PRO-2200
Remote Enclosure
Installation Manual

Part Number: PRO22ENC3

Honeywell

TD1144 rev 0801

Table of Contents

Warnings and Cautions

WARNING

Before installation, **TURN OFF** the external circuit breaker which supplies power to the system.

Before connecting the device to the power supply, verify that the output voltage is within specifications of the power supply.

Do not apply power to the system until **after** the installation has been completed.

Personal injury or death could occur, and the equipment could be damaged beyond repair, if these WARNINGS are not observed!

WARNING

Fire Safety and Liability Notice

Never connect card readers to any critical entry, exit door, barrier, elevator or gate without providing **an alternative exit** in accordance with all fire and life safety codes pertinent to the installation. These fire and safety codes vary from city to city and you must get approval from local fire officials whenever using an electronic product to control a door or other barrier. Use of egress buttons, for example, may be illegal in some cities. In most applications, single action exit without prior knowledge of what to do is a life safety requirement. Always make certain that any required approvals are obtained in writing. DO NOT ACCEPT VERBAL APPROVALS, THEY ARE NOT VALID.

Engineered Systems never recommends using the PRO-2200 Series or related products for use as a primary warning or monitoring system. Primary warning or monitoring systems should always meet local fire and safety code requirements. The installer must also test the system on a regular basis by instructing the end user in appropriate daily testing procedures. Failure to test a system regularly could make installer liable for damages to the end user if a problem occurs.

WARNING

EARTH ground all enclosures, for proper installation.

WARNING

Use suppressors on all door strikes. Use S-4 suppressors for installation. Engineering Systems recommends only DC strikes.

CAUTION

IF ANY DAMAGE TO THE SHIPMENT IS NOTICED, A CLAIM MUST BE FILED WITH THE COMMERCIAL CARRIER RESPONSIBLE.

CAUTION

Electro-static discharge can damage CMOS integrated circuits and modules.

To prevent damage always follow these procedures:

Use static shield packaging and containers to transport all electronic components, including completed reader assemblies.

Handle all ESD sensitive components at an approved static controlled workstation. These workstations consist of a desk mat, floor mat and an ESD wrist strap. Workstations are available from various vendors.

NOTICE

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES WHEN WIRED USING METAL CONDUIT FOR THE CABLING EXTERNAL TO THE ENCLOSURE. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

NOTICE

NOTICE

Any use of this product is subject to the terms and acceptance of the Engineering Systems Software Agreement. Please request a copy from Engineering Systems, and review the agreement carefully.

Disclaimer

Product Liability; Mutual Indemnification

In the event that a Customer receives a claim that a Product or any component thereof has caused personal injury or damage to property of others, Customer shall immediately notify Engineering Systems in writing of all such claims. Engineering Systems shall defend or settle such claims and shall indemnify and hold Customer harmless for any costs or damages including reasonable attorneys' fees which Customer may be required to pay as a result of the defective Product or the negligence of Engineering Systems, its agents, or its employees.

Customer shall hold harmless and indemnify Engineering Systems from and against all claims, demands, losses and liability arising out of damage to property or injury to persons occasioned by or in connection with the acts or omissions of Customer and its agents and employees, and from and against all claims, demands, losses and liability for costs of fees, including reasonable attorneys' fees, in connection therewith.

Unpacking Procedure

CAUTION

If any damage to the shipment is noticed before unpacking, a claim must be filed with the commercial carrier.

All containers should be opened and unpacked carefully in order to prevent damage to the contents. The following steps are used to unpack equipment in preparation for installation:

1. Open the container and remove the unit(s) and all packing material. Retain the container and all packing materials. They may be used again for reshipment of the equipment, if needed.

2. Inspect the contents for shortage. If items are missing items, contact the order entry department at 800-323-4576.

3. Visually check contents. If damage is discovered, perform the following:

   If shipping caused damage to the unit, a claim must be filed with the commercial carrier.

   If any other defect is apparent, call 800-323-4576 for a return authorization.

