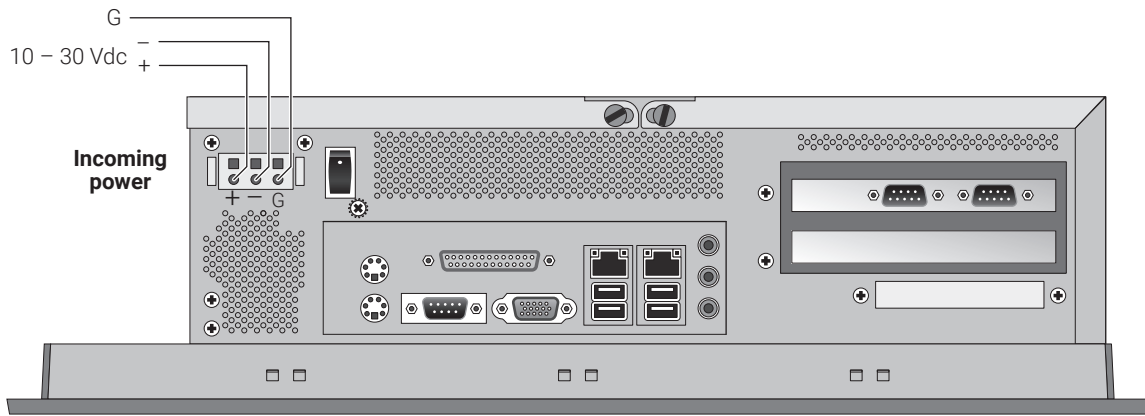


TOUCH 1500 Connection Diagram



Connect Power

Connect 10 – 30 Vdc to the male power connection fitting located on the bottom side of the TOUCH 1500. Note the polarity of the wires.



Communication

The TOUCH 1500 has two isolated RS-485 ports located at the bottom.

Field Side Port (RS-485)

The RS-485 port labeled "Com 3" is the field side port that is used to communicate with ModBus devices (ie. NGC-40-BRIDGE and NGC-20).

*Remote Port (RS-485) – Optional

The RS-485 port labeled "Com 4" is the Remote side port that is used to communicate with to a host computer DTS (using RAYCHEM Supervisory Software) or to a DCS.

