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**NORMAS OFICIALES MEXICANAS (NOM) ELECTRICAL SAFETY
STATEMENT****INSTRUCCIONES DE SEGURIDAD**

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
 2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
 3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
 4. Todas las instrucciones de operación y uso deben ser seguidas.
 5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
 6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
 7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
 8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá de lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
 9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquear la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
 10. El equipo eléctrico debe ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
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11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

TRADEMARKS USED IN THIS MANUAL

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1. Specifications

Interfaces —	SW705A: EIA RS-232; SW706A: IBM® PC parallel; SW707A: EIA RS-422 pinned to RS-530
Leads Monitored —	SW705A: Trans. & Recv. Data; SW706A: STROBE; SW707A: Transmitted Data
Data Rate —	SW705A: Transparent to all speeds up to 115.2 Kbps; SW706A: Transparent to all speeds; SW707A: Transparent to all speeds up to 200 Kbps
Maximum Distances —	Comply with those given in the official specification for each interface
User Controls —	(2) Front-mounted: (1) RESET pushbutton; (1) DISABLE toggle switch; (2) Internal: (1) DIP bar switch for AC-power selection; (1) 9-position terminal block for alarm-output selection
Indicators —	(2) LEDs: (1) Front-mounted: OUTPUT; (1) Rear-mounted: POWER

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Connectors —	(2) Front-mounted: (1) DB25 female for data output, (1) IEC 320 power outlet; (2) Rear-mounted: (1) DB25 male for data input, (1) IEC 320 power inlet
Leads/Signals Supported —	All (transparent to all signals)
Fuse —	5-amp Slo-Blo
MTBF —	67,000 hours
Maximum Altitude —	15,000 ft. (4572 m)
Operating Temp. —	32 to 158°F (0 to 70°C)
Storage Temp. —	23 to 212°F (-5 to 100°C)
Humidity —	0 to 95% noncondensing
Enclosure —	High-impact plastic
Power —	From outlet: Either 120-VAC, 60 Hz, or 240-VAC, 50 Hz (user-selectable) through detachable 6-ft. (1.8-m) line cord to internal power supply
Size —	2.5"H x 8"W x 6.3"D (6.4 x 20.3 x 16 cm)
Weight —	2 lb. (0.9 kg)

2. Introduction

Your Data Alarm alerts your personnel to abnormal conditions by providing AC power to another device (such as an alarm light, bell, or buzzer) when data from a third device (such as a sensor, computer, or intelligent shop-floor machine) starts flowing through the Alarm on its way to a fourth device (such as a printer or modem). You can install the alarm directly into the cable path that you want it to monitor. Figure 2-1 on the next page shows a typical application.

Data Alarms are currently available in three versions: The RS-232 Data Alarm (SW705A) monitors the Transmitted Data (TD) and Receive Data (RD) leads on a serial RS-232 line; the Parallel Data Alarm (SW706A) monitors the STROBE lead on a parallel line; and the RS-422 Data Alarm monitors the Transmitted Data (TD) lead on a serial RS-422 line pinned to the RS-530 specification.

(If you are using a different type of interface, or if your application requires the Data Alarm to react to the *absence* rather than the *presence* of data, call your supplier for technical support. They might be able to give you a quote on a custom unit.)

If you want the Data Alarm to switch dry contacts instead of AC power, you can easily select this function by rewiring the terminal strip inside the Alarm. See **Section 3.2**.

DATA ALARMS

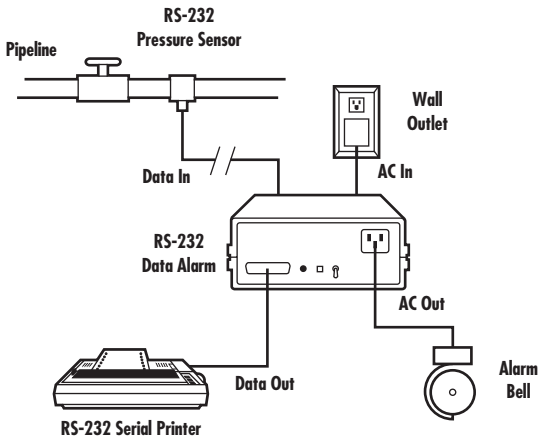


Figure 2-1. A typical application for an RS-232 Data Alarm.