Shipping Instructions

To ship equipment back to Engineering Systems:

1. Contact the customer service department at 800-323-4576 before returning equipment. Please have the following available when calling:

   - A description of the problem or reason for returning the equipment.
   - Original purchase order number, invoice number and if the unit is under warranty.
   - A new purchase order number if the unit is not under warranty

2. Obtain the Return Authorization Number (RMA) from the customer service department at 800-323-4576.

3. Show the RMA number on all packages shipped. Packages, which are not marked with an RMA number will be refused at the factory and returned **COD.**

4. Carefully pack the equipment for shipment. Use the original packing material whenever possible.

Limited Warranty

All Products sold or licensed by Engineering Systems include a warranty registration card which must be completed and returned to Engineering Systems by or on behalf of the end user in order for Engineering Systems to provide warranty service, repair, credit or exchange. All warranty work shall be handled through Customer which shall notify Engineering Systems and apply for a Return Merchandise Authorization (RMA) number prior to returning any Product for service, repair, credit or exchange. Engineering Systems warrants that its Products shall be free from defects in materials and workmanship for a period of two years from date of shipment of the Product to Customer. The warranty on Terminals, Printers, Communications Products and Upgrade kits is 90 days from date of shipment. Satisfaction of this warranty shall be limited to repair or replacement of Products which are defective or defective under normal use. Engineering Systems' warranty shall not extend to any Product which, upon examination, is determined to be defective as a result of misuse, improper storage, incorrect installation, operation or maintenance, alteration, modification, accident or unusual deterioration of the Product due to physical environments in excess of the limits set forth in Product manuals. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THIS PROVISION. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO REPRESENTATION OR WARRANTY OF THE DISTRIBUTOR SHALL EXTEND THE LIABILITY OR RESPONSIBILITY OF THE MANUFACTURER BEYOND THE TERMS OF THIS PROVISION. IN NO EVENT SHALL ENGINEERING SYSTEMS BE LIABLE FOR ANY RE-PROCUREMENT COSTS, LOSS OF PROFITS, LOSS OF USE, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES TO ANY PERSON RESULTING FROM THE USE OF ENGINEERING SYSTEMS' PRODUCTS.

Confidentiality

All software, drawings, diagrams, specifications, catalogs, literature, manuals and other materials furnished by Engineering Systems relating to the design, use and service of the Products shall remain confidential and shall constitute proprietary rights of Engineering Systems and Customer agrees to treat such information as confidential. Customer shall acquire no rights in the design of the Products or the related materials except to use such information solely for the purpose of and only during the time it sells the Products. Customer shall not copy the design of any of the Products or use or cause to be used any Product design or related materials for its own benefit or for the benefit of any other party. The covenants contained in this section shall remain effective throughout the term of this Agreement and thereafter unless specifically waived by Engineering Systems in writing.

PW-5000 Remote Enclosure

Description

The PRO-2200 Remote Enclosure allows for a variety of system configurations. It can be used in combination with the PRO22ENC1, for example to place modules closer to the doors they control. Or it can be used alone to house modules for a smaller system.

This enclosure can mount two full size PRO-2200 panels (PRO22IC,PRO22IN, PRO22OUT, PRO22R2) **OR** one full size panel, one PRO22R1 single reader panel and one PRO22MX8 multiplexer panel.

The 2 amp power supply provides power for the modules. The battery is a 4.0 amp hour battery capable of providing 2.5 to 4 hours backup, depending on configuration.

Dimensions

Height: 14" (0,356 m)

Width: 16" (0,406 m)

Depth: 4" (0,102 m)

Metal thickness: .05" (0,00127 m)

Color: Autumn White

Installation holes: Three hangers in a triangular pattern are provided for mounting the cabinet. The top two are located .29" from the top and spaced 13.75 inches apart. The lower hanger is located .930" from the bottom and 7.85" from each edge. See Enclosure Drawing.

Conduit Knockout

	½" (0,00127 m)	2" (0,0508 m)
Top Side:	3	1
Bottom Side:	3	1
Right Side:	3	1
Left Side:	3	0
Rear Side:	4	0

Power Supply

DO NOT USE POWER SUPPLY TO POWER LOCKS

- 12 VDC 2 amp continuous power limited output with backup battery charging and battery supervision.
- A 16.5 VAC 20 VA wall transformer is provided.
- Requires 115 VAC/60 hz.
- Maximum battery charge current .5 amp.
- AC on LED.
- AC Fail supervision.
- Low Battery Supervision (form "C" contacts).
- Short circuit and thermal overload protection.

