

Instruction Sheet

Remote Alarm Controller

The Remote Alarm Controller is used to indicate when the monitoring unit has exceeded its preset trigger levels for a Warning signal and Alarm signal. The trigger level settings can be configured based on the specific sensors connected to the units. The secondary Alarm trigger levels must be set higher than the Warning trigger levels.

The remote alarm outputs are isolated from the seismograph using normal open relay contacts capable of switching loads up to 2 amps and 24 volts DC.

The connections from the remote alarm output terminals to the alarm device(s) can be extended over long distances provided there is enough voltage available for the alarm device.

Example: Pile driving operations often monitor ground vibrations. The remote alarm can trigger a **Warning** signal to notify an operator that the activity has exceeded the preset trigger level and appropriate action may be required. If the secondary **Alarm** triggers, (when activity exceeds the dedicated Vibration Alarm Trigger Level) the operator is notified that operations should cease immediately.

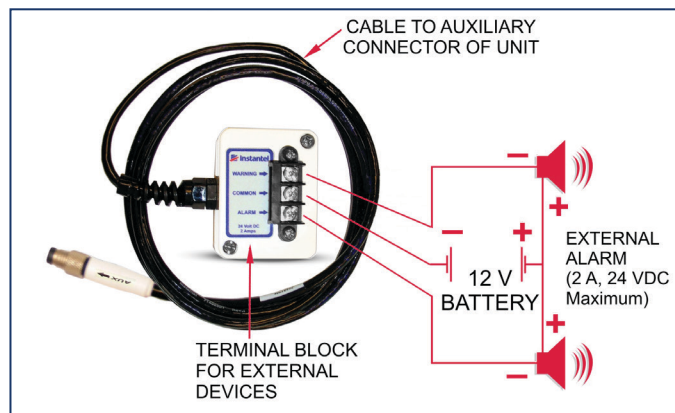
Tools and Materials Required

Micromate

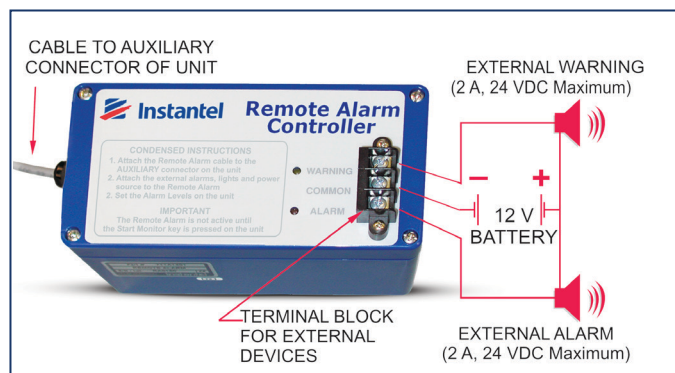
- Micromate ISEE Base Unit (P/N: 721A2501) or
- Micromate DIN Base Unit (P/N: 721A2601) or
- Micromate Swedish Blasting Base Unit (P/N: 721A3601) or
- Micromate Swedish Pile Driving Base Unit (P/N: 721A3801)
- Remote Alarm Controller (P/N: 721A0901)
- 10 m (33 ft) Extension Cable (P/N: 721A0803)
- 30 m (100 ft) Extension Cable (P/N: 721A0801)
- 75 m (250 ft) Extension Cable (P/N: 721A0802)
- Micromate Custom Extension Cable Kit (P/N: 721A3201)
- External Alarm with Power Source (required, not supplied)

Minimate Pro

- Minimate Pro4 monitoring unit (P/N: 720A2301) or
- Minimate Pro6 monitoring unit (P/N: 720A2401)
- Remote Alarm Controller (P/N: 720A3901)
- 30 m (100 ft) Extension Cable (P/N: 720A3301)
- 75 m (250 ft) Extension Cable (P/N: 720A3302)
- Custom Length Extension Cable (P/N: 301-000034-000)
- Custom Cable Connector Assembly (P/N: 720A3305)
- Remote Alarm/Rs-232 Splitter Cable (P/N: 720A4001)
- (Used when both a Remote Alarm Controller and a modem must be connected to the monitoring unit at the same time.)
- External Alarm with Power Source (required, not supplied)



Remote Alarm Controller for Micromate Monitoring Units



Remote Alarm Controller for Minimate Pro4/Pro6 Monitoring Units

Minimate Pro4™ and Minimate Pro6™ Monitoring Units Alarm Setup

1. Press the **Setup** key to access the **Main Menu**.
2. Press the **Down Arrow** key to select the **View/Edit Setup File** menu option. Press the **Enter** key to enter this menu.
3. Press the **Down Arrow** key to select the **Auxiliary I/O** option. Press the **Right Arrow** key to enter the menu.
4. Press the **Right Arrow** key to change the **Auxiliary I/O** selection to **Remote Alarm**, as shown below:
(the bold text in brackets "[...]" represents the available options)
5. Determine how long you want the **Warning Hold Time** and **Alarm Hold Time** to sound. Enter a value using the **Right Arrow** key to access their editing fields. Press the **Up/Down Arrow** keys to change their values. Jump between the fields by using the **Right** or **Left Arrow** keys. Press the **Enter** key to **Save** the edits of each selection.