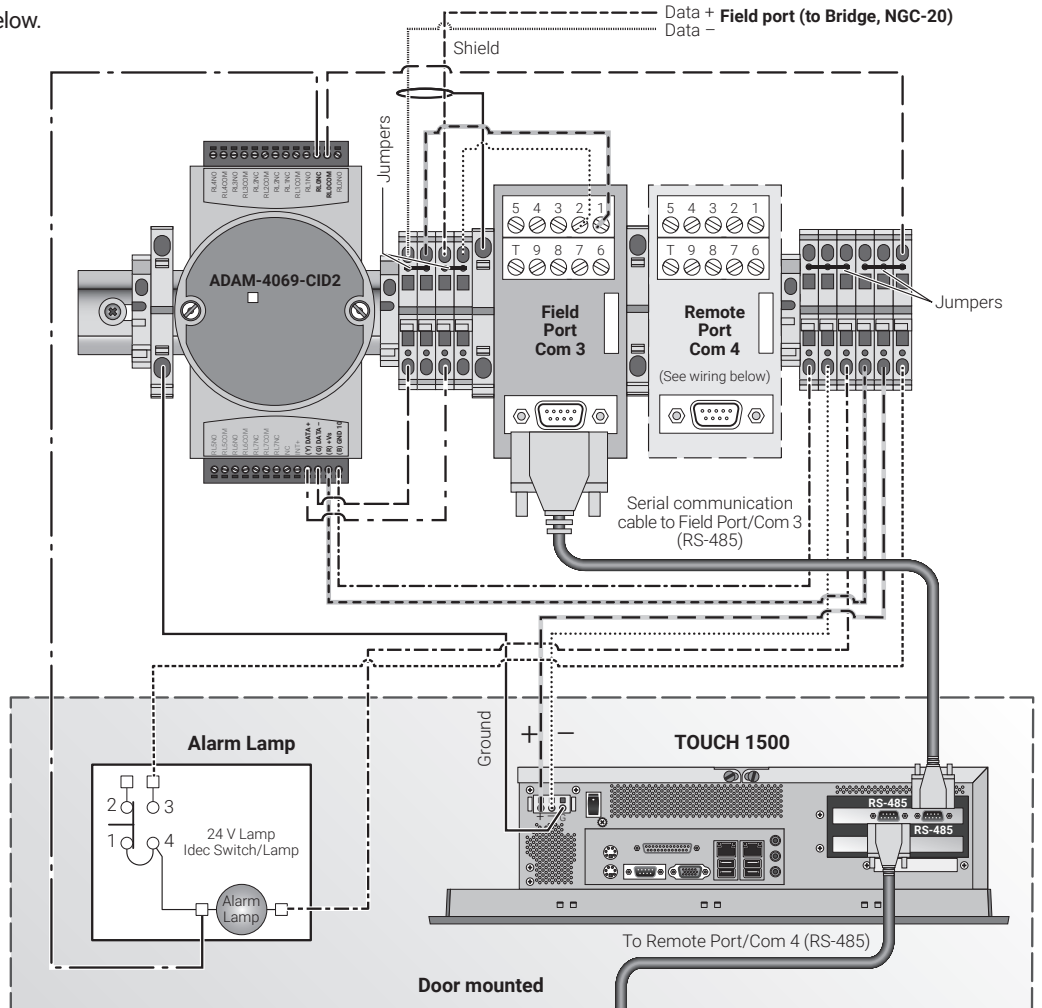
*Local Host Port (RS-232) – Optional

The RS-232 port can be used as local Host port that is used to communicate with to a host computer (using RAYCHEM Supervisory Software).

Field Port Communication RS-485 Common Alarm Light and Alarm Relay

Mount the supplied ADAM 4069-CID2 module, 9-pin D sub to 10 pin terminal block and 4 terminal block (with 2 position jumpers) on a DIN rail inside the panel enclosure. Mount the alarm light on the panel's door below the touch screen.

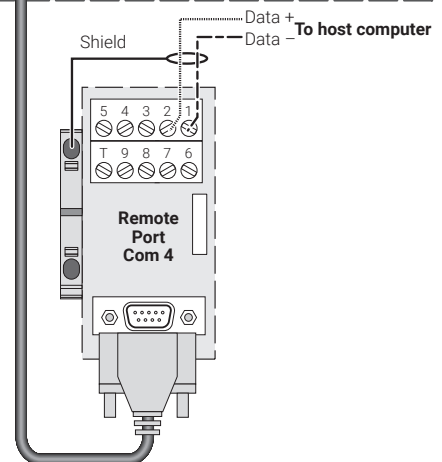
Wire per the schematic below.



