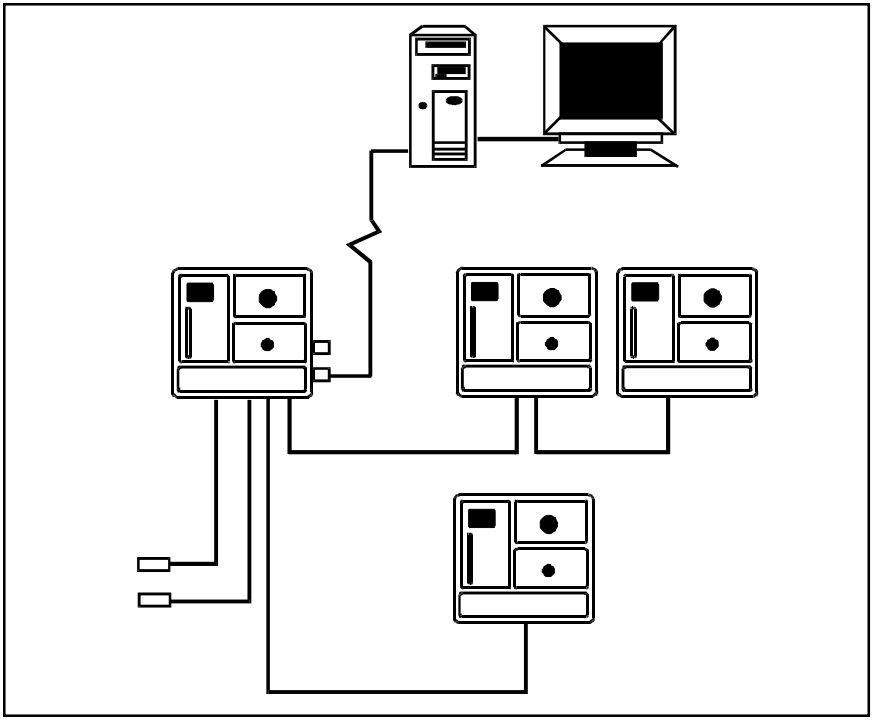
INTERFACE-3
INSTALLATION MANUAL



PRECAUTIONS



Fuses at the input and outputs of the interface adequately protect its circutry in the case of an overload or overvoltage. However, we recommend that you install an additional protection device on the supply circuit to prolong the life of the interface.

A signal circuit protector should be installed at each point where the communication cable enters or exits a building.

The room temperature where the interface is located MUST ALWAYS REMAIN BETWEEN 32°F AND 104°F (0°C TO 40°C).

To avoid exposing the interface to harmful gases or excessive humidity, it is preferable to install it in a corridor.

DO NOT SPRAY WATER ON THE INTERFACE

ALL WIRING MUST BE DONE BY AN AUTHORIZED ELECTRICIAN AND MUST COMPLY WITH APPLICABLE CODES, LAWS AND REGULATIONS. BE SURE POWER IS OFF BEFORE DOING ANY WIRING TO AVOID ELECTRICAL SHOCKS AND EQUIPMENT DAMAGE.

WHAT YOU NEED TO INSTALL THE INTERFACE-3

- **1 INTERFACE-3**

- **1 communication card** for each C or D series controller to be connected to the INTERFACE-3 (note that the WR-F-1A has a built-in communication card)

- **communication cable**: it must be made of two shielded twisted pairs with a gauge no less than 22 AWG. We recommend using a 75 Ohms impedance multi-strand cable for better protection against interference and greater strength, for example: BELDEN 8723, CAROL C1350, CAROL C1352, CAROL C1353. You can also use a BELDEN cable 89855, 1269A or 89696 with a Beldfoil shield.

- **ABS tubing** for underground wiring

- **signal circuit protectors**: a protector should be installed at each point where the communication cable enters or exits a building;

- **Software package** (optional): if you plan to connect your INTERFACE to a computer and/or a modem, this computer software package is required.

- **4800 bps (minimum) modem with a DB-9 (RS-232) cable** (optional): if you plan to connect your INTERFACE-3 to a modem.