Setup File: Factory Auxiliary I/O
Auxiliary I/O: Off [Remote Alarm or External Trigger]
Warning Hold Time: 0 Seconds [Edit Value Menu]
Alarm Hold Time: 60 Seconds [Edit Value Menu]
Alarm On: Vibration No [Yes] Pressure No [Yes]
Vibration Alarm Level: 7.00 in./s [Edit Value Menu]
Pressure Alarm Level: 210.8 [Edit Value Menu]
▲▼Adjust ▶Edit ✓Save ✕Cancel

Note: The **Warning Hold Time** and **Alarm Hold Time** have a 300 second time limit (5 minutes). When set to 0, the alarms remain indefinitely and must be reset manually. The **Remote Alarm Controller** is only active once the **Start Monitor** key is pressed on the unit.

6. Select the **Alarm On** option and press the **Right Arrow** key to scroll through which sensors will trigger an alarm. Each key press will provide a new setting option.
7. Select the **Vibration Level** option and press the **Right Arrow** key to edit the values.

Note: The Minimate Pro6 monitoring unit using two geophones will offer two options to set the Vibration Alarm Level, one for each geophone attached.

Enter Vibration Alarm Level
Range 0.500 - 10.0 in/s
01.000
▲▼Change ▶Edit ✓Accept ✕Cancel

8. Press the **Right Arrow** key to move the cursor within the value field, and the **Up/Down Arrow** key to change the value.
9. Press the **Enter** key to **Accept** the new setting, or the **Cancel** key to exit the menu without saving the changes.
10. Select the **Pressure Level** option and press the **Right Arrow** key to edit the values.

Note: The Minimate Pro6 monitoring unit with a geophone and a microphone attached will provide options to edit the levels for both sensors.

Enter Pressure Alarm Level
Range 0.0126 - 0.0725 psi
0.0200
▲▼Change ▶Edit ✓Accept ✕Cancel

11. Press the **Right Arrow** key to move the cursor within the value field, and the **Up/Down Arrow** key to change the value.
12. Press the **Enter** key to **Accept** the new setting, or the **Cancel** key to exit the menu without saving the changes.
13. Within the **Edit Current Setup** menu, press the **Enter** key to **Save** the new **Auxiliary I/O** settings, or press the **Cancel** key to **Exit** the menu without saving the changes.

Alarm Indicators

Warning – yellow LED with a *pulsed* sound from the internal warning device.

Alarm – red LED with a *constant* sound from the internal warning device.

External Devices – external alarm devices are optional.

How to Configure the Remote Alarm Controller Settings in THOR™ Software's Unit Setup Menu

You can also configure the Warning/Alarm settings from within THOR software and send the Setup File to the monitoring unit. (Only available for Micromate and Minimate Pro Monitoring Units)

1. Within the THOR software program, click on the **Unit Tab**.
2. Click on the **Unit Setup** icon.
3. In the **Unit Setup** section, right-click and select **New Unit Setup File**.
4. Fill in the details and under **Unit Type** select either the **Micromate** or **Minimate Pro** monitoring units (you must also select the Setup Type: **Compliance**.)
5. Select **Unit Setup** section and under **Auxiliary IO** select **Remote Alarm**.
6. Fill in the appropriate **Warning Hold Time** in seconds and **Alarm Hold Time** in seconds.
7. Under **Active Sensors** click the **Add Sensor** button and select a sensor.
8. Check **Enable Alarm**, then define the Alarm Level (in mm/s or in/s for Geophones, in dB(A) for Microphones)
- Note: the alarm level cannot be lower than the defined trigger level.
9. Click on **OK**
10. Select the Monitoring unit connected to the THOR software and click **Send to Unit(s)** to send the Setup File to the Monitoring unit.