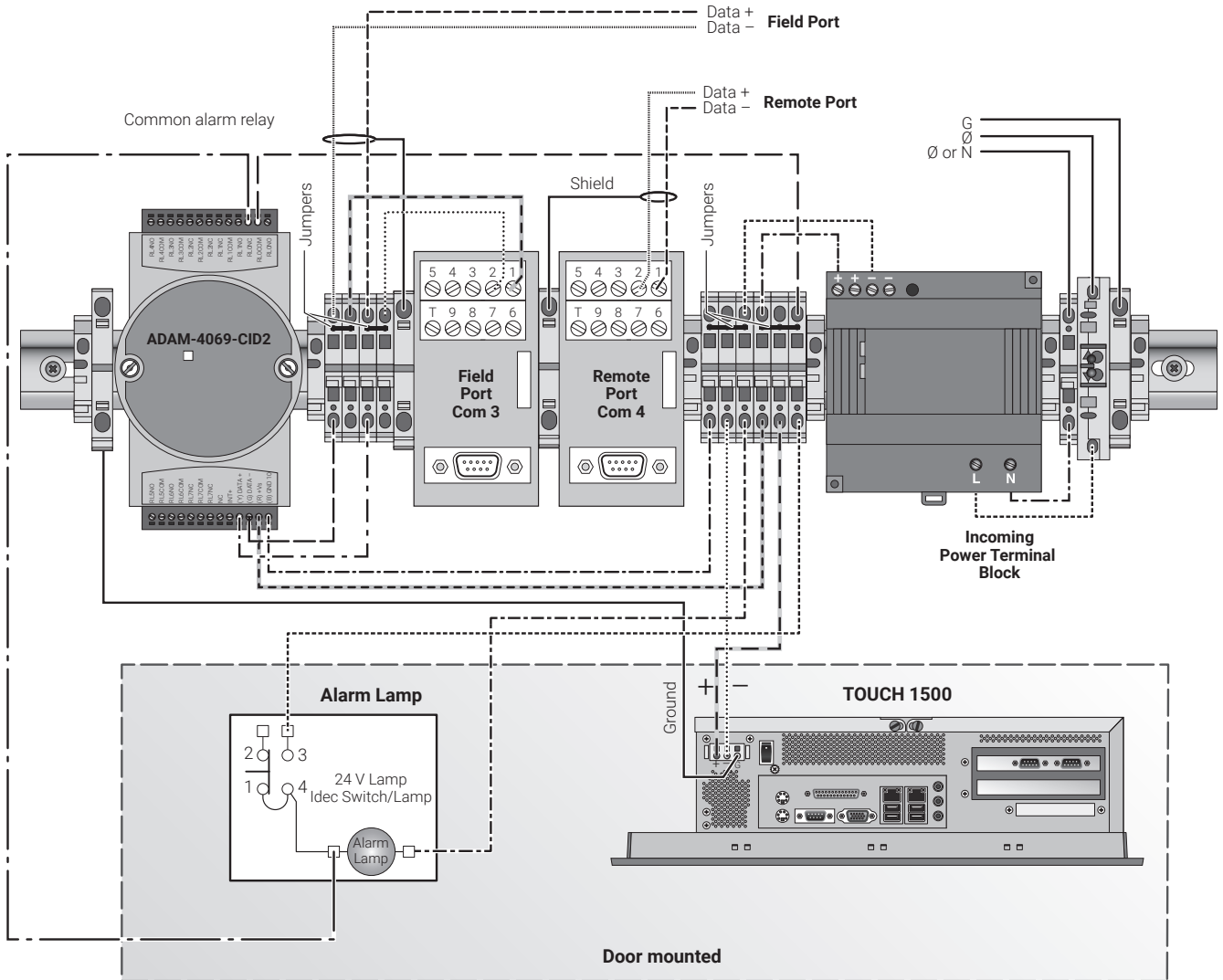
Remote Port Connection

* Mount the supplied 9-pin D sub to 10-pin terminal block on a DIN rail inside the panel enclosure.

Wire per schematic to the right.



Overview of Wiring



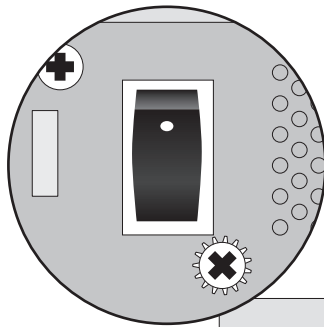
Servicing

The TOUCH 1500 contains no user-serviceable parts. Contact your nVent representative for service and an authorization number if required.

Cleaning

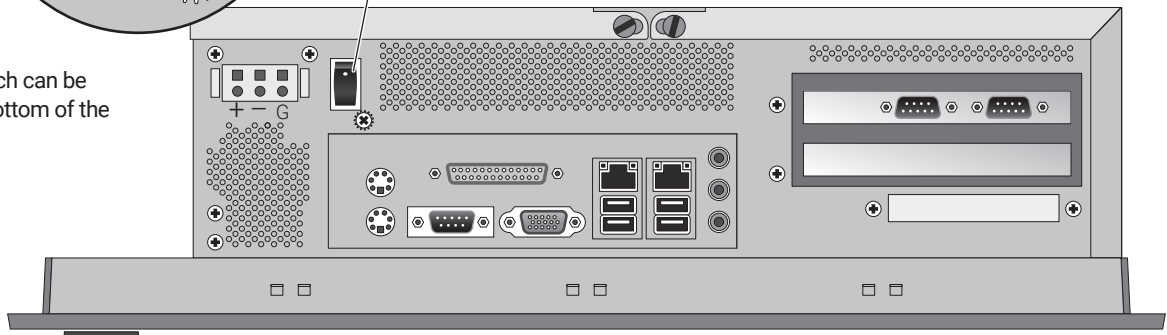
The touch screen area of the TOUCH 1500 may be cleaned with a damp or dry cloth. Typical window cleaning agents may be applied to aid in the removal of dirt, dust and grease. Do not use abrasive cleaners.

Reset Switch



Reset Switch

The Reset switch can be found on the bottom of the TOUCH 1500.



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