

AGENT RELEASE MODULE (P/N 10-1832)

Important Notices

1. Please read the instructions carefully! Fike products are used to protect life and critical assets if installed and tested as described in this document.
2. Do not use Fike products for any application it is not intended for. Fike shall not be liable for any damages or losses incurred by you or third parties arising from the use of any Fike product for which the product is not intended by Fike.
3. Do not use Fike products described in this document outside of the ranges specified by Fike. Fike shall have no liability for malfunctions or damages arising from using Fike products beyond such specified ranges.
4. Fike reserves the right to change product designs or specifications without obligation and further notice.
5. This document is subject to Fike's full disclaimer at <http://www.fike.com/disclaimer>.
6. Visit www.fike.com to contact us or to download the latest version of this document.

Specifications

Current	+24V Supervisory: 21.0 ma (capacitor charging) 2.0 ma (capacitor is charged) -24V Activated: -8.0 ma (LED active)
Temperature	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 with the control panels and modules listed in the table below. The table also shows the maximum number of ARMs that can connect to the releasing circuit of the respective control panel or releasing module.

Releasing Device	ARMs per Circuit	EOLR Value
Intella-Scan I & 2 Output Modules*	20	1.5KΩ
Single Hazard Panel (SHP)*	6	2.7KΩ
Rhino*	10	2.7KΩ
Cheetah – SRM Module*	6	2.7KΩ
Interface Firing Module (IFM)*	20	1.5KΩ
SHP-Pro	6	2.4KΩ
Cheetah Xi – RCM Module	6	2.7KΩ
Cheetah Xi 50 – RCM Module	6	2.7KΩ

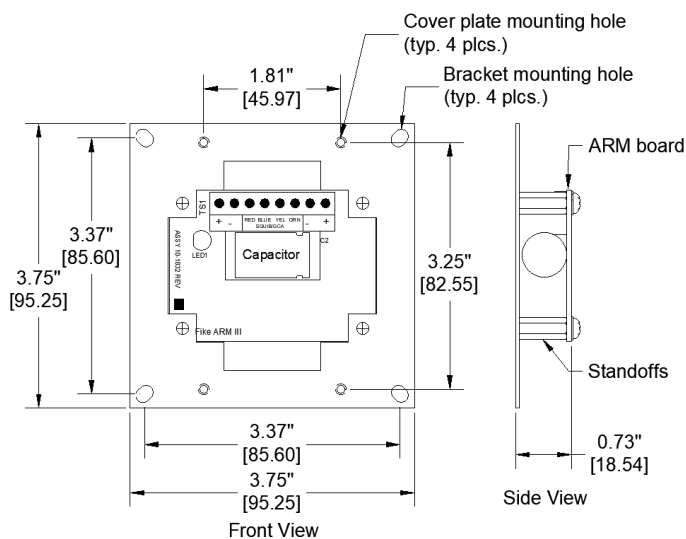
*Product discontinued by Fike.

Table 1 – ARM Compatibility

WARNING

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

Dimensions



**Figure 1- ARM Assembly Dimensions
Inches (mm)**

Installation

Only factory-trained service technicians 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 accidental operation of the associated suppression container.

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

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 installation. Always wear a good wrist strap before handling the module(s). If the installer is always properly grounded, 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.

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. The switch is not shown in this document.

Installation Steps:

1. Verify that power to the releasing control panel (AC and standby batteries) is turned off or that the releasing circuit has been disabled or disconnected before installing the ARM.
2. Verify that the ARM junction box assembly is 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. Refer to the applicable suppression system manual for details.
3. Install conduit and release circuit wiring following the project drawings and appropriate diagrams. All wiring must conform to the requirements of NFPA 70 National Electrical Code, NFPA 72 National Fire Alarm Code, and the requirements of the local authority having jurisdiction AHJ.

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

4. Pull the field wiring into the junction box, leaving an adequate length to allow wire connections to the ARM.
5. Unpack the ARM and mounting hardware from the packaging and inspect for damage. **Do not attempt to install the ARM if the module shows signs of damage.**
6. With the ARM circuit board facing the interior of the electrical box, connect the releasing circuit wiring to the ARM module(s), as shown in Figure 2 or 3. If the ARM LED is illuminated and the panel is not in the Release State, verify correct wiring polarity is maintained. Correct any wiring problems before proceeding.

