DS-HFS Addressable SmartOne Protocol Heat Detector

Kidde Fire Systems

FOR KIDDE FIRE SYSTEMS INTELLIGENT CONTROL UNITS

FEATURES

- *135°F (57°C) Fixed Temperature Alarm Point*
- *Works with SmartOne® communication protocol*
- *Compatible with Kidde, Fenwal and Chemetron branded intelligent control units*
- *Operates in conjunction with SmartOne CPD-7052, PSD-7152 and THD-7252 legacy detectors*
- *Maximum 50 ft. (15.2 m) spacing from detector centers (UL)*
- *Detector head and terminal base design (bases sold separately)*
- *Low-profile design blends into ceiling*
- *Attractive 6 in. diameter trim ring provided with bases*
- *Electronic Addressing performed with SmartOne Hand-Held Programmer*
- *Advanced data analysis reduces likelihood of nuisance alarms*
- *Two-color (green/red) LED*
- *FM Approved*
- *cULus Listed*
- *California State Fire Marshal Listed*

DESCRIPTION

The DS-HFS Heat Detector is an intelligent fixed-temperature device that provides a 135°F (57°C) fixed-temperature heat sensor for the detection of heat due to fire. The heat sensor monitors the temperature of the air and the detector's on-board microprocessor measures and analyzes sensor readings, comparing this information to historical data to determine whether an alarm should be initiated. Digital filters remove signal patterns that are not typical of fires, thus virtually eliminating unwanted alarms.

ADDRESSING

DS-HFS detectors feature electronic addressing. No addressing switches are used.

LEDS

DS-HFS detectors use an LED to indicate the detector's condition. In normal condition, a flashing green LED indicates that the control unit is performing background supervision and a flashing red LED indicates an alarm condition.

LED PULSE MODES

- Normal, Standby: (green) flash at 9-second repetition rate
- Alarm: (red) flash at 2.5-second repetition rate

INSTALLATION

A DS-HFS detector mounts to North American 1-gang boxes, 3-1/2 inch or 4 inch octagon boxes, and to 4 inch square electrical boxes 1-1/2 inches (38 mm) deep.

LOCKING FEATURE

The compatible detector bases include an optional locking feature that prevents removal of the detector without use of a tool. To eliminate this feature, prior to placing the detector in a difficult-to-reach location, break and remove the plastic lever arm from the base.

ORDERING INFORMATION

DS-HFS	Intelligent 135°F (57°C) Fixed-Temperature Heat Detector, head only
DS-SB	Detector Mounting Base, 4 in. diameter, with 6 in. trim ring, for 2-wire connection to SmartOne SLC
DS-RB	Detector Mounting Base, 4 in. diameter, with relay option and 6 in. trim ring, for 2-wire connection to SmartOne SLC
70-600000-100	SmartOne Hand-Held Programmer and accessories with DS Series Detector Programming Adapter
70-600000-110	DS Series Detector Programming Adapter

DETECTOR BASES

The DS-HFS detector head attaches easily to these compatible bases. Detector bases have wiring terminals that are accessible from the "room-side" after mounting the base to the electrical box. A trim ring is supplied with the 4-inch base to help hide surface imperfections.

- **Model DS-SB Standard Base:** Connects the detector to the Signaling Line Circuit (SLC).

- **Model DS-RB Relay Base:** Connects the detector to the Signaling Line Circuit (SLC) and provides optional Relay functionality to the DS-HFS detector.

ACCESSORIES

- **70-600000-100 Hand-Held Programmer**: The SmartOne Hand-Held Programmer (with DS Series Programming Adapter) can be purchased separately to conveniently set the DS-HFS electronic address in this manner. The control unit software can alternatively be used to set detector address.

PROTOCOL

This product will operate only on a Kidde Fire Systems fire alarm-suppression control unit employing SmartOne communications protocol.

TECHNICAL SPECIFICATIONS

Operating voltage	24 VDC (nominal)
Current Normal Operating Alarm	 150 µA 220 µA
Fixed Temperature Alarm Point	135°F (57.2°C)
Maximum Spacing UL/cUL: FM:	 50 ft. (15.2 m) centers 15 ft. X 15 ft. (4.5 m X 4.5 m)
Compatible bases	DS-SB (Standard) DS-RB (Relay)
Operating Environment Temperature Relative humidity	 32 to 100°F (0 to 38°C) 0 to 93% RH, non-condensing
Storage temperature	−4 to 140°F (−20 to 60°C)
SLC Protocol	SmartOne
Color	White head and base
Construction	High impact engineering polymer
Mounting	Plug-in
Shipping weight	0.44 lb. (164 g)

REGULATORY INFORMATION

North American standards	CAN/ULC-S530-M91, UL 521, FM Approvals 3210
Alarm Point UL:	 129 to 144°F (53.9 to 62.2°C) (at 50 ft. centers spacing)
cUL:	129 to 141°F (53.9 to 60.6°C) (at 50 ft. centers spacing)
FM:	130 to 140°F (54 to 60°C) (at 15 ft. X 15 ft. spacing)
Response Time Index	Standard (evaluated by FM Approvals)
FCC compliance	This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Industry Canada compliance	This Class A digital apparatus complies with Canadian ICES-003.