Note: All power connection should be made with 18 gauge or larger wiring.

LED Diagnostics

AC LED	DC LED	
ON	ON	Normal operating conditions
OFF	ON	Loss of AC, standby battery supplying power
ON	OFF	No DC output
OFF	OFF	Loss of AC, Discharged or no Standby battery. No DC output.

Backup Power Supply

- Automatic Switch over to standby battery when AC fails (zero voltage drop).
- 4.0 amp hour sealed rechargeable battery (BAT-3).
- Backup time: 1 hr. at maximum 2 amp current draw (longer for configurations with lower current draw).

Cables Supplied

- Power On Light assembly.
- Tamper Switch assembly - Use of Tamper Switch is required by UL294.

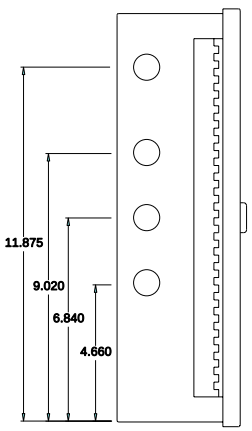
Maintenance

- Replace the 12V 4 amp hour battery every 2 to 2.5 years.
- Oil the hinges on the door every 12 months.

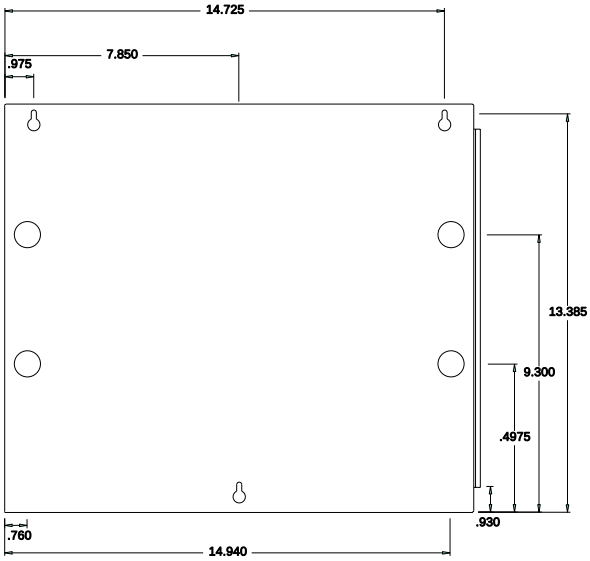
Operating Parameters

- Temperature: 35° F to 110° F (2° C to 43° C).
- Operating Humidity: Up to 85% non-condensing.

