AGENT RELEASE MODULE (P/N 10-1832)

Important Notices

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Specifications

Current	+24V Supervisory: 21.0 ma (capacitor charging) 2.0 ma (capacitor is charged) -24V Activated: -8.0 ma (LED active)
Temp	32°F to 130°F (0°C to 54.4°C) 93% maximum humidity
Module Wiring	Control panel/Releasing Module to ARM connections are supervised and power-limited Actuator connection to the ARM (GCA terminals) is supervised and power-limited
Mounting	4-inch square electrical box minimum 2-1/8" deep. Requires two-gang cover plate (components supplied by others)
Compatible Actuators	70-1651 – Gas Cartridge Actuator (GCA)*

*E106 (P/N 70-1058) and EA-1 (P/N 70-1336) initiator assemblies are no longer approved for use with the ARM and MUST be replaced with GCA.

Compatible Releasing Panels/Modules

The ARM can be used in conjunction with the control panels and modules shown in the table below. The table also shows the maximum number of ARM's that can be connected to the releasing circuit of the respective control panel or releasing module.

Releasing Device	ARM's per Circuit	EOLR Value
Intella-Scan I & 2 Output Modules*	20	
Single Hazard Panel (SHP)*	6	
Rhino*	10	
Cheetah – SRM Module*	6	
Interface Firing Module (IFM)*	20	
SHP-Pro	6	2.4KΩ
Cheetah Xi - RCM Module	6	2.7KΩ
Cheetah Xi 50– RCM Module	6	2.7KΩ

*Product discontinued by Fike.

Table 1 – ARM Compatibility

WARNING

Any attempt to interface the ARM with a device not listed in the previous table could result in damage to the module, improper operation or serious personnel injury.

Dimensions

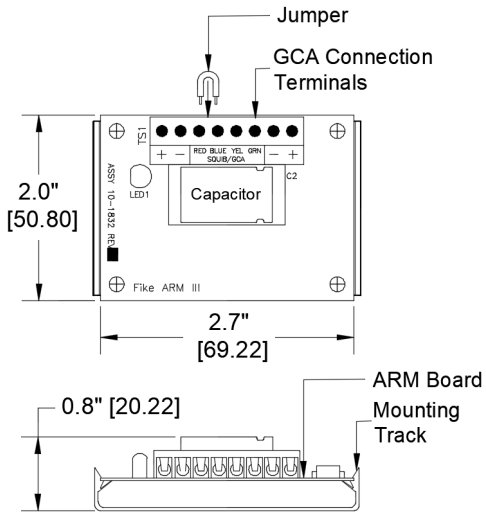

Figure 1- ARM Dimensions

Installation

Only factory trained service technicians who are authorized to work on this product shall install the ARM. The installer should thoroughly read and understand the instructions contained within this document before attempting to install the ARM. These instructions must be strictly followed to avoid potential damage to the module itself or inadvertent operation of the associated suppression container.

The ARM should not be installed until the installation of the associated control panel and suppression system has been completed and both are ready for testing.

NOTE NFPA 2001 requires the installation of a disconnect switch (Fike P/N 10-2698 and 10-2699) on an electrically actuated clean agent system to prevent unwanted discharge during system service or testing. Refer to Fike document 06-472 for switch installation. Switch is not shown in this document.

Installation Steps:

1. Verify that power to the host control panel (AC and standby batteries) has been removed or that the releasing circuit has been disabled or disconnected before installing the ARM.
2. Verify that the ARM junction box assembly has been installed on the suppression container. Each suppression container is furnished with a junction box assembly for mounting the ARM to the container's actuator boss (Figure 2). Refer to applicable suppression system manual for details.
3. Install conduit and pull releasing circuit wiring into the ARM junction box assembly. GCA wire leads should already be pulled into the junction box.

NOTE NFPA 2001 requires all initiating and releasing circuits to be installed in raceways.

4. Unpack the ARM and mounting hardware from the packaging and inspect for damage. ***Do not attempt to install the ARM if module shows signs of damage.***

CAUTION

The ARM circuit board contains static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Keep the electronics in the protective static bag it was shipped in until time for installation. Always ground yourself with a proper wrist strap before handling the module(s). If the installer is properly grounded at all times, damage due to static discharge will not occur. If the module requires repair or return to Fike, it must be shipped in an anti-static bag.

5. Remove the ARM circuit board from the snap track and set it aside.
6. Secure the snap track to the back of the junction box using the supplied screw, washer and lock-nut, as shown in Figure 2.
7. Secure the ARM circuit board into the snap track with the terminal block positioned towards the top of the junction box.