INTEGRATION OF DETECTORS

DS-HFS detectors can be mixed in any order with SmartOne legacy detectors on a Kidde Fire Systems intelligent control unit running SmartOne protocol.

COMPATIBLE CONTROL UNITS

Kidde	ARIES NET*Link*
Kidde	ARIES
Kidde	PEGAsys *
Fenwal	FenwalNET 8000-ML
Fenwal	FenwalNET 6000
Fenwal	FenwalNET 2000 *
Chemetron	MICRO MLX
Chemetron	MICRO SLX

* DS Series detectors are compatible with FenwalNET 2000 and PEGAsys control units running software version 82.4. Note that FenwalNET 2000 and PEGAsys control units are no longer UL Listed or FM Approved. DS Series detectors have not been compatibility-tested on legacy control units older than FenwalNET 2000 and PEGAsys.

SOFTWARE NOTE:

The DS-HFS detector does NOT have a configurable Alarm threshold. When replacing a THD-7252 detector with the DS-HFS, ensure that the Alarm threshold and spacing are set to default settings, 135 degrees and 50 feet. If a DS-HFS is configured for any setting other than default, the detector will still operate at the 135 degree threshold. If the control unit is running software version 1.2.11 (for Single Loop panel) or software version 2.1.2 (for Multi-Loop panel) or later, the message 'INVALID THRESHOLD" will be reported on the Keypad/Display. However, if the control unit is running an older version of software, no message will be reported.

The DS-HFS Pre-Alarm will operate at 110 degrees F. Control unit software version 1.2.11 (for Single Loop panel) or software version 2.1.2 (for Multi-Loop panel) or later provides an option to disable Pre-Alarm reporting. Pre-Alarm reporting can be disabled in earlier control unit software versions by setting the PreAlarm threshold to "134". **The DS-HFS is not agency approved for 70 ft. spacing, so any 70 ft. THD-7252 replacements will require repositioning of the detector.**
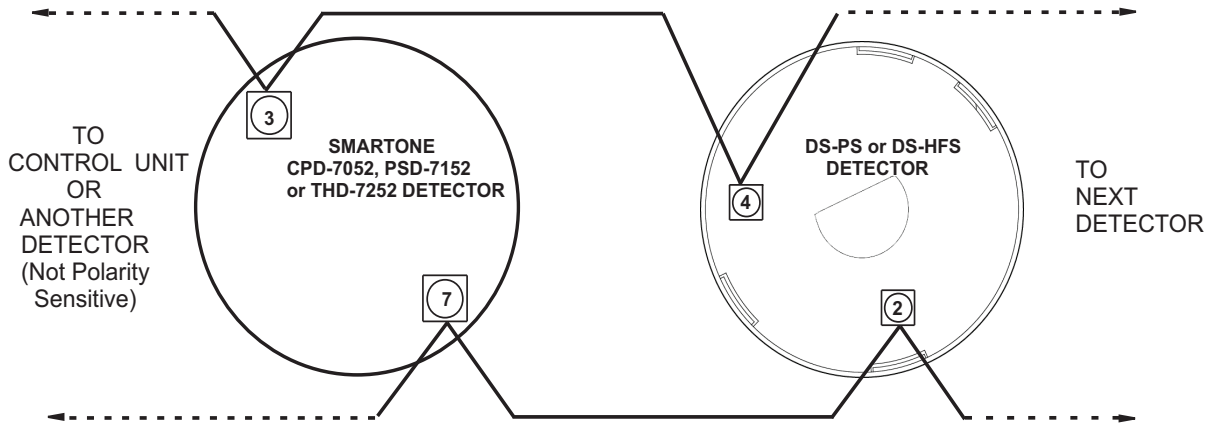

Figure 1: Combining Legacy Detectors with DS Series Detectors
(Class B, Style 4 Wiring Style Shown)

NOTES:

1.   Detectors are not polarity sensitive. Terminals 3 and 7 (legacy) or Terminals 2 and 4 (DS Series) can be reversed.
2.   SmartOne and DS Series detectors can be installed in any order.
3.   SLC loop is not sensitive to the location of the control unit (can be left or right end of loop).
4.   Four-wire loops will be wired as above, bringing loose end of loop back to the control unit.

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TERMINAL DESIGNATIONS:

Number	Description
1	Not used
2	SLC IN/OUT
3	Not used
4	SLC IN/OUT
5	Not used
6	Not used
7	Not used

From control unit
or
From previous detector

To next detector

DS-SB Standard Base - Class B, Style 4 Wiring Shown

TERMINAL DESIGNATIONS:

Number	Description
1	Normally Open
2	SLC IN/OUT
3	Common
4	SLC IN/OUT
5	Not used
6	Normally Closed
7	Not used

From control unit
or
From previous detector

To next detector

DS-RB Relay Base - Class B, Style 4 Wiring Shown

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