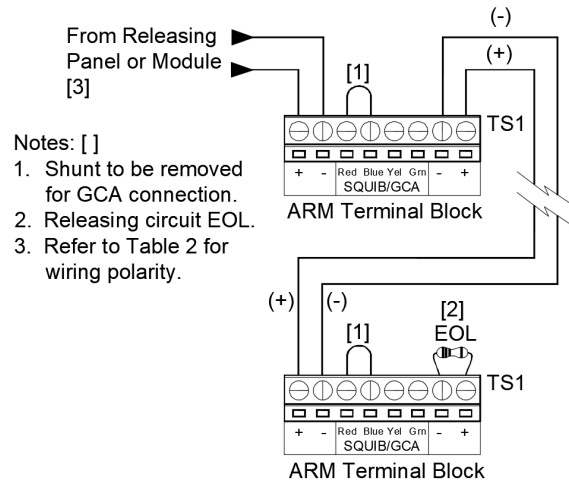


Figure 2 - Class B Wiring

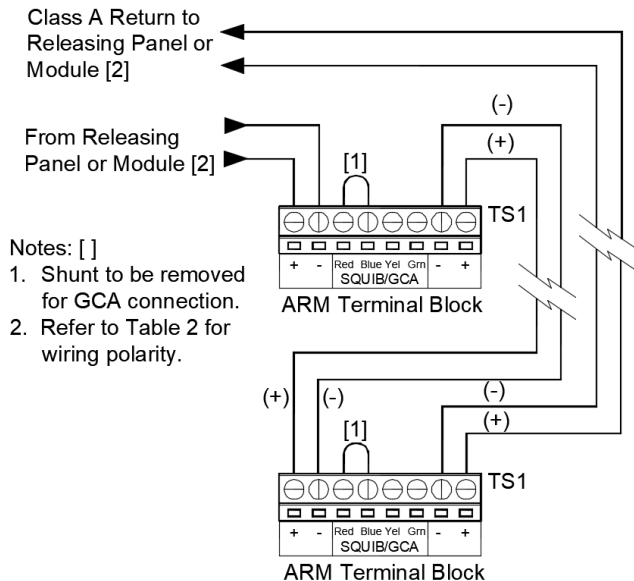


Figure 3 - Class A Wiring

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

- Connect the 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)

- Before connecting the GCA(s) wires to the ARM(s), thoroughly test the system releasing functions following the requirements of NFPA 72, National Fire Alarm and Signaling Code, requirements of the Local Authority Having Jurisdiction (AHJ), and the requirements outlined in the **Acceptance Testing** section of this document.

WARNING

Do not connect the GCA wire leads to the ARM until acceptance testing has been completed.

- Upon completion of the Acceptance Testing, the suppression containers can be armed using the instructions outlined in the **Arming The System** section of this document.

Acceptance Testing

- Apply power to the releasing control panel.
- Remove the end-of-line resistor from the last ARM on a Class-B circuit (See Figure 2) or disconnect the Class-A return wire leg on the last ARM (See Figure 3) and verify that the releasing panel receives a Trouble signal.
- Reinstall the EOL to the ARM or reconnect the Class-A wiring to the last ARM and verify that the releasing panel returns to normal operation.

- 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.
- 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 2 or 3).
- Use the Output Analyzer to verify the ARM operation. Refer to Fike document 06-905 for instructions on how to use the Output Analyzer.
- Replace any ARM that does not pass the Output Analyzer testing.
- Disconnect the Output Analyzer from the ARM and reinstall the GCA shunt removed in Step 5.
- Repeat the output analyzer testing for each ARM.
- Verify that the ARM(s) does not activate during any state other than release for the programmed zone.

Arming the System

- Verify that no events are present on the releasing panel.
- Verify that the LED on the ARM is turned off. If the LED is illuminated, **DO NOT** proceed, as this condition will cause the GCA to activate if connected. Correct this issue before proceeding.
- Disarm the panel or release module output circuit to prevent accidental activation. The panel will go into Trouble to indicate the disabled or disconnected state of the circuit.
- Wait 10 minutes to allow the capacitor on the ARM(s) to dissipate its stored 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.