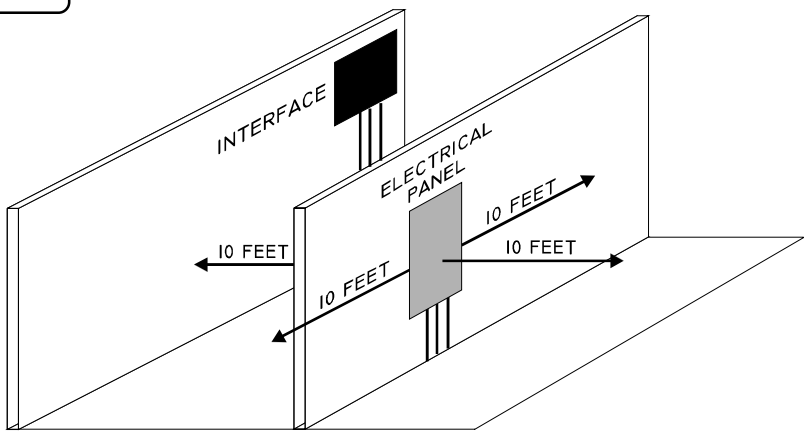
INSTALLATION PROCEDURE

1. MOUNT THE INTERFACE-3

Open the latch and lift the cover. Remove the black caps located on the four mounting holes. Mount the enclosure to the wall using four screws. Be sure the electrical knockouts are at the bottom of the enclosure in order to prevent water from entering the interface. Set the voltage switch to the appropriate voltage. Insert the screws into the mounting holes and tighten. **Fasten the black caps onto the mounting holes.**

CAUTION

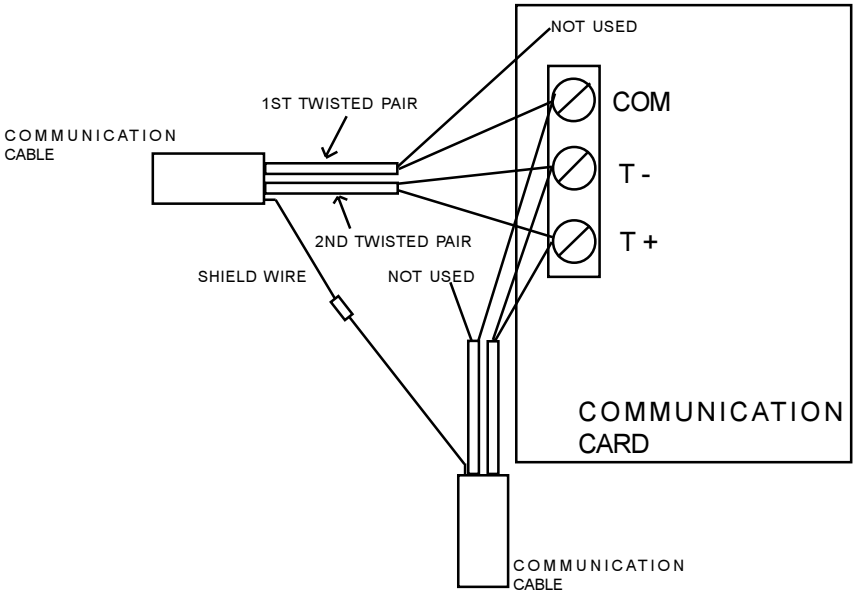
The interface must be mounted at least 10 feet from the electrical panel.



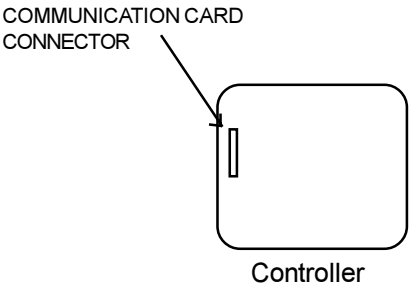
2. UNPLUG ALL C OR D SERIES UNITS

3. PLUG THE COMMUNICATION CARD INTO EACH C OR D SERIES UNIT

Open the C or D series controller cover. Thread the communication cable through the bottom of the controller. Connect the cable to the terminals of the COMMUNICATION CARD as shown below. When connecting two cable ends together, solder the joint and use a heat shrink to ensure a proper contact.

