

HART Mini

High Sensitivity Smoke Detector (HSSD®)



- Small area protection (less than or equal to 800m²)
- Pre-engineered for simple installation
- Protects high-value equipment
- Very early warning of overheating electronics and cables
- Provides time to investigate and shut down before a fire starts
- Reduces downtime



The Hart Mini High Sensitivity Smoke Detector (HSSD®) provides cost effective, very early warning smoke detection in small areas (less than or equal to 800m²). Using a laser particle counter, Hart Mini detects small amounts of smoke from overheating or smouldering equipment before the smoke is even visible. The most important factor needed in the event of electrical equipment failure is time. The very early warning from Hart Mini gives you time to:

- Investigate the problem
- Make critical decisions
- Shut down the equipment which is causing the problem
- Prevent the spread of smoke
- Prevent a fire

WHAT IS HIGH SENSITIVITY SMOKE DETECTION?

Hart Mini's laser particle counter detects smoke particles at a sensitivity typically up to 1000 times higher than normal point type smoke detectors. Hart Mini is capable of detecting invisible products of combustion, such as overheating insulation and electronic components, or small amounts of smoke generated during the incipient stage of a fire. Detection of a problem during the incipient stage allows time for corrective action, possibly preventing escalation to a fire condition, thus minimising damage, smoke contamination and downtime. Hart Mini is designed to detect smoke during this incipient stage.

By early detection, your response becomes a maintenance emergency, not a fire situation. In most instances, powering down the affected equipment stops the progression of the fire. Hart Mini can be configured to meet specific operational requirements when responding to an emergency situation, depending on the amount of smoke detected. A typical scenario would include:

- Detecting very small amounts of smoke, a Pre-Alarm would initiate an immediate investigation of the problem.

- When greater amounts of smoke are detected, an Alarm would initiate automatic shut down of the equipment.

The sensitivity of the detector is programmable over a wide range, so Pre-Alarm and Alarm levels can be set to match the specific characteristics of your individual application.

HOW DOES HART MINI WORK?

Hart Mini is an aspirating smoke detector (ASD). Unlike a passive conventional smoke detector, Hart Mini incorporates a fan to actively and continuously draw air from the protected area into a pipe network and through the laser particle counter, where the air is analysed for the presence of smoke. Smoke concentration is determined by counting the number of discrete particles in a given time period. Hart Mini's exclusive particle size discrimination technology allows only those particles in the specific range of 0.1 to 10 microns to be counted as products of combustion. Any particles outside this range are generally ignored and do not contribute to the calculation of the smoke level. Because Hart Mini's particle size discrimination is performed electronically, no filters are required to prevent dust from causing nuisance alarms. Hart Mini operates virtually maintenance-free.

2 HART Mini

KEY FEATURES

Hart Mini can be configured for automatic or manual operation. It also has simple, easy to use indicators, controls and outputs:

Relays: Hart Mini has three output relays:

- Pre-Alarm is a normally de-energised open relay that operates when the smoke level exceeds the programmed pre-alarm threshold.
- Alarm is a normally de-energised open relay that operates when the smoke level exceeds the programmed alarm threshold.
- Fault is a normally energised open/closed relay that operates when any fault is present, including loss of power. The relay is energised during Status Normal.

Indicators: A single tri-color LED on the front cover provides visual indication of the detector's status:

Normal	Green
AutoSetup	Flashing Green
Pre-Alarm	Flashing Red
Alarm	Continuous Red
Fault	Flashing Yellow
Isolated	Continuous Yellow

Controls: A single push button switch on the front cover provides control of the detector:

- **Reset:** Momentarily press the switch to clear a latched smoke condition.
- **Isolate:** Press and hold the switch to toggle the Isolate feature on and off.

Programming and reporting: An RS-232 port is used to configure the detector. It is also used for downloading the detector's

smoke level history or event history for post-incident analysis.

Programmable Sensitivity: Hart Mini's sensitivity is programmable over a wide dynamic range, allowing it to be adapted to most applications.

Smoke Level History: This powerful diagnostic feature stores up to four weeks of date & time stamped smoke history. History sampling rate is programmable from 1 to 60 seconds. Using LaserNET software, this history can be downloaded and displayed graphically, printed or stored.

Optical Self Test (OST): The Detector Head incorporates an integral test feature that automatically checks the detection optics. This feature is also available manually by use of the LaserNET Software.

TECHNICAL SPECIFICATIONS

Weight:	2.2 kg. (4.9 lb)
Finish:	Light grey polycarbonate enclosure with steel mounting plate
Sensitivity Range:	0.0025 to 1.0%/m Obscuration (0.00075 to 0.3%/ft)
Input Voltage:	18 to 30Vdc (24Vdc Nominal)
Input Current:	Nominal 230mA @ 24Vdc, plus 16mA in Alarm
Operating Temperature:	0 to 49 deg C (32 to 120 deg F)
Operating Humidity:	10 to 93% RH, non condensing, at 40 deg C (104 deg F)
Enclosure Rating:	IP31 (NEMA-1)
Dimensions:	222mm (8.74") wide x 226mm (8.89") high x 81mm (3.20") deep
Alarm Relay:	Volt-free normally open contacts, 2A@30Vdc resistive
Pre-alarm Relay:	Volt-free normally open contacts, 2A@30Vdc resistive
Fault Relay:	Volt-free change over contacts, 2A@30Vdc resistive, energised when detector is in status normal
Remote Reset Input:	Momentary contact closure
Electrical Connection:	Up to 2.5mm external wiring to terminal blocks
Service Port Connection:	RJ12 Jack, RS-232 Communications
Smoke Level History:	40,320 data points, up to 28 days @60 sec sampling rate
Event history:	128 events
Air Inlet:	3/4" threaded NPT (3/4" to 25mm adaptor supplied)
Optional Exhaust Adaptor:	3/4" threaded NPT (3/4" to 25mm adaptor supplied)

ORDERING INFORMATION

53836-K205K-00 Hart Mini Detector (Bottom pipe entry)
53836-K205K-01 Hart Mini Detector (Top pipe entry)
TM0083* Hart Mini Installation, Operation & Maintenance Manual
TM0049* LaserNET Configuration Software & User's Guide, Version 3
53836-H08 RS-232 Programming Cable, DB9 to RJ12

*Supplied on CD with Hart Mini detector

Kidde Fire Protection's range of "SnifferPipe" Red ABS 25mm Pipe & Fittings is available for use with Hart Mini High Sensitivity Smoke Detection Systems.

Kidde Fire Protection operates a continuous programme of product development. The right is therefore reserved to modify any specifications without prior notice and Kidde Fire Protection should be contacted to ensure that the current issue of all technical data sheets are used.

Kidde Fire Protection

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