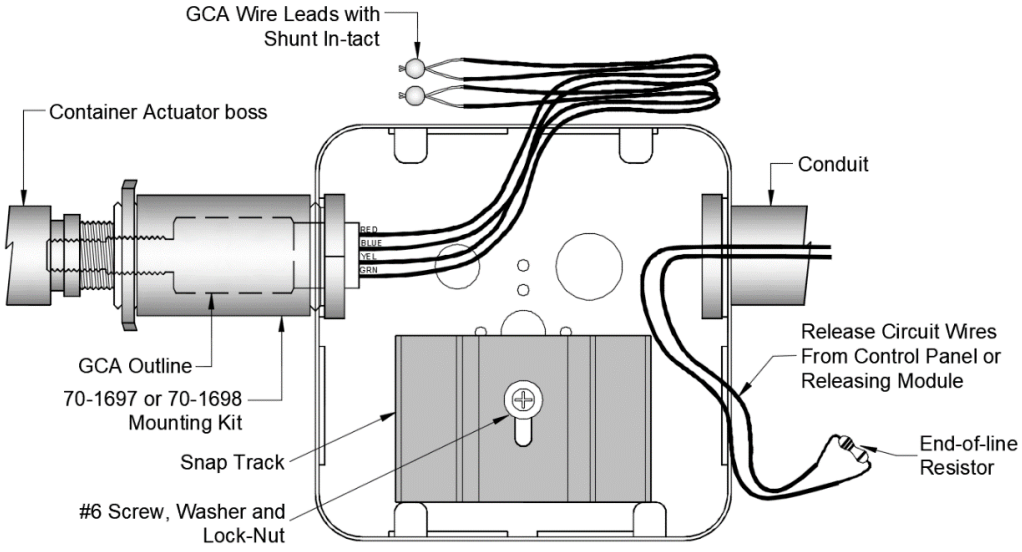

Figure 2 – ARM Mounting

8. Connect the releasing circuit wiring to the ARM module(s) as shown in Figure 3 or Figure 4, maintaining correct wiring polarity.

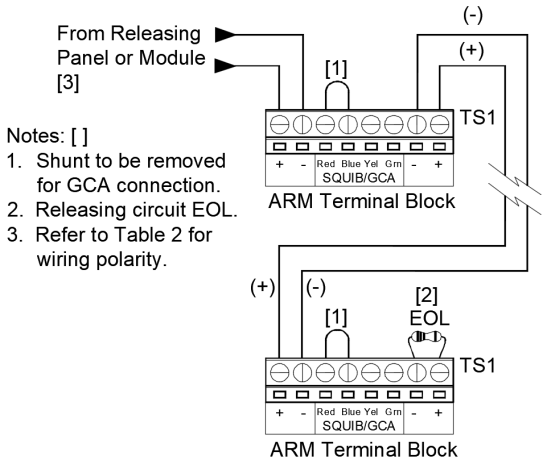

Figure 3 - Class B Wiring

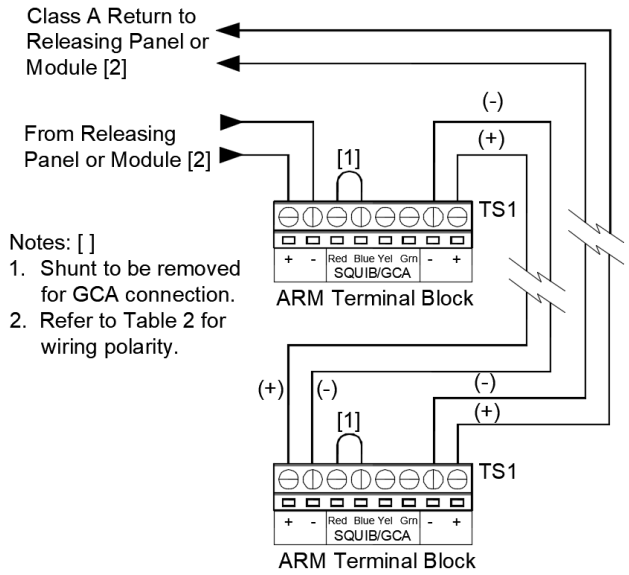

Figure 4 - Class A Wiring

NOTE The wiring designations shown in the diagrams above are shown in the supervisory state.

9. Connect releasing circuit wires to the releasing panel or releasing module observing the polarity configuration shown in Table 2.

Releasing Panel or Releasing Module Polarity		ARM Polarity	Wiring Options
Intella-Scan I & II Output Module	+ -	- +	Class A or B
Single Hazard Panel (SHP)	+ -	- +	Class B
Rhino	- +	+ -	Class A or B
Cheetah SRM	+ -	+ -	Class B
Interface Firing Module (IFM)	+ -	+ -	Class B
SHP-Pro	+ -	+ -	Class A or B
Cheetah Xi & Xi 50 (RCM Module)	+ -	+ -	Class B

Table 2 - Releasing Circuit Wiring Polarity (Supervisory state)

10. Apply power to the releasing panel and check that the system is clear of any Troubles, and that the LED on the ARM is **NOT** illuminated. If the LED is illuminated and the panel is not in the Release State, check the circuit wiring for proper polarity. Correct any wiring problems before proceeding.

WARNING

If the ARM LED is illuminated, **DO NOT** connect the GCA wire leads to the ARM. This condition will cause the GCA to activate.

