

KI-H2D Dual-Reporting Heat Detector

Introduction

The KI-H2D is a heat detector providing the capability of reporting alarm thresholds at fixed 135°F, and also a separate emergency level heat threshold. The emergency threshold is selectable during installation and its use is explained in this document. The application best suited for this detector is Fire Service areas governed by NFPA 72 2016 section 21.5. which details requirements and operation for temperature rise in elevator lobbies, machine rooms and occupant evacuation. However, it can also be used for notification of freezing conditions in sprinkler, deluge or water mist applications.

Identification

The KI-H2D is uniquely marked with a double H on the cone of the detector as shown below.



Compatibility & VM-CU Programming

The KI-H2D is compatible with VM only.

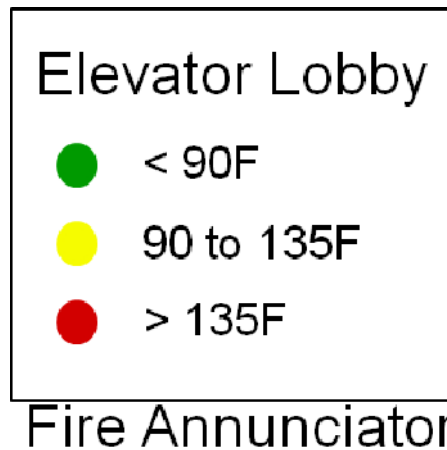
The KI-H2D is defined in the VM-CU V1.42 as a photo smoke detector.

Emergency heat settings are defined in the VM-CU for each KI-H2D detector under the pre-alarm settings according to the following table:

CU Pre-alarm Setting	Device Emergency trip temperature +/- 2.5°F	Resulting event condition
5%	35°F	Device generates a pre-alarm when temperature falls below set point
10%	40°F	
15%	45°F	
20%	50°F	
25%	55°F	
30%	60°F	Device generates a pre-alarm when temperature goes above set point
35%	65°F	
40%	70°F	
45%	75°F	
50%	80°F	
55%	85°F	
60%	90°F	
65%	95°F	
70%	100°F	
75%	105°F	
80%	110°F	
85%	115°F	
90%	120°F	
95%	125°F	
100%	135°F	

Fire Service Example

Fire Service annunciators defined in NFPA 72 section 21.5 require three indications of temperature at each prescribed location as illustrated below:



The D12LS-VM or external annunciator is recommended for displaying these detector states.

Following are example correlations to accomplish the illumination of the fire annunciator LEDs (green-normal, yellow-pre-alarm, red-alarm):

Correlation Name	Input	Output 1 (Command Type)	Output 2 (Command Type)
STARTUP CORRELATION	STARTUP	ON (Low)	DET1_NORMAL_LED
ALARM H2D1	ALARM	OFF (Low)	DET1_NORMAL_LED
	H2D1	ON (Low)	DET1_ALARM_LED
PREALARM H2D1	PREALARM	OFF (Low)	DET1_NORMAL_LED
	H2D1	ON (Low)	DET1_PRE_LED
TROUBLE H2D1	TROUBLE	OFF (Low)	DET1_NORMAL_LED
	H2D1	ON (Low)	DET1_NORMAL_LED

Programming notes for Latching or Non-Latching operation

Latching Operation

Select a photo smoke detector model (PS) for each KI-H2D with device personality 1 Latching

Functionality described below:

Latching operation requires the user to press “Reset” switch on panel to clear pre-alarm and alarm

Alarm

- Device alarms when ambient temperature rises above 135°F.
- Alarm is latched until user presses “Reset” switch.

