

Honeywell

PRO-2200
One Reader Interface
Installation Manual
Part Number: PRO22R1

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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 test the system on a regular basis and instruct the end user in appropriate daily testing procedures. Failure to test a system regularly could make installer liable to the end user for damages 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. Engineered 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 that will require correcting at the users expense.

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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 Engineered Systems in writing of all such claims. Engineered 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 Engineered Systems, its agents, or its employees.

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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, 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 Engineered Systems:

1. Contact the customer service department at 800-323-4576 before returning equipment.

When calling, please have available:

- A description of the problem or reason for returning the equipment.
 - Original purchase order number, invoice number and whether or not the unit is still 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 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 Engineered Systems include a warranty registration card which must be completed and returned to Engineered Systems by or on behalf of the end user in order for Engineered Systems to provide warranty service, repair, credit or exchange. All warranty work shall be handled through Customer which shall notify Engineered Systems and apply for a Return Merchandise Authorization (RMA) number prior to returning any Product for service, repair, credit or exchange. Engineered 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. Engineered 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

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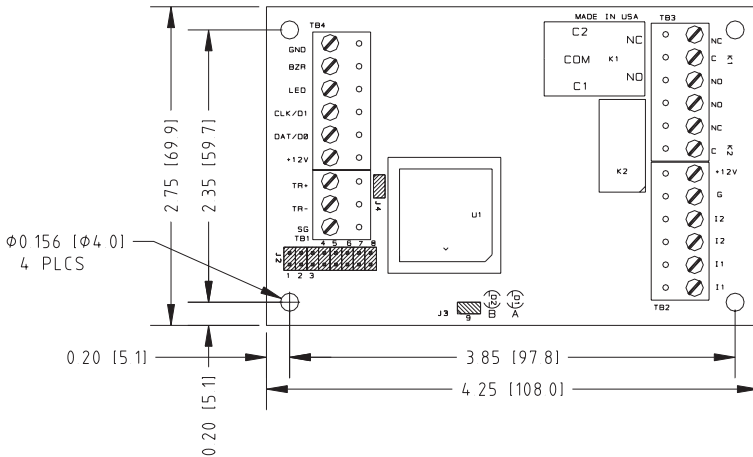
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Reader Interface (PRO22R1)

The PRO22R1 provides interfacing to a TTL/Wiegand type reader and door hardware as needed, for a single door. The Reader Interface can accept data from a reader with clock/data or Wiegand interface and provides a tri-stated LED control and buzzer control. Two form-C relay outputs may be used for strike control or alarm signaling. Two supervised inputs are provided for monitoring the door contact and exit push button and one input (J3) for enclosure tamper. Communication to the interface is accomplished via an RS-485 interface.



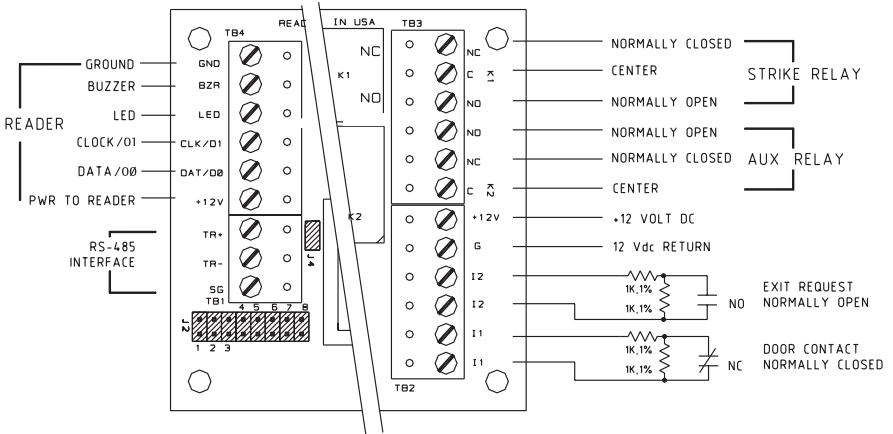
Power, Reader and Door Hardware Wiring

All interconnection to the Interface are via quick-disconnect terminal blocks. The Interface requires 12 VDC \pm 15% for power. The 12 VDC is available for powering a reader.

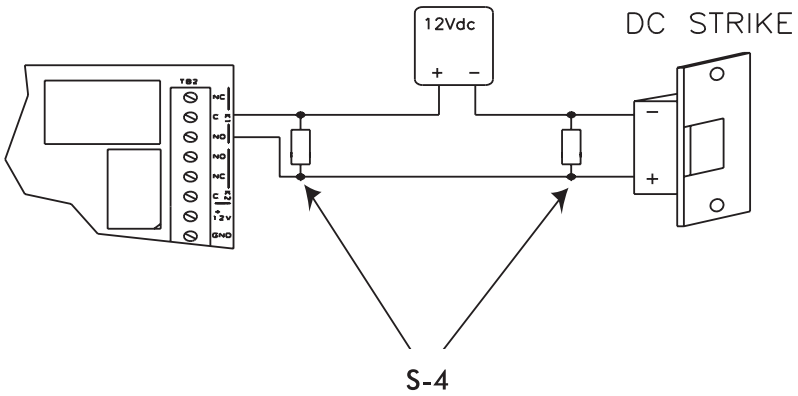
Reader with TTL (clock/data or wd1/wd0) interface is supported by the Interface.

