Johnson Controls

Object Library

Intrusion Zone Object

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INTRUSION ZONE OBJECT

INTRODUCTION

The Intrusion Zone object monitors and controls a group of sensors. It receives alarm states from its associated Security Supervised Input objects and sets an associated Security Binary Output object. It also generates notifications when alarm conditions occur.

The Intrusion Zone object may be armed or disarmed by the Intrusion Area object.

The user may perform the following via the host or via the Intrusion Keypad/Display object:

- Bypass the Intrusion Zone object
- Activate the Intrusion Zone object
- Acknowledge the Intrusion Zone object
- View the status of the Intrusion Zone object

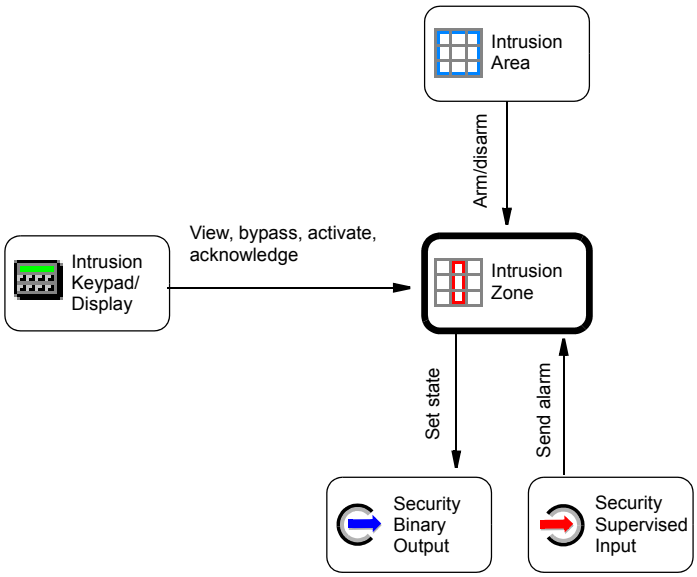


Figure 1: Intrusion Zone Object Details

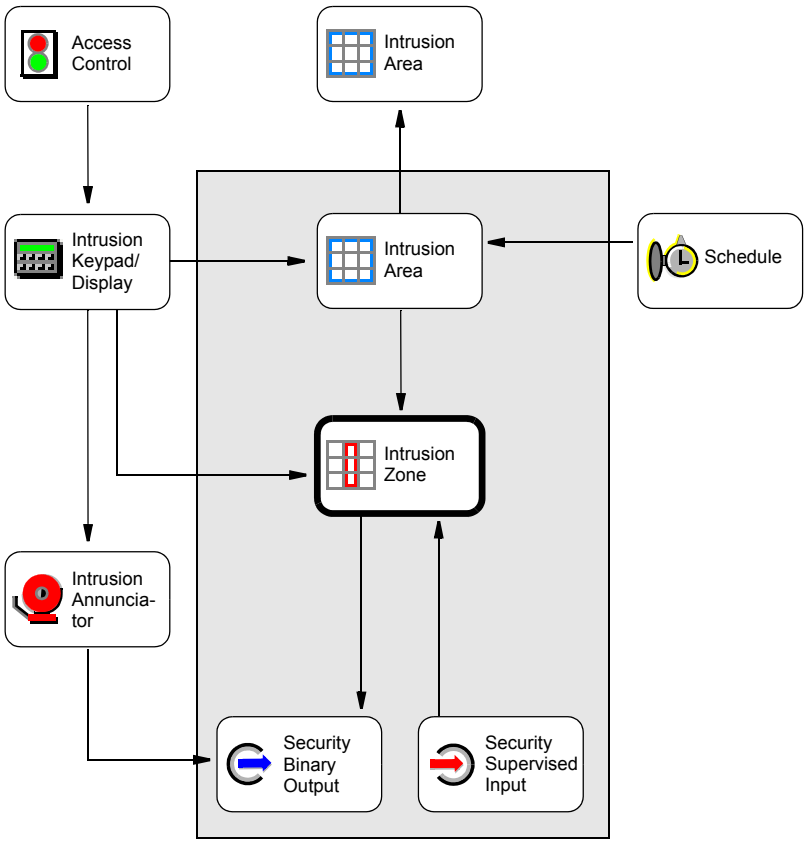


Figure 2: Intrusion Detection System: Intrusion Zone object

ATTRIBUTES

This section describes visible attributes specific to the Intrusion Zone object. This object also contains:

- Attributes common to all objects in the P2000 Security Management System. For details, see the *General Object Information* document.
- Internal attributes, which are invisible to the user and cannot be modified directly, but may be referred to throughout this document.

