

RA-6

Six-Channel Remote Alarm

Installation

Maintenance

Repair

Manual



Advantage Controls
4700 Harold-Abitz Dr.
Muskogee, OK 74403
Phone: 800-743-7431
Fax: 888-686-6212
www.advantagecontrols.com
email: support@advantagecontrols.com

10/2024

RA-6 Unit Manual

Table of Contents

Contents	Page
I. Introduction	3
II. Installation.....	3
Wiring Diagrams	4
III. System Operation	5
IV. Advantage Controls Limited Warranty	6

I. Introduction

The Advantage Controls RA-6 Remote Alarm unit is designed to communicate an alarm or abnormal condition of operating equipment to areas outside the equipment area. The unit is comprised of a base unit and a remote unit. The RA-6 has 6 input channels and each channel can be individually configured in the base unit to monitor different types of input signals, such as dry contact, AC/DC voltage or open collector transistor. These signals can be from virtually any source such as conductivity/resistivity monitors, level switches, pressure switches, limit switches, motor contactors, etc.

The base unit provides power for the remote unit and has jumpers for configuring the input channels. Channels 1-4 have a fixed 1-second delay and channels 5-6 have either a fixed 1-second delay or an adjustable time delay. The remote unit has a green power on LED, a red alarm LED and red individual alarm LED's. An audible alarm is provided with an alarm silence switch. The alarm silence can be maintained or timed. A power failure alarm is incorporated into the remote unit and also an optional alarm relay output..

II. Installation

The base unit is normally mounted in close proximity to the equipment to be monitored. The base unit requires 120 VAC power, 2 conductors for each channel input used and a single multiconductor cable for connection to the remote unit.

Wire the 120 VAC power to the power in terminals. Connect the 2 signal wires from each source to be monitored to the desired input channel. Any channels not used can be left open. Refer to the supplied drawings for each unit for wiring information.

The base unit jumpers must be programmed for the type of signal to be applied to each channel.



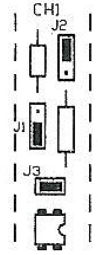
WARNING: The unit can be damaged if the wrong signal type is applied to a channel. The channels are set as 28-120 V(AC or DC) by default. Refer to the jumper settings drawing for jumper settings for each channel. If an adjustable delay is desired for channels 5 or 6, the corresponding jumper must be moved to enable the adjustable delay.

The remote unit can be mounted in any convenient location where it can be seen and heard by operating personnel. The multiconductor cable to wire the base to the remote unit must have 2 wires for ground and 12V power and 1 wire for each channel used. For example, if 4 channels are used, a 6-conductor cable can be used. To wire the remote unit, remove the 4 screws holding the cover in place, pull the cable through the cord grip connector in the bottom of the box and connect the wires to the terminal strip as shown in the drawing. If required, set the jumpers for the power fail or alarm recycle features.

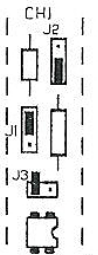
NOTE: If the RA6R remote unit is used with a base unit that has the recycle circuitry installed, the recycle jumper on the base unit must be placed in the off position. Base units that do not have the recycle circuitry installed must only be used with the RA6R remote board for the recycle function to operate properly.

Jumper Settings (w/ signal levels)

NOTE: All 6 alarm channels are identical. Only channel 1 jumper settings are shown in detail, but the settings apply to all channels.

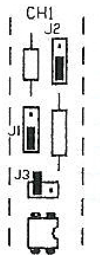


DRY CONTACT INPUT
(SWITCH OR RELAY)

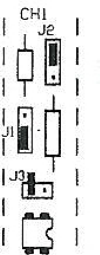


12-120 VOLT INPUT
(AC or DC)