Two supervised inputs are typically used for door contact and exit push button monitoring. End of line resistors are required for line supervision.

Two form-C relay contacts are provided for controlling door strike or other devices. The contact ratings are different on these outputs. Load switching can cause contact abnormal wear and premature contact failure. Switching of inductive loads (strike) also causes EMI (electromagnetic interference) which may interfere with normal operation of other equipment. To minimize contact premature failure and to increase system reliability, surge protectors should be used (Part #S-4).

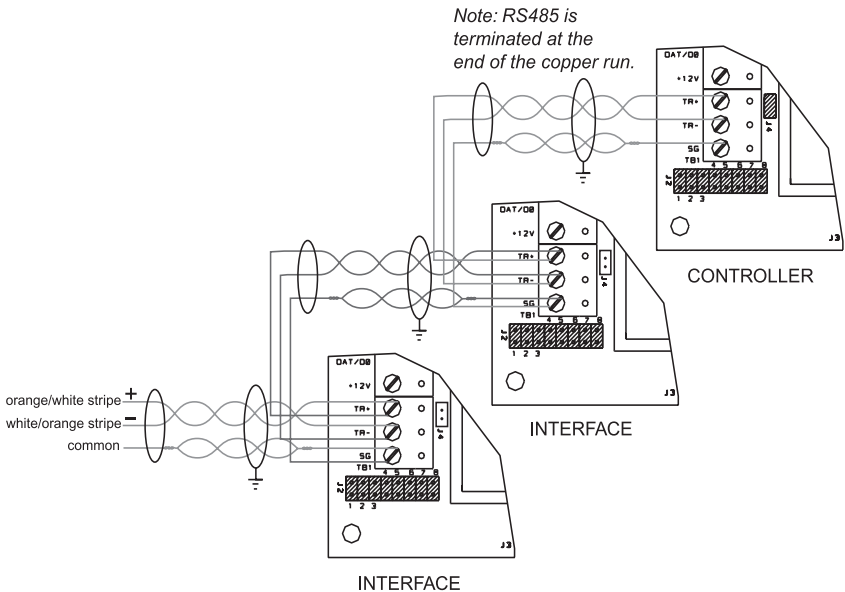



The following circuit is recommended. Locate the protection circuit that is close to the load and one at the PRO22R1 (within 12 inches [30cm]), as the effectiveness of the circuit will decrease if it is located far away.



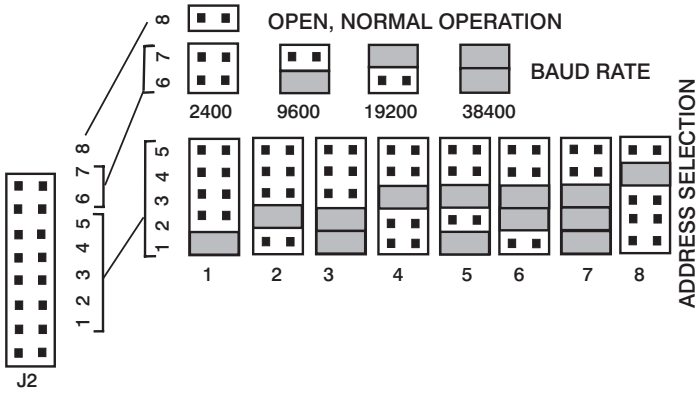
Communication to Controller

The Interface communicates to a controller via a half duplex multi-drop RS-485 interface. The total cable length is limited to 4,000 feet (1,200 meters). Shielded cable of 24AWG with characteristic impedance of 120 ohm and <13pf/ft capacitance is specified for the RS-485 interface. The last devices on both end of the cable should have the termination installed (set jumper J4 on).



 Represents that the shield must be grounded on one end.

Each Interface must be configured to have a unique address and correct baud rate. The address and baud rate are selected by installing the specified jumpers. Use 38400 as the standard Baud rate setting. See the following diagram.



Specifications

The Interface is for use in low voltage, class 2 circuits only.

Electrical

Voltage	12 VDC \pm 10%
Current	125mA max. (plus reader current 300 total max)
Relay Contacts	K1, 5A at 28 VDC; K2, 1A at 28 VDC
Monitor Inputs	2 supervised, End of Line resistors, 1k 1% ¼ watt standard
RS-485 Comm Cable	4,000' (1,219 m) max. 24 AWG, 2 twistedpairs shield with drain, 120 Ω impedance <13pf capacitance
LED Output	TTL compatible, high > 3V, low < 0.5V, 5mA source/sink max.
Buzzer Output	Open collector, 5 VDC open circuit max. 10mA sink max.
Reader Data Inputs	TTL compatible inputs
Reader Power	12 VDC, 175mA max.

Mechanical

Dimensions	4.25" W x 2.75" L x 1.4" H (108 mm W x 70 mm L x 36 mm H)
Weight	4 oz. (120 g) nominal

Environment

Temperature	-67° F to +185° F (-55° C to +85° C), storage 2° F to 50° F (0° C to 40° C), operating
Humidity	10% to 95% RHNC

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