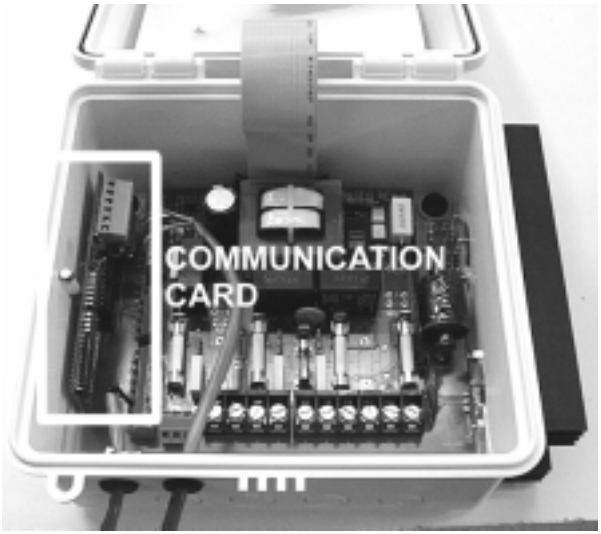


Line-up the COMMUNICATION CARD with the connector and insert it in the upright position (see photo below).



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Photo showing a communication card connected to a controller.



CAUTION

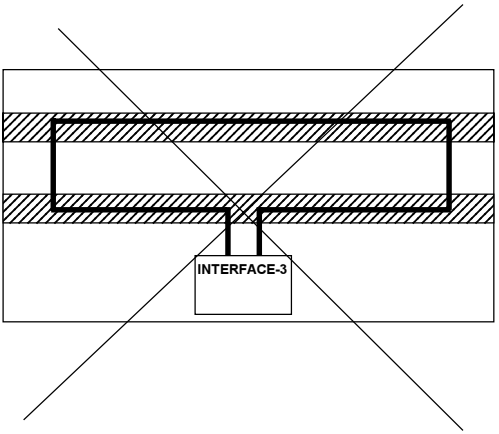
Use the electrical knockouts provided at the bottom of the enclosure. If additional holes are needed, they should be as small as possible on the bottom of the enclosure. Use rubber grommets to protect the cable.

Be sure the communication cable is isolated from all high voltage sources and fluorescent lights. Do not route the communication cable and power cables through the same electrical knockout. Do not run the communication cable next to power cables. When crossing power cables, cross at 90°.

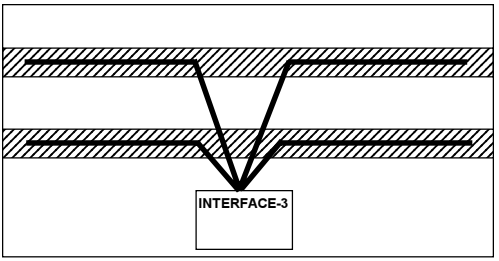
4. CONNECT THE COMMUNICATION CABLE BETWEEN THE C OR D SERIES UNITS AND THE INTERFACE-3

The communication cable must be connected serially between all the C or D series controllers and the INTERFACE-3. Up to 48 controllers can be connected to the interface in this way. For best results, connect the controllers in a star network with up to 5 points. The following diagram shows two methods for connecting the INTERFACE-3 to the controllers. For best results, use the second method.

METHOD 1: LOOP CONNECTION



METHOD 2: STAR CONNECTION





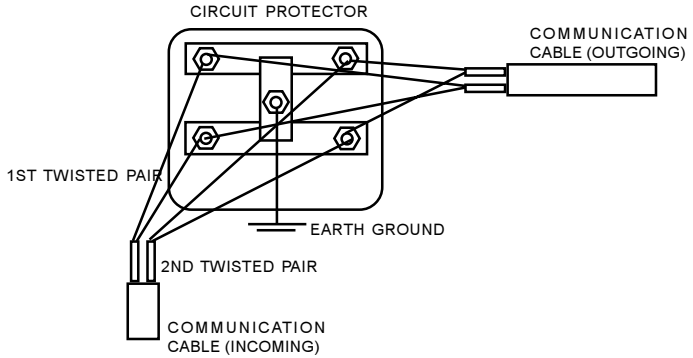
MAXIMUM LENGTH OF COMMUNICATION CABLE IS 2500 FEET (762m)

WARNING

DO NOT GROUND THE SHIELD WIRE! CONNECT THE SHIELD WIRES TOGETHER TO THE COM TERMINAL ON THE INTERFACE-3. GROUNDING THE SHIELD WIRE WILL VOID THE WARRANTY.