Acceptance Testing

The system releasing functions shall be thoroughly tested in accordance with the requirements of NFPA 72, National Fire Alarm and Signaling Code, requirements of the Local Authority Having Jurisdiction (AHJ), and the following requirements prior to connecting GCAs to the ARMs:

1. Temporarily remove the end-of-line resistor from the last ARM on a Class-B circuit (See Figure 3) or disconnect the Class-A return wire leg on the last ARM (See Figure 4) and verify that a Trouble signal is received by the releasing panel.
2. Reinstall the EOL to the ARM or reconnect the Class-A wiring to the last ARM.
3. Verify that the releasing panel returns to normal operation.
4. Temporarily remove the GCA shunt from each ARM, one at a time, and verify that a Trouble signal is received by the releasing panel for each ARM.
5. Remove the GCA shunt from the first ARM and connect an Output Analyzer (P/N 10-2983) to the ARM Red/Blue terminals (See Figure 3 or 4).
6. Refer to Fike document 06-905 for instructions on how to use the Output Analyzer for ARM testing.
7. Verify that the LED on the ARM turns on to indicate it is in the active state.
8. Replace any ARM that does not pass the Output Analyzer testing.
9. Disconnect the Output Analyzer from the ARM and reinstall the GCA shunt removed in step 5.
10. Repeat steps 5 through 9 for each ARM.
11. Verify that the ARM(s) does not activate during any state other than Release for the programmed zone.

Arming the System

Upon completion of the acceptance testing, the suppression containers can be armed using the following instructions:

1. Disarm the panel or releasing module output circuit to prevent accidental activation. Panel will go into Trouble to indicate the disabled or disconnected state of the circuit.
2. Wait a minimum of 10 minutes to allow capacitor on the ARM(s) to dissipate its electrical charge.

WARNINGS
The GCA is an electrically operated pyrotechnic device that can, and will, cause bodily injury and equipment damage if improperly handled. The GCA leads must remain shunted until all connections are made and the installation is thoroughly checked.
Do not land the GCA wiring to the ARM if ground faults are present on the control system.

3. Uncoil the GCA wire leads and locate the wire shunts.
4. With the GCA wire lead shunt intact, strip about ½ in. (15mm) of insulation from the red and blue leads approximately 2 in. (51mm) back from the shunt (Figure 5).

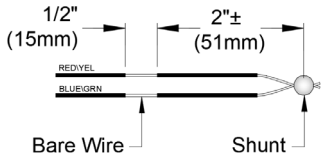

Figure 5 – Strip GCA Wire Leads

5. In the middle of the exposed wire section, use small pliers to fold the wires in half and crimp leaving the shunt intact (Figure 6).

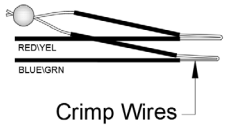

Figure 6 – Crimp GCA Wire Leads

6. Remove the GCA shunt from the ARM Red/Blue terminals.
7. Insert the exposed section of the GCA red and blue wire leads into their respective terminal on the ARM and tighten screw terminals.
8. Clip the wire shunt from the red and blue wire leads and cover each exposed conductor with electrical tape and/or wire nut taking care not to allow a possible shunt/shorting of the two conductors during normal operation. These pigtails can be used at a later date to shunt the wire leads so they can be safely removed when servicing the system. See Disarming The System.

NOTE The GCA yellow and green leads are provided for connection to a manual actuator if supplied. If a manual actuator is not supplied, terminate the yellow and green leads in the same manner as the red and blue leads. The yellow and green terminals are shunted internally on the ARM and connection to these terminals provides safety for this pair.

9. Carefully arrange the GCA lead wires inside the junction box using extreme care not to allow any wires/conductors to be smashed when the box cover is installed.
10. Install the blank cover plate to the ARM mounting box.
11. Repeat steps 3 through 10 for each ARM.
12. Check the releasing panel for any Trouble indication, other than the one caused by the disabling of the releasing circuit.
13. If no other Trouble conditions exist, rearm the releasing panel or releasing module and reset the control panel.

WARNING

If there are ground faults present on the control system, **DO NOT** connect the actuator(s) to the suppression container. Doing so could result in accidental agent discharge.

14. The suppression system is now armed.

Disarming the System

CAUTION

Do not disarm the system if a ground fault indication is present until the red and blue GCA wires are shunted and the yellow and green GCA wires, if present, are shunted.

1. Disarm the releasing circuit of the panel being serviced.
2. Wait a minimum of 10 minutes to allow capacitors on ARM to dissipate their electrical charge.
3. Shunt the red and blue GCA wires leads on each ARM together using the pigtails left during the arming procedure.
4. Remove the red and blue GCA wire leads from the ARM terminals. Do NOT remove the yellow and green wires from the ARM.
5. Install a wire shunt to ARM Red/Blue terminals to allow the panel to return to Normal state.
6. The system is now safe for testing.

Maintenance

- The ARM should be replaced if the Output Analyzer indicates test failure.
- GCAs should be replaced 10 years after manufactured date (each GCA is date coded). Replaced after 5 years if used in temperatures over 130°F. Remove from service if ever exposed to temperatures over 165°F.