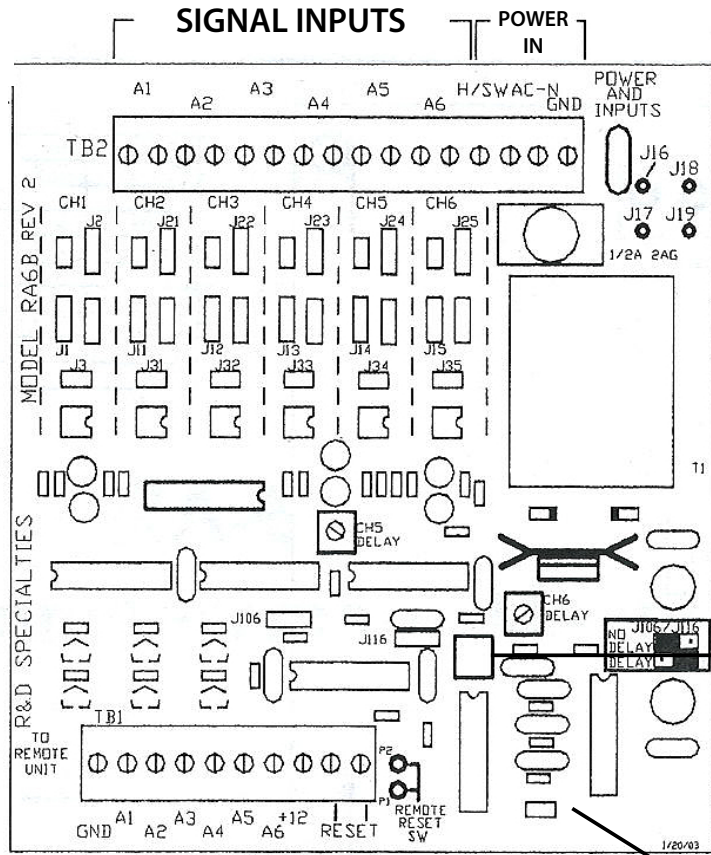
CAUTION!
DO NOT APPLY VOLTAGE TO AN INPUT WHEN IT IS CONFIGURED AS A DRY CONTACT INPUT.



12-24 VOLT INPUT
(AC or DC)



TRANSISTOR CLOSURE
(NPN OPEN COL.)

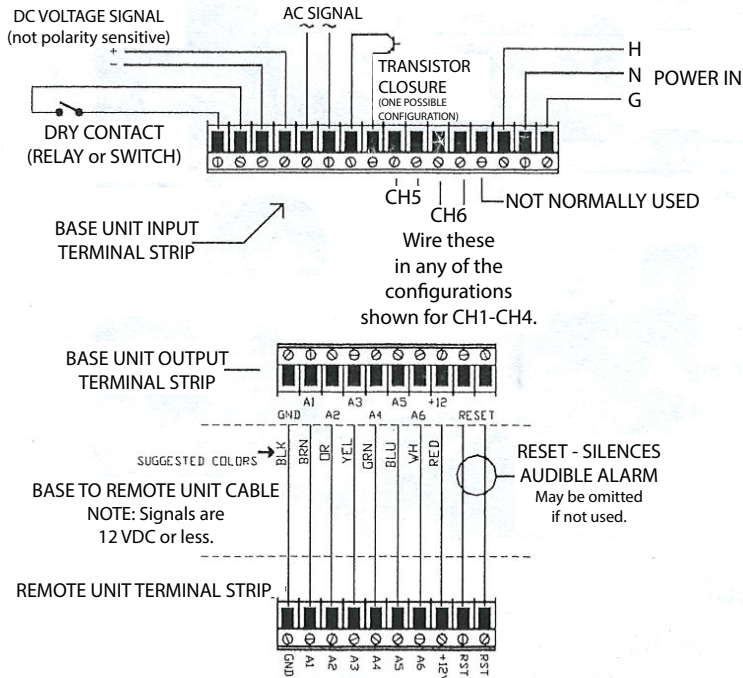


Recycle timing (delay) adjustment

NOTE: Reset silences the audible alarm in the remote unit. If "ON", all alarms are recycled at a rate determined by the "RECYCLE" timing adjustment.

J108 & J116 determine if CH5 and/or CH8 will delay the transmission of the respective alarm signals to the remote. If either delay is selected, its timing (delay) is adjustable as follows:
CH5 -- 15-30 sec.
CH6 -- 1.5-3 min.

Note: Any and all channels may be wired in any of the configurations shown.



Wiring Diagram

+12V and GND must be connected

III. System Operation



When power is applied to the base unit, the green power LED will light. If no alarms are active, all other LED's will be off and the audible alarm is silent.

When a signal is applied to an input channel on the base unit, after the delay time, a signal is sent to the remote unit. At the remote unit, the alarm LED for the channel lights, the alarm LED lights and the audible alarm sounds. If the optional alarm relay is installed, the relay will energize. If the signal to the base unit clears, the alarm indicators at the remote unit will clear automatically.