The screenshot displays the THOR software interface, specifically the 'Unit Setup' window. The window is divided into several sections: 'Setup Files' on the left, 'Details - Micromate, Minimate Pro' in the center, and 'Units' on the right. The 'Unit Setup' section is expanded, showing various configuration options. Numbered callouts (1-10) highlight specific steps in the configuration process:

- 1: Click on the 'Unit Setup' icon in the top toolbar.
- 2: Click on the 'Unit Setup' section in the left sidebar.
- 3: Right-click on the 'Micromate' setup file and select 'New unit setup file' from the context menu.
- 4: Fill in the 'Name' field (e.g., 'Micromate') and select 'Micromate' under 'Unit Type'.
- 5: Select 'Remote Alarm' under 'Auxiliary IO'.
- 6: Set 'Warning Hold Time' to 2 sec and 'Alarm Hold Time' to 30 sec.
- 7: Click 'Add Sensor' under 'Active Sensors'.
- 8: Check 'Enable Alarm' and set the 'Alarm Level' to 60 dB(A).
- 9: Click 'OK' at the bottom right.
- 10: Click 'Send to Unit(s)' at the bottom right.

Micromate® Alarm Setup

1. Press the **Setup** key to access the **Setup Options**.
2. Press the **Checkmark** key to enter the **View/Edit Current Setup** menu option.
3. Press the **Down Arrow** key to select the **Auxiliary I/O** option.
4. Press the **Checkmark** key to enter the menu.
5. Press the **Down Arrow** key to select **Auxiliary Mode**.
6. Scroll through the available options using the **Checkmark** key until **Remote Alarm** is selected.
7. Press the **Down Arrow** key to select **Alarm On** and enter the menu using the **Checkmark** key.
8. Change the values using the **Down Arrow** and **Checkmark** keys.

| Alarm Levels | |
|------------------|-----------|
| Geophone Alarm | Enabled |
| Alarm Level | 25.4 mm/s |
| Microphone Alarm | Enabled |
| Alarm Level | 137 dB |

9. Press **Cancel** to exit and **Save** any changes.
10. Use the **Down Arrow** key to select the **Warning Hold** and **Alarm Hold** options.
11. Change their values using the **Checkmark** key to scroll through the available settings.
12. Press the **Cancel** key to exit, validate the changes by saving them with the **Checkmark** key.
13. Select **Save to Current File** and then **Overwrite File**, or **Save to New File** and create a new file name using the touchscreen keypad.
14. Press **Cancel** to exit and return to the Homescreen.

Physical Installation

1. Connect the Remote Alarm Controller to the Auxiliary connector on the monitoring unit. To increase the distance between the two devices make use of the appropriate extension cable as referenced by unit and part number in the previous table.
2. The output available on the terminal block is only a switch. You must supply external power to drive the load. When using an external warning device, the common terminal is the ground or minus side of the external load-power source combination. Normally, one side of the external load connects to the positive side of the power supply. The negative side of the power supply connects to the common terminal.

Warranty

Instantel products come with a limited one-year warranty against defects in materials or workmanship unless otherwise stated. The warranty begins on the date of shipment from the Instantel factory to the customer and is subject to certain exclusions and conditions as stated below. Monitoring units and sensors will have the warranty extended for a second year if they are returned to the Instantel factory for service and calibration within 30 days of the 'Next Calibration' date printed on the calibration label located on the product.

If, within a period of one year from the date of shipment to a customer, the instrument fails to perform in accordance with Instantel's published specifications under normal use and operating conditions, it will be repaired or replaced at the sole discretion of Instantel free of charge. Components subject to fair wear and tear in regular use, as solely determined by Instantel, are excluded from this coverage. This warranty will not apply if the damage or malfunction occurs due to (i) adjustments, additions, alternations, abuse, misuse or tampering of the instrument; (ii) instrument operation or use contrary to the operating instructions; (iii) power fluctuations; or (iv) any other cause not within the cause or control of Instantel. If inspection by Instantel fails to disclose any defect covered by this limited equipment warranty, the instrument will be repaired or replaced at customer's expense and Instantel's regular service charges will apply. This warranty is non-transferable.

Any shipments returned directly to Instantel must have prior approval, and all packages must display the Return of Material Authorization (RMA) number issued by Instantel. Shipping charges to Instantel's factory will be paid by the customer and return shipment to the customer will be paid by Instantel.

To protect your warranty, you must complete and return a Warranty Registration Certificate, or complete the online Warranty Registration Form, within ten days of purchase. Products will be assumed out of warranty if no warranty card is on file at Instantel. Retain this warranty statement and the proof of purchase for your records.

Except for the foregoing limited equipment warranty, Instantel makes no other warranties and hereby disclaims and excludes all other warranties, whether statutory, express or implied, whether arising under law or equity or custom or usage, including any implied warranty of merchantability, fitness for a particular purpose, non-infringement, satisfactory quality, or quiet enjoyment, and any warranty that the product supplied may not be compromised, or that the product will in all cases provide the function for which it is intended.

EC Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.