Table 1: Intrusion Zone Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
24/7 Tamper Monitoring	pending	Boolean	WCA	1	0 = False 1 = True
Access Profile ID	2937	Unsigned32	W	-	-
Alarm Input Attribute List	4024	List of Attribute reference	WCA	-	-
Alarm Status	4016	Enumeration	-	-	0 = Normal 1 = Alarm 2 = Alarm, Trouble 3 = Alarm, Tamper 4 = Alarm, Open 5 = Alarm, Short
Annunciator Output Attribute List	4009	List of Attribute reference	WCAN	-	-
Arm Status	4014	Enumeration	-	-	0 = Disarmed 1 = Armed 2 = Arming 3 = Disarming 4 = Fault 5 = Bypassed
Command	4017	Enumeration	W	-	0 = None 1 = Bypass 2 = Activate 3 = Test 4 = Reset 5 = Acknowledge
Delay Annunciator Output Attribute	4020	Attribute reference	WCAN	-	-
Entry Input Attribute List	4025	List of Attribute reference	WCAN	-	-
Entry Time	4029	Unsigned16	WCA	0	0 - 600 seconds
Event State	36	Enumeration	-	0	0 = Normal 2 = Off-Normal

Table 1: Intrusion Zone Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options /Range
Event Time Stamps	130	BACnet ARRAY[3] of BACnetTime Stamp	-	-	Refer to *BACnet Standard 12.19.21*
Exit Time	4030	Unsigned16	WCA	20	0 - 600 seconds
Notification Class	17	Unsigned32	WCA	1	-
Notify Priority	3644	Unsigned8	WCA	-	-
Notify Type	72	BACnetNotify Type	-	-	-
Operation Mode	4023	Enumeration	WCA	-	0 = Momentary Alarms 1 = Paired Alarms 2 = Double Knock
Present Value	85	Enumeration	WV	Redirect to *Relinquish Default*	0 = Disarm 1 = Arm
Relinquish Default	104	Enumeration	WCA	-	0 = Disarm 1 = Arm
Reset Output Attribute List	4022	List of Attribute reference	WCAN	-	-
Tamper Input Attribute List	4026	List of Attribute reference	WCAN	-	-
Test Output Attribute List	4021	List of Attribute reference	WCAN	-	-
Time Period	4028	Unsigned16	WCAN	-	1 - 600 seconds
Trouble Input Attribute List	4027	List of Attribute reference	WCAN	-	-
Zone Name	4013	String	WCA	-	Max 40 characters
Zone Number	4012	Unsigned16	-	-	-

A - Archive, C - Configurable, N - Value not required, W - Writable, V - Initial value redirected

24/7 Tamper Monitor – When "True," the Intrusion Zone object monitors all inputs and generates tamper alarms (open/short/unknown) even in disarmed state.

When "False," the Intrusion Zone object does not monitor inputs in disarmed state. No alarms are generated in disarmed state.

Access Profile ID – Specifies the ID of the access profile with intrusion rights being used by the Intrusion Keypad/Display object; cleared after notification is generated.

Alarm Input Attribute List – Specifies the attributes the Intrusion Zone object shall use as alarm inputs. Typical examples for alarm inputs are motion detectors and glass break sensors.

Alarm Status – Indicates the current alarm state of the Intrusion Zone object.

Annunciator Output Attribute List – Specifies the attributes the Intrusion Zone object shall use as annunciator outputs.

Arm Status – Indicates the current arm state of the Intrusion Zone object.

Command – Specifies the command the Intrusion Zone object should execute.

Delay Annunciator Output Attribute – Specifies the attribute the Intrusion Zone object shall use as a delay annunciator output.

Entry Input Attribute List – Specifies the attributes the Intrusion Zone object shall use as entry inputs. Activating an entry input delays the zone's alarming by the time specified in the *Entry Time* attribute, to allow enough time for disarming the area. Other than that, entry inputs are treated the same as alarm inputs; there is no need to also include an entry input in the *Alarm Input Attribute List*. A typical example for an entry input is a door contact of an entrance door that leads to the KDM.

Entry Time – Specifies the minimum period of time in seconds for a user to disarm the system after alarming an entry input. The entry delay delays generating an alarm for active inputs from only the *Entry Input Attribute List* attribute.

Event State – Specifies the current state of the Intrusion Zone object after sending a notification.