3. Installation

3.1 Before You Install

As you unpack your Data Alarm, make sure that you received (1) Alarm unit, (1) detachable power cord, and (1) copy of this manual. If you didn't receive something, or if anything is damaged, notify your supplier immediately.

Before installing your Data Alarm, put on insulated gloves. (You should always wear gloves when installing cabling or in-line devices, especially when significant voltages could be transmitted across the cables.) We also recommend that, where possible, you turn off the data-source device (the one whose data transmissions you want the Data Alarm to monitor) and data-destination device and disconnect them from their power sources.

CAUTION!

During installation, you should never work on both sides of your data circuit at the same time. Do not connect both cables to your Alarm simultaneously—if you do, you could become part of a circuit and risk electrical shock.

3.2 The Installation Procedure

To install your Data Alarm, take these steps:

1. Place the Data Alarm somewhere between the devices you want to connect, within 6 ft. (1.8 m) of a working AC outlet.
2. Set the Alarm's DISABLE switch to the DISABLE (up) position.
3. If you are using 120-volt AC power, go on to Step 4. If you want 240-VAC output, you will have to set the Data Alarm's internal power-selection DIP switch.

CAUTION!

When the Data Alarm is plugged in, 120 or 240 volts of AC power passes through its circuitry. NEVER open the unit or make any internal adjustments to it while it is plugged into a source of AC power.

First open the Alarm: Unscrew and remove the two Phillips screws on the bottom of the unit and remove its cover. You will see a DIP bar switch labeled "S3" and "120-VAC↔240-VAC" on the Alarm's circuit board. Move this switch to the "240-VAC" position.

4. If you want the Alarm's output to be switched-ON AC power (power comes on when data is sensed), go on to Step 5. If you want switched-OFF AC power (power goes out when data is sensed) or dry-contact (relay switches when data is sensed) output, you will have to rewire the Alarm's terminal block. If you haven't already, open the Alarm (see the previous step). You

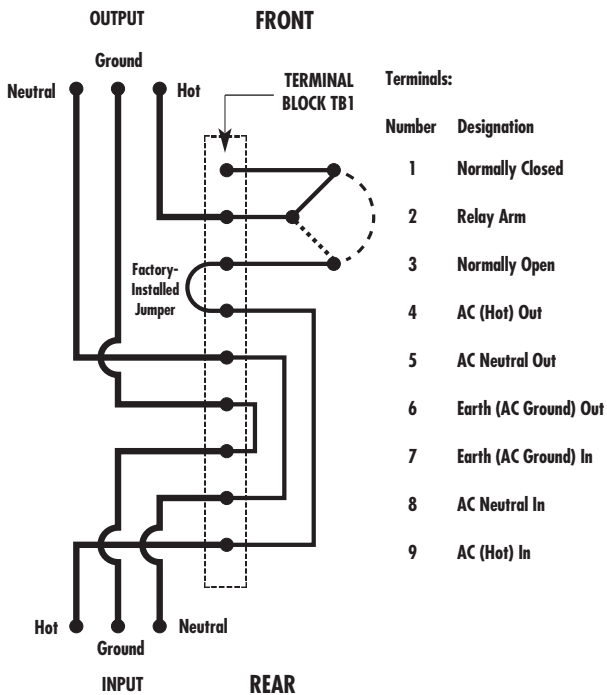


Figure 3-1. The internal AC-power and relay wiring of the Data Alarms.

will see a terminal strip labeled TB1 on the Alarm's circuit board. The terminals are wired as shown in Figure 3-1 on the next page.

To get switched-OFF AC-power output, remove the jumper between terminals 3 and 4 and install a jumper between terminals 1 and 4.

To get dry-contact output, remove the jumper wire between terminals 3 and 4, then connect your common lead to terminal 2 and your switched lead(s) to terminal 1 and/or terminal 3. The simple way to do this is to disconnect the AC-out wires from terminals 2, 5, and 6, take out the Data Alarm's removable outlet block, and run your wiring through the hole.

You could also do this by detaching one or both of the AC neutral out and AC ground out wires from terminals 5 and 6 and reattaching it/them to terminal 1 and/or 3; this way, you can easily plug your wiring into, and unplug it from, the Data Alarm's outlet. (As long as no jumpers or wiring are connected to terminal 4, there is no danger of AC power coming out of the Data Alarm's outlet.)

For help with this rewiring, call Black Box for technical support.