5. CONNECT SIGNAL CIRCUIT PROTECTORS ON EACH END OF THE COMMUNICATION CABLE BETWEEN BUILDINGS

We recommend using a Tii signal circuit protector model 325-1L. Install the circuit protector outside the building, near the ground and run the wires through the bottom.



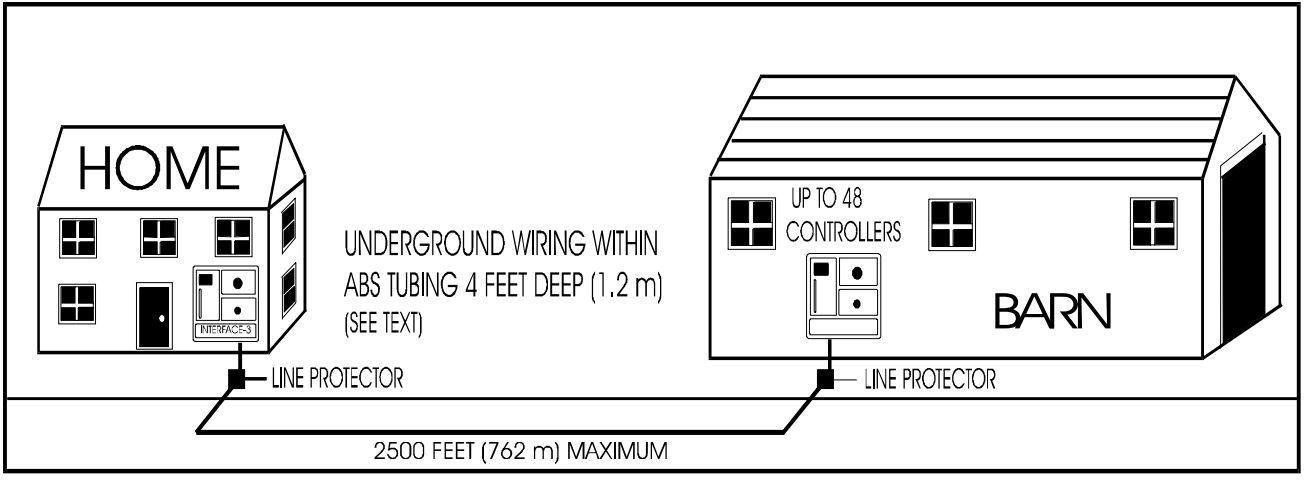
Dig trenches four feet deep and run the wire through ABS tubing. If you are using a BELDEN cable 89855, 1269A or 89696 with a Beldfoil shield, the cable can be buried slightly below ground level.

6. CONNECT PROBE WIRES TO THE INTERFACE-3

The interface is supplied with an outside temperature probe connected to terminal # 1. Up to three additional probes can be connected to the interface in order to obtain a more accurate reading of the outside temperature and a faster reaction time. Additional probes must be enabled separately from the front panel.

- Use inputs # 2, 3 and 4 to connect additional probes, as shown on the wiring diagram enclosed.

INSTALLATION OF SIGNAL CIRCUIT PROTECTORS ON COMMUNICATION CABLE



Each probe can be extended up to 500 ft (150 m). To extend the probe:

- Use a shielded cable of outside diameter between 0.245 and 0.260 in (6.22 and 6.60 mm) to ensure the cable entry is liquid-tight (the cable dimension must not be under 18 AWG).

- When connecting the two cable ends together, it is preferable to solder the joint and use a heat shrink to ensure a proper contact.

Run the probe cable on the north side of the building, 6 ft (2 m) below the cornice, inside a pale coloured conduit. Be sure no cable joint is exposed to air or water.



Probes operate under low voltage and are isolated from the power supply. Be sure probe cables are isolated from all high voltage sources. Do not route probe cables and power cables through the same electrical knockout. Do not run probe cables next to power cables. When crossing over power cables, cross at 90°.

DO NOT GROUND THE SHIELDING!