Event Time Stamps – Indicates the times of occurrence of the last To-Offnormal, To-Fault, and To-Normal event transitions. Time and Date time stamps are shown as "*" if no transition of that type has been generated. Sequence time stamps are 0 if no transition of that type has been generated. If intrinsic reporting is supported by the object, this attribute is required.

Exit Time – Specifies the minimum period of time in seconds for a user to leave the premise through the exit zone after arming the system. The exit delay delays generating an alarm for active inputs listed within either the *Alarm Input Attribute List* or the *Entry Input Attribute List* attribute.

Notification Class – Specifies which Security Notification Class object should be used by the Intrusion Zone object to send its notifications.

Notify Priority – Specifies the Priority parameter of all notifications generated by the Intrusion Zone object.

Notify Type – Identifies the Notify Type parameter of all notifications generated by the Intrusion Zone object.

The Intrusion Zone object may send notifications of the following type:

- Alarm
- Event

Operation Mode – Specifies the mode of operation of the Intrusion Zone object.

When armed, the following modes of operation are available:

- Momentary Alarms - When any attribute referenced by *Alarm Input Attribute List* is activated, an alarm condition exists.
- Paired Alarms - When at least two attributes referenced by *Alarm Input Attribute List* or *Entry Input Attribute List* are activated within the time specified by the *Time Period* attribute, an alarm condition exists.
- Double Knock - When any attribute referenced by *Alarm Input Attribute List* or *Entry Input Attribute List* is activated at least twice within the time specified by the *Time Period* attribute, an alarm condition exists.

See "Alarm Modes" on page 12 for details.

Present Value – Specifies whether the Intrusion Zone object is armed or disarmed:

- When this attribute is written to "Arm," the Intrusion Zone object attempts to enter the "Armed" state. When in "Armed" state, the Intrusion Zone object is able to generate alarms.
- When this attribute is written to "Disarm," the Zone object exits the "Armed" state. While "Disarmed," the Intrusion Zone object does not generate alarms.

Relinquish Default – Specifies the default value of the *Present Value* attribute.

Reset Output Attribute List – Specifies the attributes the Intrusion Zone object shall use as reset outputs. Activating the reset outputs informs the sensors that they are being reset.

Tamper Input Attribute List – Specifies the attributes the Intrusion Zone object shall use as tamper inputs. Some intrusion detection devices offer an electrical output that indicates a tamper condition.

Test Output Attribute List – Specifies the attributes the Intrusion Zone object shall use as test outputs. Activating the test outputs informs the sensors that they are being tested.

Time Period – Specifies the timing required for an alarm condition to be detected:

- *Momentary Alarms* - This attribute is not currently used.
- *Paired Alarms* - Multiple alarm or entry inputs must be activated within a time period, and be active at the same time.
- *Double Knock* - Alarm or entry input must be activated multiple times within a time period.

See "Alarm Modes" on page 12 for details.

Trouble Input Attribute List – Specifies the attributes the Intrusion Zone object shall use as trouble inputs. Some intrusion detection devices offer an electrical output that indicates a trouble condition.

Zone Name – Specifies the Intrusion Zone object's name as displayed on the KDM.

Zone Number – Indicates the Intrusion Zone object's instance number as it is displayed in the Intrusion Keypad/Display, Intrusion Area, and Intrusion Annunciator objects.

COMMANDS

This section describes commands that can be issued to this object from SCT.

Table 2: Intrusion Zone Object Commands

Command Name	Description
`Activate`	Writes the *Command* attribute to "Activate."
`Acknowledge`	Writes the *Command* attribute to "Acknowledge."
`Bypass`	Writes the *Command* attribute to "Bypass."
`Test Start`	Writes the *Command* attribute to "Test."
`Test Stop`	Writes the *Command* attribute to "None."
`Reset Start`	Writes the *Command* attribute to "Reset."
`Reset Stop`	Writes the *Command* attribute to "None."
`Change Attribute`	See the description below.

The `Change Attribute` is a generic command available for writing the attributes of an object. It is mainly used to change an attribute value from those features which work only with commands. For the sole purpose of giving a generic example, there is no command defined to change the *Notify Priority* attribute of an object. `Change Attribute` could, therefore, be used to change the *Notify Priority* attribute through an interlock or multiple command, both features which require commands to be entered. The `Change Attribute` command requires two parameters:

- Attribute - This parameter specifies which attribute of the object is to be written. Only writable attributes may be changed by this command.
- New value - This parameter specifies new value to be written and must be the same data type as the attribute. The only data types allowed in this command are those allowed as command parameters. A command priority can be specified if the attribute to be changed is a prioritized attribute.