Pre-Alarm/Heat Warning

- Device pre-alarms when ambient temperature rises above set temperature.
- Pre-alarm is latched until user presses “Reset” switch or ambient temperature rises above 135°F

Pre-Alarm/Freeze Warning

- Device pre-alarms when ambient temperature falls below set temperature.
- Pre-alarm is latched until user presses “Reset” switch or ambient temperature rises above 135°F

Non-Latching Operation

Select a photo smoke detector model (PS) for each KI-H2D with device personality 3 non-Latching

Functionality described below:

Alarm operation requires the user to press “Reset” switch on panel (latching) Pre-alarm does NOT require user to press “Reset” switch (non-latching)

Alarm

- Device alarms when ambient temperature rises above 135°F.
- Alarm is latched until user presses “Reset” switch.

Pre-Alarm/Heat Warning

- Device pre-alarms when ambient temperature rises above set temperature.
- Pre-alarm is cleared when temperature falls below set temperature.

Pre-Alarm/Freeze Warning

- Device pre-alarms when ambient temperature falls below set temperature.
- Pre-alarm is cleared when temperature rises above set temperature.

The following correlations are required to latch the Alarm condition if the KI-H2D detector is configured as a non-latching device type. The AND group referenced below should be defined as Alarm type with no members. Example correlations shown below.

Note: In some applications when using the KI-H2D the VM-CU may generate a record lock issue when attempting to save correlations. Should you encounter a record lock issue related to the KI-H2D, please contact Technical Support for assistance. This issue will be resolved in a future release of the VM-CU.

The image displays four panels of a control interface, each with an 'Inputs' section on the left and an 'Outputs' section on the right. Each panel includes a title bar with a status indicator (a plus sign and a checkmark) and a comment field.

- RESET Panel:** The 'Inputs' section contains 'RESET'. The 'Outputs' section contains 'H2D_RESTORE_COMMAND_LIST'. The 'Command type' is set to 'ACTIVATE'.
- STARTUP CORRELATION Panel:** The 'Inputs' section contains 'STARTUP'. The 'Outputs' section contains 'DET1_NORMAL_LED' and 'H2D_RESTORE_COMMAND_LIST'. The 'Command type' is set to 'ACTIVATE'.
- ALARM H2D Panel:** The 'Inputs' section contains 'ALARM'. The 'Outputs' section contains 'H2D1' and 'H2D_ACTIVE_COMMAND_LIST'. The 'Command type' is set to 'ACTIVATE'.
- H2D ACTIVATE COMMAND LIST Panel:** The 'Inputs' section contains 'ACTIVATION'. The 'Outputs' section contains 'AND1', 'DELAY' (set to 0 Seconds), 'H2D_ACTIVE_COMMAND_LIST', 'DELAY' (set to 0 Seconds), and 'H2D_RESTORE_COMMAND_LIST'. The 'Command type' is set to 'ACTIVATE'.

<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		H2D RESTORE COMMAND LIST		No comment added <input type="checkbox"/>	
Inputs			Outputs		
<input checked="" type="checkbox"/> ACTIVATION <input type="checkbox"/>			Command type: <input type="text" value="ACTIVATE"/> <input type="checkbox"/> Add		
H2D_RESTORE_COMMAND_LIST			<input checked="" type="checkbox"/> RESTORE <input type="text" value="Low"/> <input type="checkbox"/> Activation <input type="checkbox"/>		
			AND1		
			<input checked="" type="checkbox"/> DELAY <input type="text" value="Low"/> <input type="checkbox"/> Activation <input type="checkbox"/> <input type="text" value="0"/> Seconds		
			<input checked="" type="checkbox"/> ENABLE <input type="text" value="Low"/> <input type="checkbox"/> Activation <input type="checkbox"/>		
			H2D_ACTIVE_COMMAND_LIST		
			<input checked="" type="checkbox"/> DELAY <input type="text" value="Low"/> <input type="checkbox"/> Activation <input type="checkbox"/> <input type="text" value="0"/> Seconds		
			<input checked="" type="checkbox"/> DISABLE <input type="text" value="Low"/> <input type="checkbox"/> Activation <input type="checkbox"/>		
			H2D_RESTORE_COMMAND_LIST		

Contact information



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