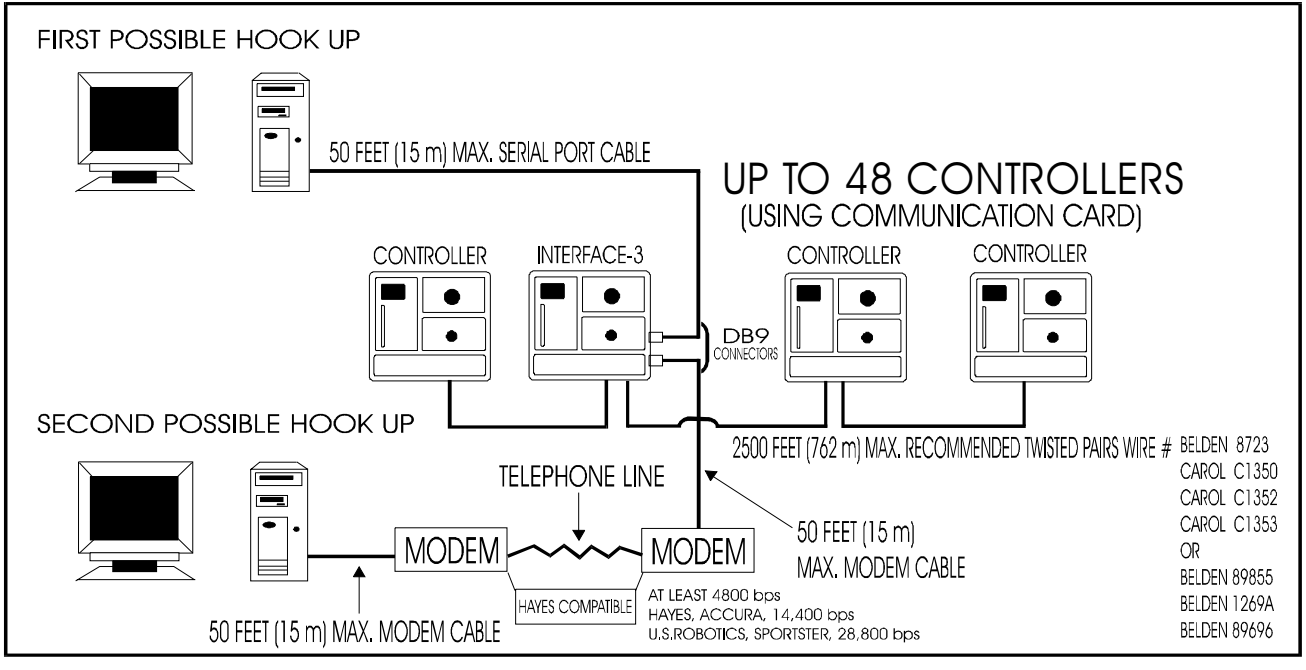
7. MAKE THE ALARM CONNECTIONS TO THE INTERFACE-3

There are two types of alarms in the industry. One type is activated when current is cut off at its input, whereas the other is activated when current is supplied at its input. For an alarm of the first type, use the NC terminal as shown on the wiring diagram. For an alarm of the second type, use the NO terminal.

8. CONNECT THE COMPUTER AND MODEM TO THE INTERFACE-3 (OPTIONAL)

The INTERFACE-3 interface can be connected to a computer directly or via a modem connection. A DB-9 (RS-232) cable is provided with the interface for a direct computer connection. The total length of the communication cable between the interface and the computer must not exceed 30 ft (9 m).

COMPUTER AND MODEM CONNECTIONS FOR THE INTERFACE-3



INTERFACE-3

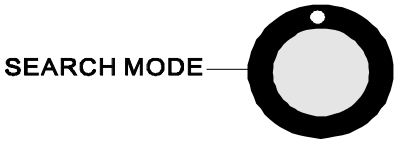
If a modem is used, it must be an external modem operating at 4800 bps (min.). Protect the modem from dust and humidity. Note that the interface may take up to five minutes to detect the modem. To force a detection, turn the power off and on to the interface while the modem is on.

INITIALIZING THE INTERFACE-3

Before using the interface, follow the initialization procedure described below. During this procedure, the interface counts the total number of controllers, determines their model and give each one an identification number. If you later remove, add or replace a controller, the interface will need to be initialized once again. Make sure the probe wires are properly connected to the C/D series controllers before launching the initialization. If a WR-F-1A is included in the group of controllers to be monitored by the INTERFACE-3, put it in manual mode before launching the initialization.