VIEWS

This section illustrates how the System Configuration Tool displays properties of the Intrusion Zone object. This screen also allows you to set the values of configurable attributes. For more information refer to the *System Configuration Tool (SCT)* manual.

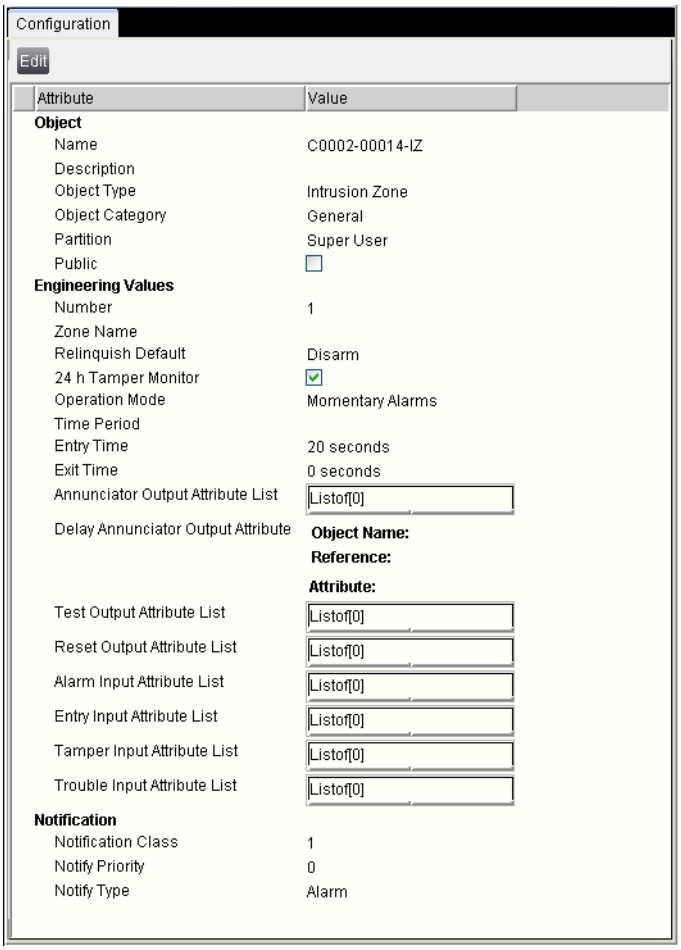
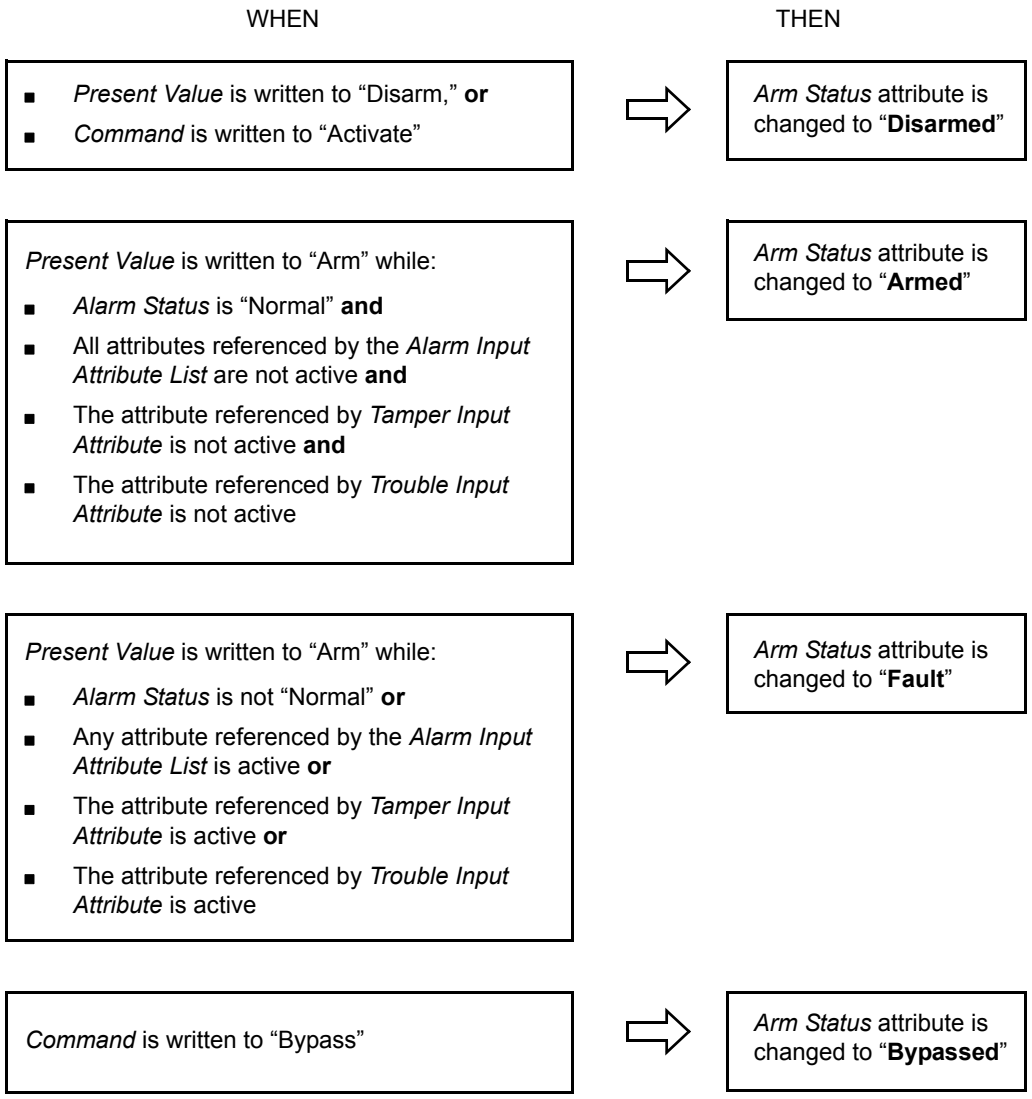