5. If you opened the Alarm in step 3 or 4, close it by replacing its cover and screwing the two screws back in.
6. If you haven't already, plug one of your data cables into the data-source device (the one whose output you want the Alarm to monitor). (As you attach your cables to devices, make sure the connectors are firmly seated.)

7. Run this cable to the Data Alarm's location and plug its other end, which must be a DB25 male connector, into the INPUT port on the Alarm's rear panel, making sure to tighten the screwlocks.
8. If you haven't already, plug the other cable into the data-destination device. Run that cable to the Data Alarm's location and plug its other end into the OUTPUT port on the Alarm's front panel, again tightening the screwlocks.
9. Once you've finished connecting the data lines, plug the alarm device (the one you want to get power if the Data Alarm detects data traffic) into the outlet on the Data Alarm's front panel.
10. Now plug the female end of the Data Alarm's power cord into the power inlet on the Alarm's rear panel. Plug the male end of the cord into a working AC outlet. The POWER LED on the Alarm's rear panel should light up.
11. Move the DISABLE switch on the Data Alarm's front panel to the ENABLE (left) position.
12. Plug in and turn on the data-source and data-destination devices. If the alarm device has a POWER ON/OFF switch, turn it on as well.

This completes your Data Alarm installation. The Alarm system should be ready for continuous operation.

4. Operation

Once you have installed the Data Alarm and plugged it in, nothing further needs to be done to make the Alarm operational. Unless it stops receiving power or is damaged, the Alarm will monitor the connected data line indefinitely.

However, we strongly recommend that you test your Alarm system before you depend on it to function properly in an emergency situation. To do this, force your data-source device to send data; you might be able to do this easily if the data-source device has a “test” setting. As soon as the Data Alarm senses the presence of data (both now, for this test, and in all future alarm conditions), the OUTPUT LED on the front panel of the Data Alarm should light up, the alarm device should emit its alarm, and the data-destination device should begin receiving the data.

Assuming everything works, then to stop the alarm (both now, in this test, and in all future alarm conditions), press the RESET button on the Data Alarm’s front panel. This will cut power to the alarm device, but it will not stop data from flowing to the destination device. Be aware, however, that as long as it continues to sense data, the Data Alarm will resume providing AC power as soon as you release the RESET button. For the Data Alarm to be fully restored to its normal monitoring state, you must wait until the data stops flowing through it, *then* press RESET.

If the first test fails, check each of these possibilities and repeat the test:

- Make sure all of your data cables and AC power cords are securely attached.
- Make sure all of the devices connected to the Data Alarm are plugged in and turned on. (The Data Alarm has no POWER ON/OFF switch—it begins operating as soon as it is plugged in.)
- Make sure the Data Alarm's DISABLE switch is in the ENABLE (left) position.

If the second test fails and you can't figure out why, call Black Box for technical support.

If at any time you want to send data from the source device to the destination device without triggering the Data Alarm, move the Data Alarm's DISABLE switch to the DISABLE (right) position—but be very careful to return this switch to the ENABLE (left) position when the transmission is finished.

5. Troubleshooting

5.1 Calling Black Box

If you determine that your Data Alarm is malfunctioning, *do not attempt to alter or repair it*. Contact Black Box Tech Support. The problem might be solvable over the phone.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- The nature and duration of the problem.
- When the problem occurs.
- The components involved in the problem.
- Any particular application that, when used, appears to create the problem or make it worse.

5.2 Shipping and Packaging

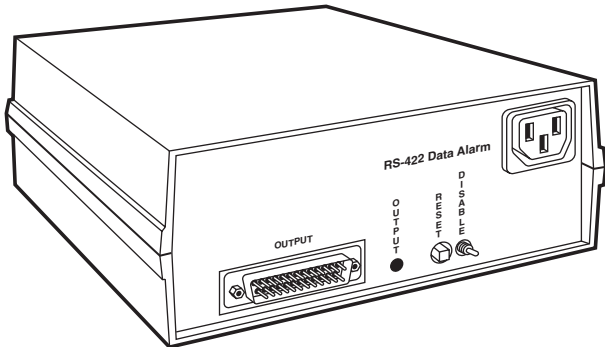
If you need to transport or ship your Data Alarm:

- Package it carefully. We recommend that you use the original container.
- If you're shipping the Alarm for repair or return, include everything you received with it. Before you ship the Alarm for repair or return, contact Black Box to get a Return Materials Authorization (RMA) number.

NOTES



Data Alarms



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
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