STEP 1: Searching for Controllers

This first step allows the interface to count the total number of controllers and to determine the model of each controller.



- Set the parameter selection knob to **INSTALLATION—SEARCH MODE**. If the controllers have never been detected before, the number "0" appears on the display. If the controllers have been detected before, the number of detected controllers appears on the display.

- Press the push-button. The controller search pilot light turns on and a dash sweeps the display, indicating that the interface is communicating with the controllers. After 4 minutes, the pilot light turns off and the number of controllers found appears on the display.

Note: If the search is interrupted before it is completed, the interface may not function properly. The search must be relaunched.



More than one search may be needed in order to detect all the controllers linked to the interface, especially when there are more than twenty controllers. This happens when two or more controllers try to communicate with the interface at the same time. Relaunch the search until the number of controllers detected remains stable.

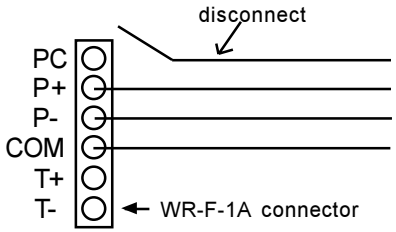
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Initializing an INTERFACE-3 connected to a controller with a WR-F-1A

Before launching the search, make sure the WR-F-1A is turned on and in manual mode with no outstanding alarms. If the search does not detect all the controllers, even after several tries, turn the selector knob to the **DISPLAY ID #** position to identify the controllers that were detected. If the undetected controllers are linked to the WR-F-1A, follow the procedure outlined below to complete the search.

a) **CUT OFF POWER TO THE WR-F-1A BEFORE PROCEEDING TO AVOID DAMAGING THE UNIT.**

b) Disconnect the PC wire (red wire) on the communications connector of the WR-F-1A connected to the undetected C/D series controller.

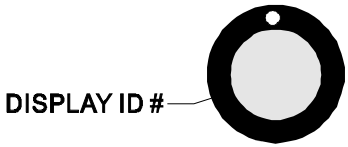


c) Power the WR-F-1A on and start a new search on the INTERFACE-3.

d) If certain controllers are still not detected, check the connections on the communications card for these controllers. When you are finished the search, reconnect the PC wire on the WR-F-1A.

STEP 2 : Numbering the Controllers

This second step allows the interface to number each of the previously detected controllers.



- Set the parameter selection knob to **INSTALLATION — DISPLAY ID #**. The interface continues to display the number of detected controllers and after 2 seconds, all the controllers display their identification number.

Note: The DISPLAY ID# function does not work on controllers in cleaning mode. Stop the cleaning mode on all controllers before launching the DISPLAY ID # function.

STEP 3 : Renumbering the Controllers

This third step allows you to change the controller identification numbers if necessary. Changing the identification numbers requires two people: one person executes the procedure on the interface while the other verifies the numbers displayed by the controllers.



- Set the parameter selection knob to **INSTALLATION — CHANGE ID #** and press the push-button. The number "1" appears simultaneously on the display of the interface and on the display of the controller which has this identification number.

Repeat the following steps until all the controllers have the desired identification number:

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- Turn the adjustment knob of the interface clockwise or counterclockwise by one notch. The number disappears from the display of the controller and appears on the display of another controller. Continue to turn the adjustment knob until the number appears on the display of the desired controller.

- Press the push-button. The following number appears simultaneously on the display of the interface and on the display of the controller which has this identification number.

  ➡ *Return to the previous step.*

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
There is no display.	The circuit breaker at the service panel is off or tripped.	Reset the circuit breaker or replace the fuse.
	The wiring is incorrect.	Correct the wiring.
	The voltage selector switch is in the wrong position.	Set the switch to the correct position.
	The display board interconnect cable is not properly plugged into the power supply board.	Be sure the cable is firmly plugged in.
The defective probe pilot light is on.	One of the probes is defective.	Identify the defective probe by displaying each probe temperature until a P is displayed; replace the probe.
	A probe is not connected properly (wire short or open).	Check the probe wires and connections.
The display shows sudden variations in the outside temperature.	A variation in resistance is induced on the probe.	Be sure the probe is dry and move it away from drafts and from any source of radiant heating.
	There is electrical noise near the cable of the probe.	Be sure the probe cable is isolated from all high voltage sources.