Figure 3: Configuration View

CHANGES TO ATTRIBUTES

To detect alarm condition, the Intrusion Zone object monitors attributes referenced by *Alarm Input Attribute List*, *Tamper Input Attribute*, and *Trouble Input Attribute*. For details on attribute changes see Figures 4-6.

Arm Status Attribute



Note:

"Arming" and **"Disarming"** are not currently used.

Figure 4: Changes to Arm Status Attribute

Alarm Status Attribute

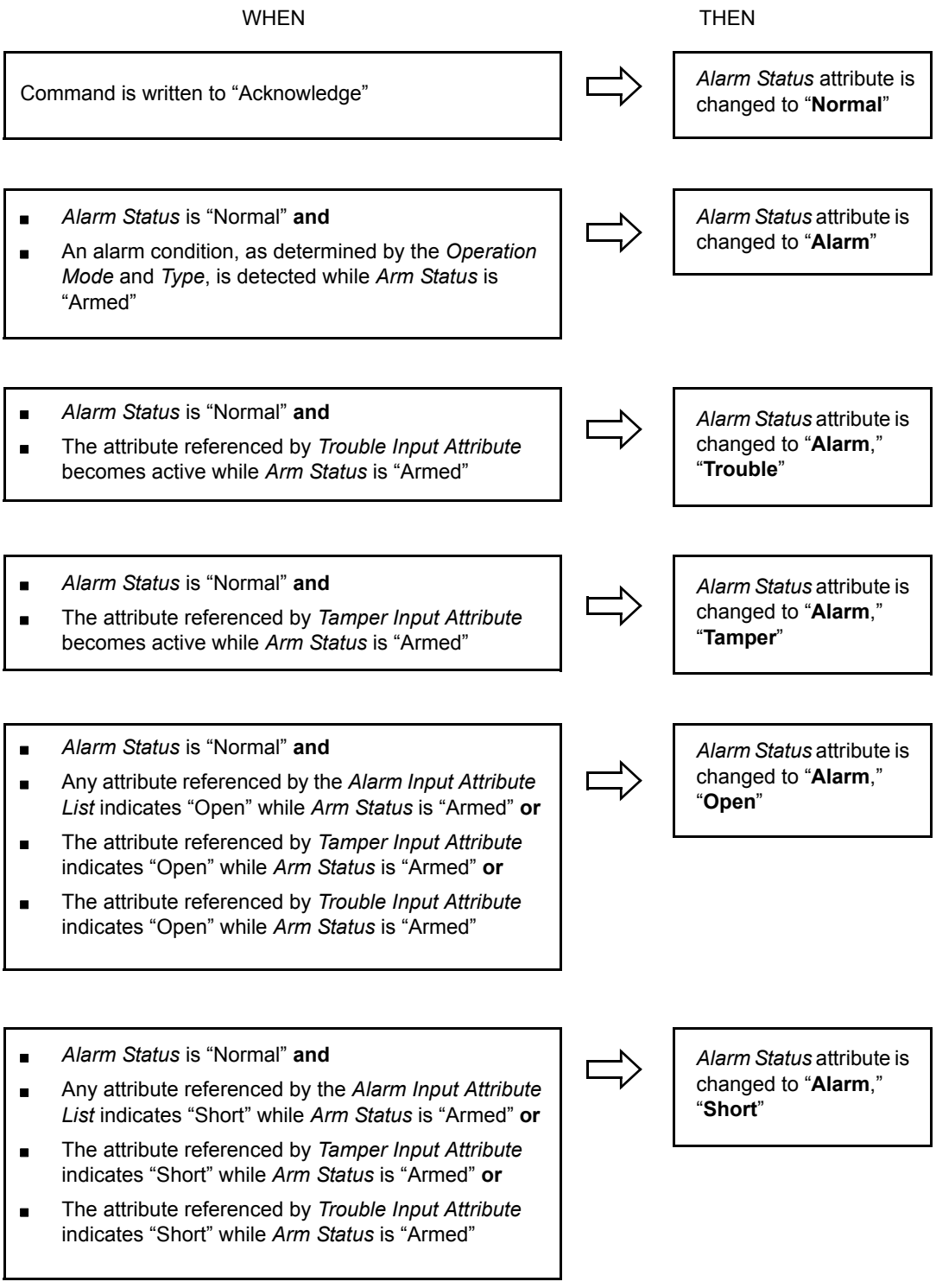


Figure 5: Changes to Alarm Status Attribute

Command

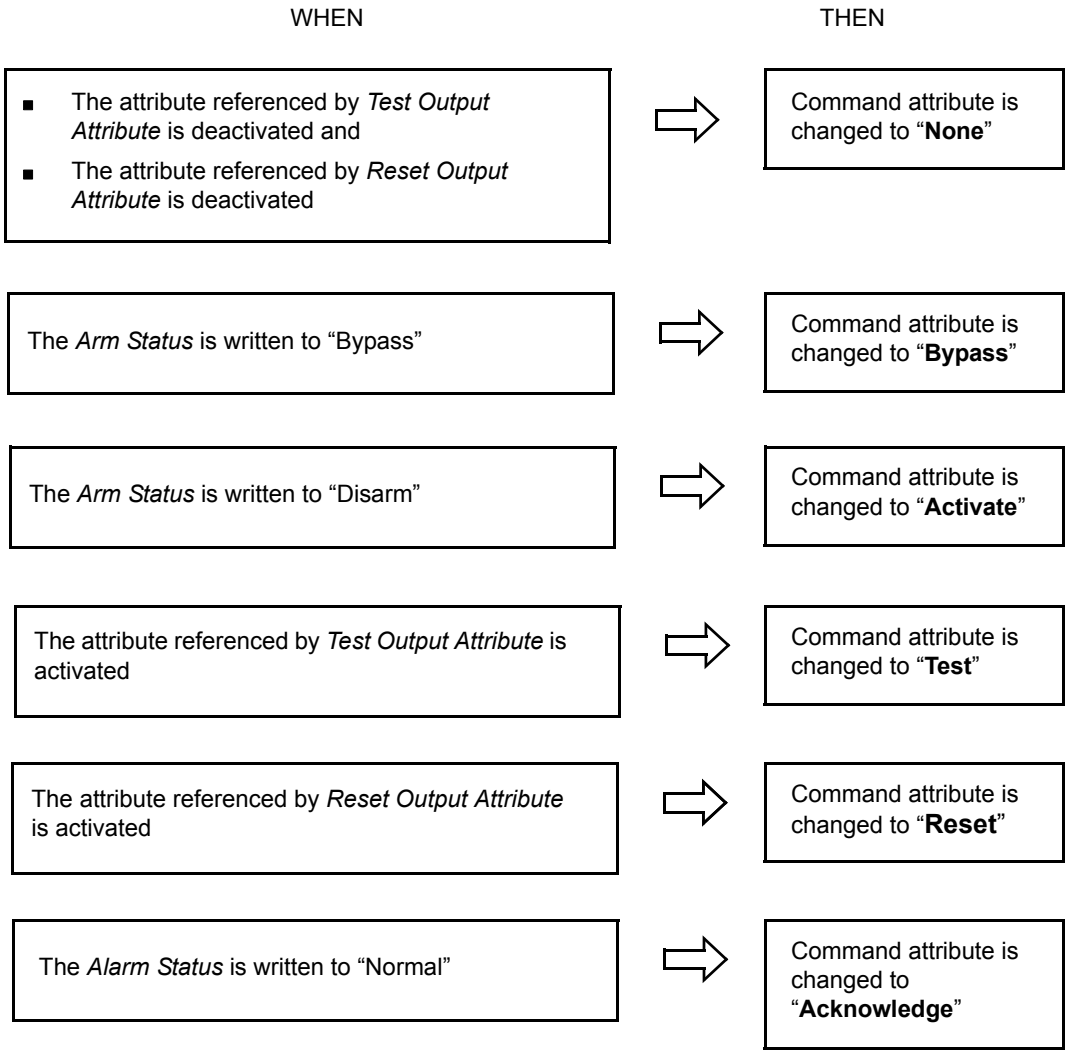


Figure 6: Changes to the Command Attribute

ALARM MODES

This section provides details on timing sequences for alarm modes.

Momentary Alarm Mode

This is the basic mode for the alarms.

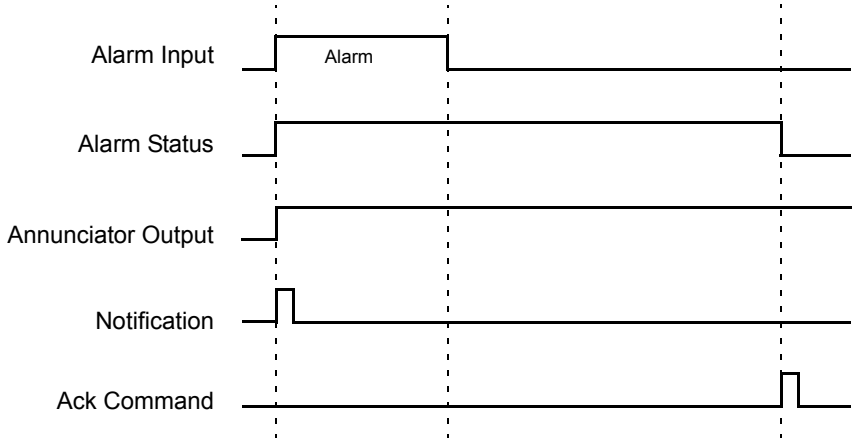