When the audible alarm is active, pressing the alarm silence switch will silence the audible alarm. If the alarm clears and then returns, the audible alarm will sound. If an alarm is active and the audible alarm has been silenced, a new alarm becoming active on another channel will cause the audible alarm to sound.

By default, when the alarm silence switch is pressed, the audible alarm will remain silenced. By reconfiguring jumpers J8, J9 and J10 on the remote unit, the audible alarm can be programmed to recycle after a delay when the audible alarm has been silenced.

The remote unit has an optional power fail alarm. By default, this option is disabled. By moving jumper J1 on the remote unit to the E position, the power fail alarm is enabled. If power is lost to the remote unit with this feature enabled, the audible alarm will beep once every 10 seconds. No alarm LED's will be on. The power fail alarm will operate for approximately 1-½ hours. If power is not restored within this time, the alarm will stop.

 CAUTION 
1. There are live circuits inside the controller even when the power switch on the front panel is in the OFF position. Never open the front panel without first disconnecting power from the outlet. Prewired controllers are supplied with an 8 foot, 18 AWG power cord with USA style plug. A #1 Phillips driver is required to open the front panel.
2. Low voltage signal wires (probes, flow switch, water meter, etc.) should never be run in conduit with high voltage (like 115VAC) wires.
3. Never attempt to land connections to the controller without first disconnecting power from the outlet.
4. Do not block access to disconnect power during mounting and installation.
5. The controller should be connected to its own isolated circuit breaker, and for best results, the ground should be a true earth ground, not shared. Any attempt to bypass the grounding will compromise the safety of users and property.
6. The electrical installation of the controller must be performed by trained personnel only and conform to all applicable National, State and Local codes.
7. Operation of this product in a manner not specified by the manufacturer may result in damage to equipment or persons.
8. Avoid mounting in locations that expose the controller to direct sunlight, vapors, vibration, liquid spills or extreme temperatures; less than 0°F (-17.8°C) or greater than 120°F (50°C). EMI(electromagnetic interference) from radio transmissions and electric motors can also cause damage or interference and should be avoided.

IV. Advantage Controls Limited Warranty

What the warranty covers:

Advantage Controls warrants the controllers to be free from defects in materials and workmanship during the warranty period. If a product proves to be defective during the warranty period, Advantage controls will repair the unit.

How long the warranty is effective:

The warranty is for one year, and starts the day the product leaves our facility

What the warranty does not cover:

1. Damage, deterioration, or malfunction resulting from:
 - a. Accident misuse, neglect, fire, water lightning or other acts of nature, unauthorized product modification or failure to follow instructions supplied with the product.
 - b. Repair or attempted repair by anyone not authorized by Advantage Controls.
 - c. Any damage of the product due to shipment.
 - d. Causes external to the product such as electric power fluctuations.
 - e. Use of supplies or parts not meeting Advantage Controls' specifications.
 - f. Normal wear and tear.
 - g. Any other cause which does not relate to a product defect.
2. Transportation costs necessary to obtain service under this warranty.
3. Labor other than factory labor.

How to get service:

1. To obtain warranty service, contact Advantage Controls for a Return Material Authorization (RMA).
2. You will be required to provide:
 - a. Your name and address
 - b. A description of the problem
3. Package the controller carefully for shipment and return it to Advantage Controls

Limitation of implied warranties:

There are no warranties, expressed or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:

Advantage Controls' liability is limited to the cost of repair or replacement of the product. Advantage Controls shall not be liable for:

1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships or other commercial loss, even if advised of the possibility or such damages.
2. Any other damages, whether incidental, consequential, or otherwise.
3. Any claim against the customer by any other party.

Notes

Get the Advantage in Water Treatment Equipment

Advantage Controls can give you the *Advantage* in products, knowledge and support on all of your water treatment equipment needs.

- Cooling Tower Controllers
- Boiler Blow Down Controllers
- Blow Down Valve Packages
- Bleed Valves
- Water Meters
- Metering Pumps
- Corrosion Coupon Racks
- Solution Tanks
- Solid Feed Systems
- Bypass Feeders
- Filter Equipment
- Glycol Feed Systems
- Pre-Fabricated Systems