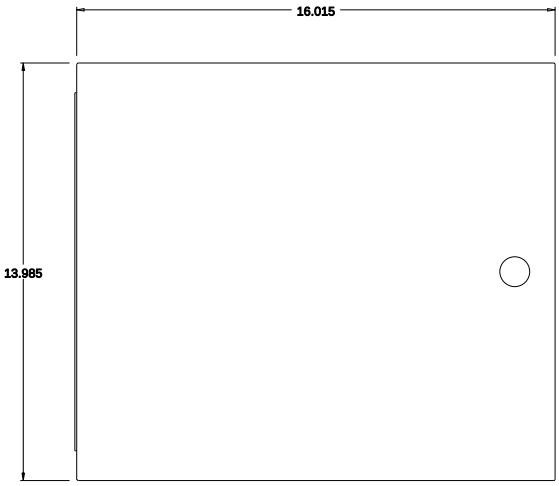
PRO-2200 Remote Enclosure



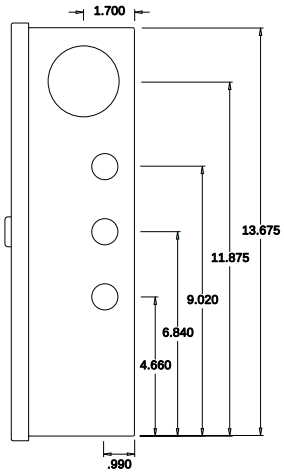
LEFT SIDE



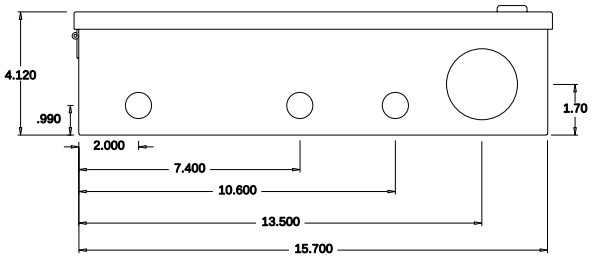
BACK



FRONT

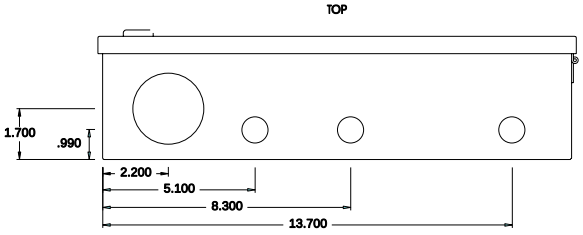


RIGHT SIDE



BOTTOM

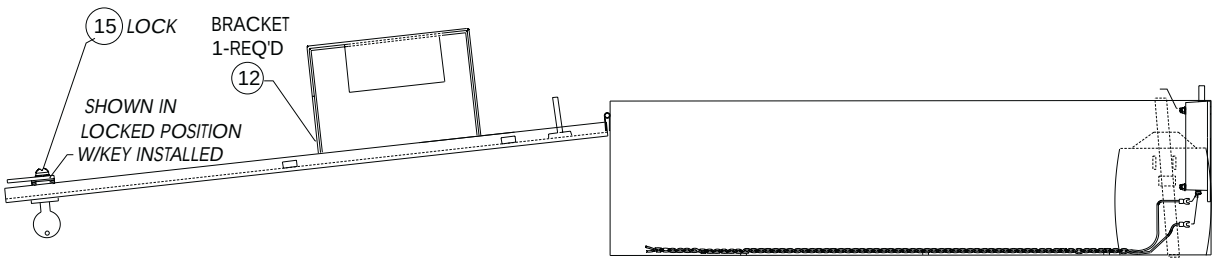
TOP



Installation Instructions

1. Remove the 16.5 V 20 VA wall transformer from the enclosure.
2. Measure and install the top two mounting screws with heads smaller than .4" (0,1016 m) using proper mounting techniques for the material being used to hold the PRO22ENC3. Space the screws 13.75" (0,349 m) apart. Leave the screws exposed approximately 1/2" (1.27 mm).
3. Open the door of the enclosure and place the hanging slots over the mounting screws. Push the enclosure over the mounting screws and allow the screws to slide into the slots. Finish tightening the mounting screws to securely hold the enclosure. Screw in the lower hanger to secure the enclosure against the wall.
4. Run all appropriate wiring to the case through **metal conduit**. Mark each wire as to the panel, location and input type. All cable shields should tie to the copper grounding stud found on the bottom left of the enclosure.
5. Install the required panels onto the proper standoffs using the supplied screws. **When using two full size panels make sure the unused standoffs have nylon screws in them to prevent short circuits on the panels**. This enclosure can mount two full size PRO-2200 panels **OR** one full size panel, one PRO22R1 single reader panel and one PRO22MX8 multiplexer panel.
6. Wire the readers, input and output connections (see wiring guide at end of booklet).
7. **Check all connections prior to powering up the enclosure and panels.**
8. Wire the power supply through the wall transformer provided. Connect to the AC terminals. Check the voltage at DC+ and DC-. The voltage should be approximately 13.8 VDC.
9. Disconnect the power.
10. Connect the DC power to the panels in parallel. Insure that the connection has the correct polarity. Follow the wiring diagram supplied with the panels.
11. Wire the AC FAIL and LOW BATT normally closed to appropriate inputs on the panels. See individual panel wiring diagrams supplied with the panels.
12. Connect the green and yellow Tamper Switch wires to the appropriate inputs on the panels. See individual panel wiring diagrams supplied with the panels.
13. Connect Communications wiring per the wiring diagram supplied with the panels.
14. Attach the red battery charging connection to the positive terminal of the battery. The negative connection is connected at the factory.
15. **Check all connections prior to powering up the enclosure and panels.**