Figure 7: Timing Diagram for Momentary Alarm Mode

Paired Alarms Mode

The Paired Alarms mode attempts to reduce false alarms by requiring multiple sensors to trip.

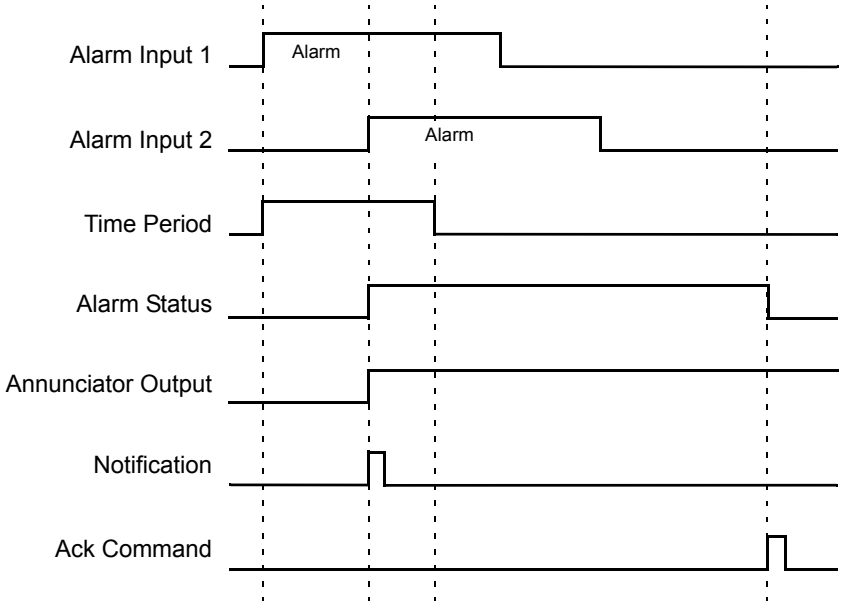


Figure 8: Timing Diagram for Paired Alarms Mode

Double Knock Mode

The Double Knock mode attempts to reduce false alarms by requiring multiple sensors to trip.