- Verify that the GCA(s) are threaded into the cylinder actuator boss before proceeding.
- Uncoil the GCA wire leads and locate the wire shunts.
- With the GCA wire lead shunts intact, strip about ½ in. (15mm) of insulation from the red and blue leads approximately 2 in. (51mm) back from the shunt (Figure 4).

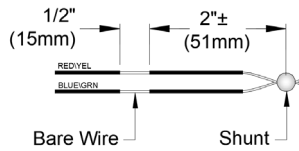


Figure 4 – Strip GCA Wire Leads

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

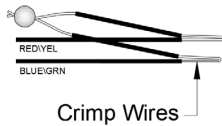


Figure 5 – Crimp GCA Wire Leads

- Remove the GCA shunt from the ARM's Red/Blue terminals.
- Insert the exposed section of the GCA red and blue wire leads into their respective terminal on the ARM and tighten the screw terminals.
- 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 later 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 like 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.

- Repeat the previous steps for all GCAs connected to the releasing circuit.
- Carefully arrange the GCA and release circuit wire leads inside the junction box using extreme care not to allow any wires/conductors to be smashed when the module is attached to the junction box.
- Secure the ARM assembly to the junction box using the screws supplied with the junction box. See Figure 6.
- Install the blank cover plate (supplied by others) to the ARM assembly using the screws provided with the plate. See Figure 6.
- Repeat the previous steps for each ARM.
- Check the releasing panel for any Trouble indication other than the one caused by disabling the releasing circuit. If no other Trouble conditions exist, rearm the releasing panel or releasing module and reset the control panel.
- The suppression system is now armed.
- 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.

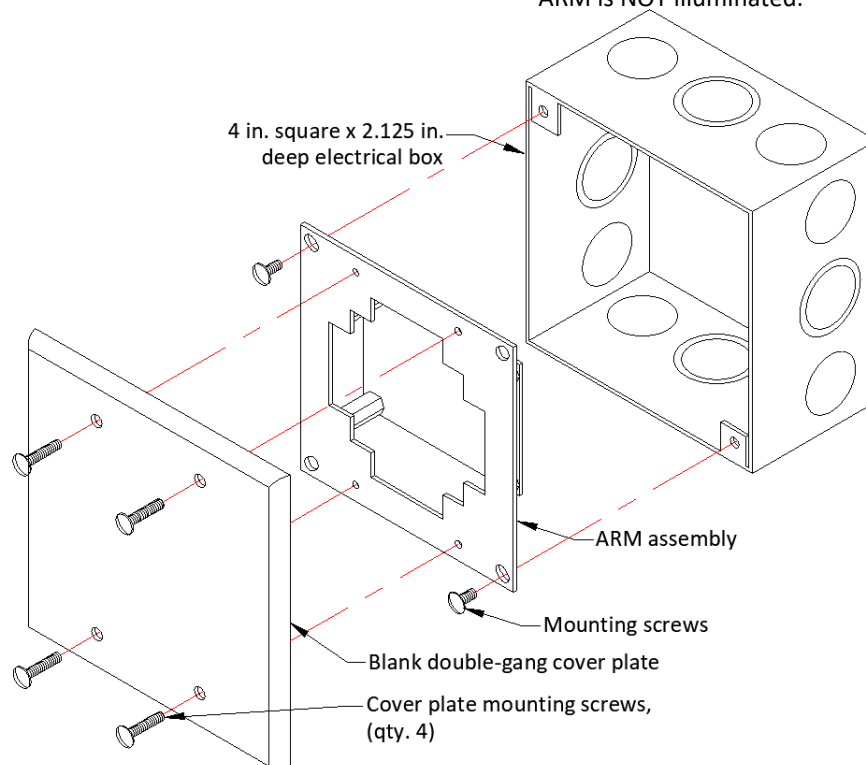


Figure 6 – ARM Assembly Mounting

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 using the pigtailed 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 its 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 their manufactured date (each GCA is date coded).
- GCAs should be replaced after 5 years in service if used in temperatures over 130°F (54.4°C) and removed from service if exposed to temperatures over 165°F (73.8°C).