Installation Diagram 1

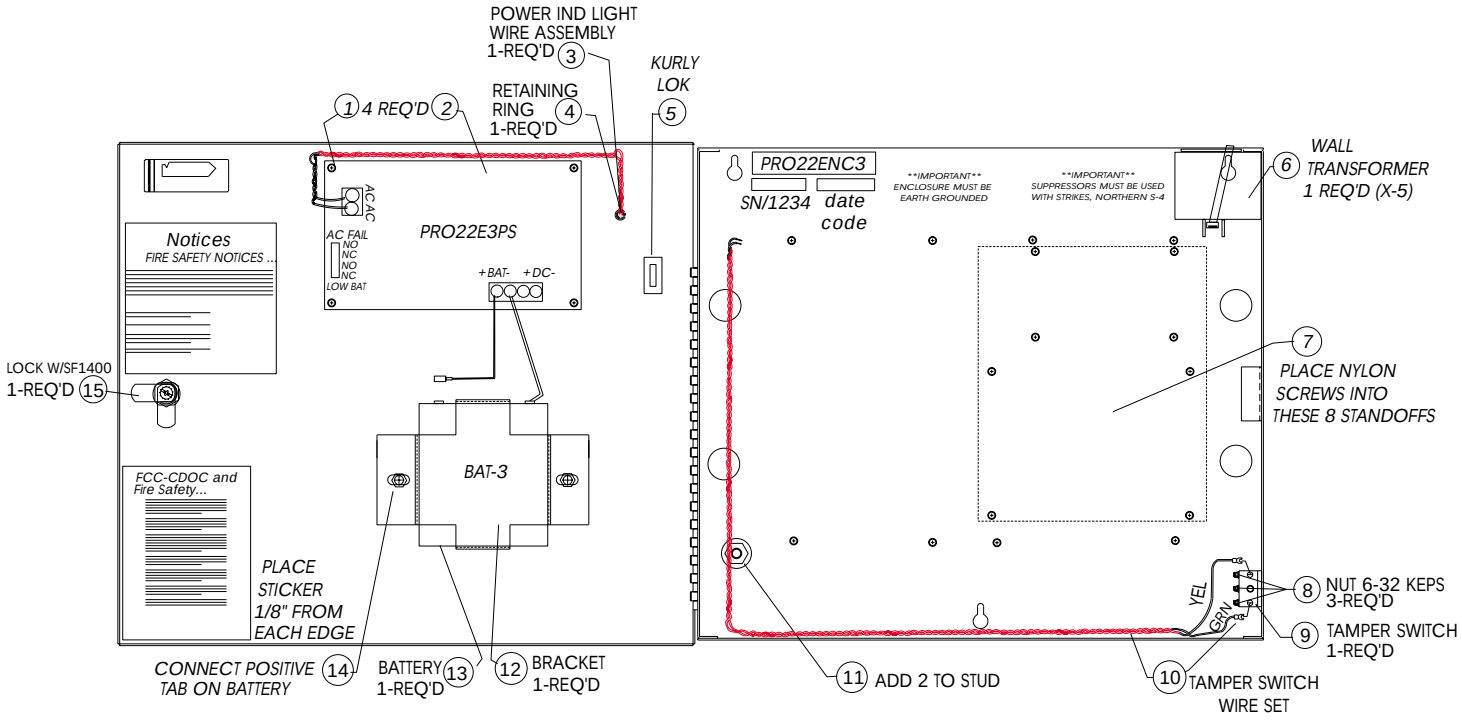


SIDE VIEW

Installation Diagram 2

Left Open View

Right Open View



Part	Description	
1	Screw 6–32 x 1/4"	12
2	12 VDC Power Supply	1
3	Power Indicator Light Assembly	1
4	Retaining Ring	1
5	Kurly Lok	1
6	16.4 VAC 20 VA Wall Transformer	1
7	Nylon Screws 6–32 x 3/16"	