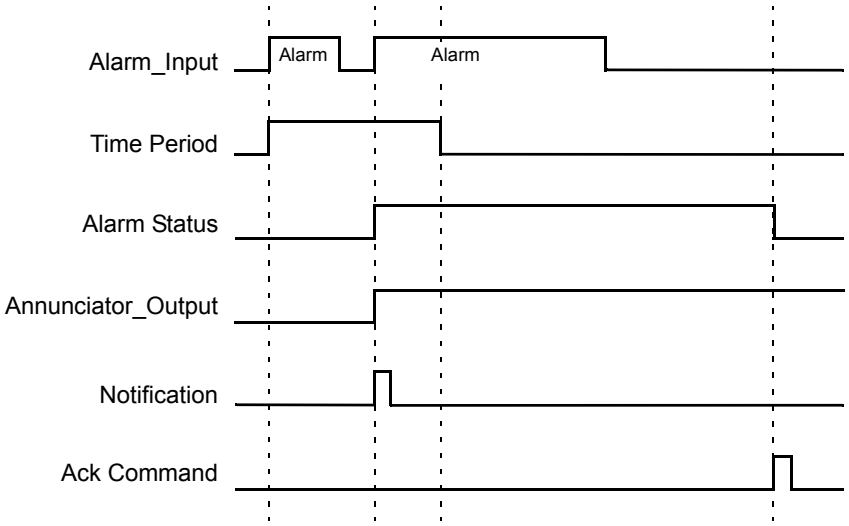


Figure 9: Timing Diagram for Double Knock Mode

Entry Delay Mode

The Entry Delay mode gives a user time to enter and disarm the system. This mode utilizes the *Entry Time* attribute.

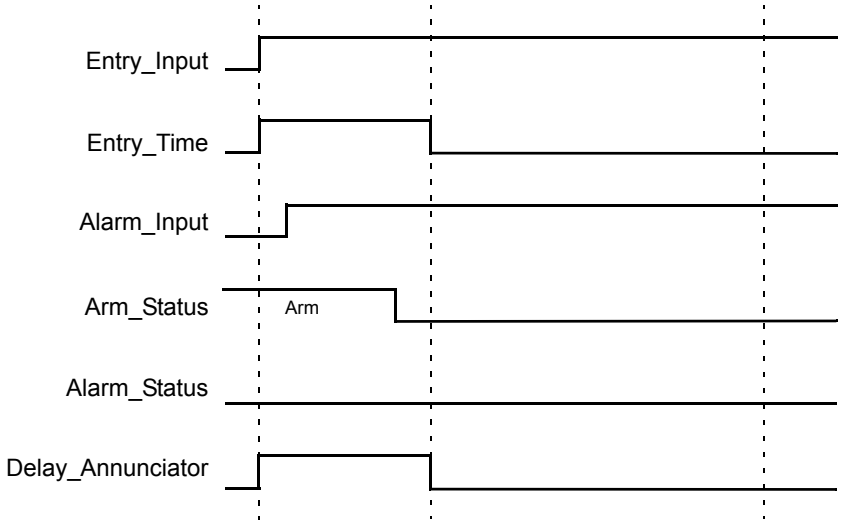


Figure 10: Timing Diagram for Entry Delay Mode

Exit Delay Mode

The Exit Delay mode gives a user time to leave and arm the system. This mode utilizes the *Exit Time* attribute.

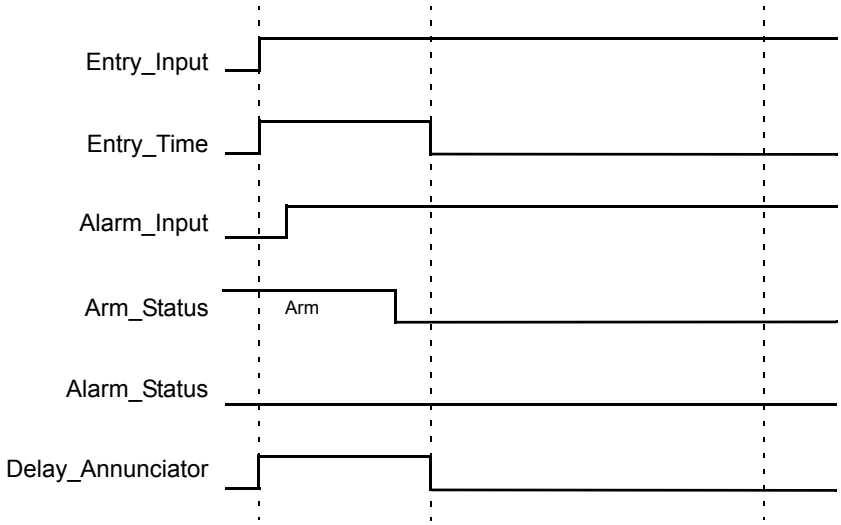


Figure 11: Timing Diagram for Exit Delay Mode