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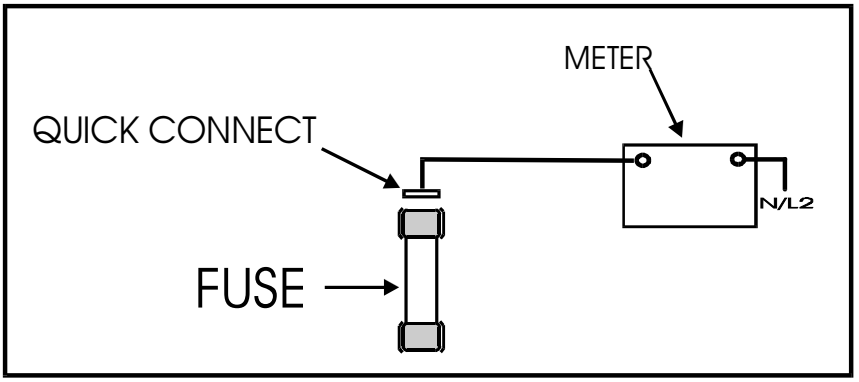
PROBLEM	CAUSE	SOLUTION
The alarm pilot light is on but the alarm is not activated.	The alarm output fuse is open.	Replace the fuse.
	The display board interconnect cable is not properly plugged into the power supply board.	Be sure the cable is firmly plugged in.
	The wiring is incorrect.	Correct the wiring.
	The alarm is defective.	Replace the alarm.
	The interface is defective.	Listen to see if there is a clicking sound when the alarm pilot light turns on (after a 40 second delay). If there is no clicking sound, the interface is defective. Contact your distributor to repair the interface.
The interface does not detect any controllers during STEP 1 of the initialization procedure.	The C or D series controllers are not plugged in.	Plug the controllers.
	There is a short circuit or open wire on the communication cable.	Repair the cable.
	A communication card is not properly connected to a controller.	Be sure all the communication cards are properly connected.

PROBLEM	CAUSE	SOLUTION
The interface does not detect any controllers during STEP 1 of the initialization procedure. (continued)	A communication card is short circuited.	Use an ohmmeter across T- and T+ , across COM and T- and across COM and T+ on each communication card. If the value read is zero, the module is defective and must be replaced.
The number of detected controllers during STEP 1 of the initialization procedure is lower than the number of controllers connected to the interface.	A communication card is not connected properly or is defective.	1° Disconnect and reconnect the communication card of the controllers which are not displaying their identification numbers. 2° Repeat STEP 2 of the initialization procedure. If the controller is still not displaying its identification number, the communication card is defective. 3° Replace the defective communication card.
	More than one search may be needed in order to detect all the controllers, especially if there are more than 20 controllers.	Start another search.
	If you have a WR-F-1A controller connected to the C or D series unit, it can interfere with the search.	Disconnect the PC wire in the WR-F-1A controller and start another search. Reconnect the PC wire in the WR-F-1A after the search is done.

PROBLEM	CAUSE	SOLUTION
The interface does not communicate with the controllers and detects power failures even when power is supplied.	The INTERFACE-3 is being powered on 12VDC.	The INTERFACE-3 does not communicate when supplied by 12VDC. Use AC power.

BLOWN FUSE DETECTION

Connect a meter to the male connector above each fuse. If the output is activated but the meter reads no current, the fuse is blown.



TECHNICAL SPECIFICATIONS

Supply: - 115/230 VAC, 50/60 Hz, overload and overvoltage protection fuse F1-1A fast blow.

Alarm 1: 115/230 VAC, 50/60 Hz, 30 VDC, 3A, fuse F2-3A slow blow.

Alarm 2: 115/230 VAC, 50/60 Hz, 30 VDC, 3A, fuse F3-3A slow blow.

Probe: Low voltage (< 5V), isolated from the supply. Operating range: -40.0 ° to 120.0 ° F (-40.0 ° to 49.0 ° C). Accuracy: 1.8°F (1°C) between 41° and 95°F (5° and 35°C).

Enclosure: ABS, moisture and dust-tight.