8	KEPS Nuts 6–32	3
9	Tamper Switch	1
10	Tamper Switch Wire Assembly	1
11	Nuts 8–32	2
12	12 V Battery Bracket	1
13	12 V 4.0 amp hour Sealed Battery	1
14	Nut 1/4"–20 Hex with Nylon Insert	2
15	Lock with Key	1

Cable Specifications

Application	*NCI Part No.*	*AWG*	*Description*	*Max. Dist.*	*Imp.*	*Cap.*
N-485 connections	NC2442-TN	N/A N/A	Belden 9842 or equivalent	4000' (1200 m)	120Ω	12.8pf/ft
CR-1, TR-1, CI-1, KR-1 Wiegand card readers	NC1861-BL	18	6 conductor shielded	500' (152 m)		
NR-1 magstripe reader	NC1861-BL	18	6 conductor shielded	500' (152 m)		
PR-1-280 Cotag reader:						
280 read head to SZC	NC1861-BL	18	6 conductor shielded	300' (91 m)		
SZC to N-1000-II	NC1861-BL	18	6 conductor shielded	500' (152 m)		
PR-2 Hughes reader:						
scanner to reader	NC1861-BL	18	6 conductor shielded	30' (9 m)		
reader to N-1000-II	NC1861-BL	18	6 conductor shielded	500' (152 m)		
PR-3, PR-5 Indala readers:						
A-3/A-5 read head to RE-2	NC18121-YL	18	12 conductor shielded	75' (23 m)		
RE-2 to N-1000-II	NC1861-BL	18	6 conductor shielded	500' (152 m)		
PR-20 , PR-22 Indala readers:						
A-20/A-22 read head						
to RE-2	NC18121-YL	18	12 conductor shielded	75' (23 m)		
RE-2 to N-1000-II	NC1861-BL	18	6 conductor shielded	500' (152 m)		
PR-10, PR-12 Indala readers:	NC1861-BL	18	6 conductor shielded	500' (152 m)		
HG-3 hand geometry reader:	NC1861-BL	18	6 conductor shielded	500' (152 m)		
5 conductor keypad	NC1861-BL	18	6 conductor shielded	500' (152 m)		
Alarm input points	NC 2221-BR	22	2000' (610 m)			
Relay outputs	NC 1821-OR	18	twisted pair, shielded	2000' (610 m)		

NOTE: FOR PLENUM RATED CABLE JUST ADD A "P" TO ENGINEERING SYSTEMS' PART NUMBER PREFIX; FOR EXAMPLE NC1861-BL BECOMES PNC1861-BL

NCI Cable Part Numbers

Part Number	*Description*	*Application*	*Length*
NC1841-GY	18 AWG/4 conductor	reader cable	1,000'
NC1861-BL-500	18 AWG/6 conductor	reader cable	500'
NC1861-BL	18 AWG/6 conductor	reader cable	1,000'
NC18121-YL-500	18 AWG/12 conductor	keypad cable	500'
NC18121-YL	18 AWG/12 conductor	keypad cable	1,000'
NCNET-1	50 ohm	network cable	1,000'
NC2221-BR	22 AWG/2 conductor	alarm cable	1,000'
NC1821-OR	18 AWG/2 conductor	power/door cable	1,000'
NCC59206-BK	RG-59	video cable	1,000'
NCP1841-GY	18 AWG/4 conductor Plenum	reader cable	1,000'
NCP1861-BL-500	18 AWG/6 conductor Plenum	reader cable	500'
NCP1861-BL	18AWG/6 conductor Plenum	reader cable	1,000'
NCP18121-YL	18 AWG/12 conductor Plenum	keypad cable	1,000'
NCP18121-YL-500	18 AWG/12 conductor Plenum	keypad cable	500'
NCPNET-1	50 ohm Plenum	network cable	1,000'
NCP2221-BR	22 AWG/2 conductor Plenum	alarm point cable	1,000'
NCP1821-OR	8 AWG/2 conductor Plenum	power/door cable	1,000'
NC2442-TN	24 AWG/120 Ω 12.8pf RS-485 wire	communication cable	1,000'
NC2442-TN	24 AWG/120 Ω 12.8pf Plenum	communication cable	1,000'

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