

CE 0786 09	DOP-IFD184	ESMI52051E	EN 54-5: 2017 + A1: 2018 Category A1S
	DOP-IFD185	ESMI52051EI	EN 54-5: 2017 + A1: 2018 Category A1S, EN 54-17: 2005
	DOP-IFD182	ESMI52051RE	EN 54-5: 2017 + A1: 2018 Category A1R
	DOP-IFD183	ESMI52051REI	EN 54-5: 2017 + A1: 2018 Category A1R, EN 54-17: 2005
	DOP-IFD186	ESMI52051HTE	EN 54-5: 2017 + A1: 2018 Category BS
	DOP-IFD187	ESMI52051HTEI	EN 54-5: 2017 + A1: 2018 Category BS, EN 54-17: 2005
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## ENGLISH

INSTALLATION AND MAINTENANCE  
INSTRUCTIONS FOR ESMI52051 ADVANCED  
THERMAL FIRE SENSORS

## GENERAL DESCRIPTION

The ESMI52051 Advanced intelligent thermal sensors are plug-in type fire sensors that use a single thermistor sensing circuit to provide early warning of developing fires, together with addressable communication with the fire panel.

The ESMI52051RE / ESMI52051REI provides fixed 58°C and rate-of-rise (10°C/minute) temperature sensing (Category A1R).

The ESMI52051E / ESMI52051EI provides fixed 58°C temperature sensing (Category A1S).

The ESMI52051HTE / ESMI52051HTEI provides fixed 78°C high temperature sensing (Category BS).

These sensors are designed for open area protection and must only be connected to fire panels that use a compatible proprietary communication protocol for monitoring and control.

Models ending with the letter 'I' contain an isolator, if installing this version check the panel documentation for details of how many isolators can be used on a loop.

Two LEDs on each sensor light to provide a local 360° visible sensor indication (operation of LEDs are dependent on panel). Remote LED indicator capability is available as an optional accessory wired to the standard base terminals (again dependent on panel).

## SPECIFICATIONS

Operating Voltage Range:	see S00-7300
Max. Standby Current (no comm.):	160 µA @24 V and 25°C
(comm. LED blink enabled - 5 sec)	300 µA @24 V and 25°C
(Read 16 sec. LED blink 8 sec)	190 µA @24 V and 25°C
	add 50 µA for 'I' isolated models
Max. Alarm Current (LED on):	3.5 mA @ 24 V and 25°C
Operating Humidity Range:	10% to 93% Relative Humidity, Non-Condensing

Isolator Characteristics ('I' Versions Only): see S00-7300

These sensors have been independently tested and certified. See table at top of page. EN 54-5: 2017 + A1: 2018 states that Category A1 has a maximum application temperature of 50°C, Category B has a maximum application temperature of 65°C.

## WIRING GUIDE

Refer to the installation instructions supplied with the plug-in sensor bases for wiring details. All bases are provided with terminals for power and an optional Remote Indicator.

**Note 1:** All wiring must conform to applicable local and national codes and regulations.

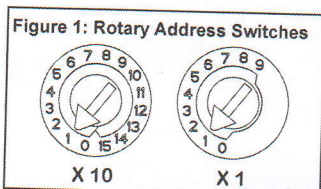
**Note 2:** Verify that all sensor bases are installed and that polarity of the wiring is correct at each base.

## WARNING

Disconnect loop power before installing sensors. Notify proper authorities.

## SENSOR INSTALLATION

- Set the sensor address (see figure 1) by turning the two rotary switches on the underside of the sensor, selecting a number between 01 and 159. (Note: The number of addresses available will be dependent on panel capability, check the panel documentation for information on this). Record the address on the label attached to the base.



- Insert the sensor into the base and rotate it clockwise until it locks into place.
- After all the sensors have been installed, apply power to the system.
- Test the sensor as described under TESTING.
- Reset the sensor by communication command from the panel.

## Tamper-Resistance.

These sensors includes a feature that, when activated, prevents removal of the sensor from the base without the use of a tool. Refer to the installation instructions for the sensor base for details of how to use this feature.

## CAUTION

Dust covers help to protect units during shipping and when first installed. They are not intended to provide complete protection against contamination therefore sensors should be removed before construction, major re-decoration or other dust producing work is started. Dust covers must be removed before system can be made operational.



## MAINTENANCE

Before cleaning, disable the system to prevent unwanted alarms:

- Remove the sensor to be cleaned from the system.
- Use a vacuum cleaner and/or clean, compressed air to remove dust and debris from the thermistor and sensor cover.
- Replace the sensor into the base.
- When all sensors have been cleaned, restore power to the loop and test the sensor(s) as described under TESTING.

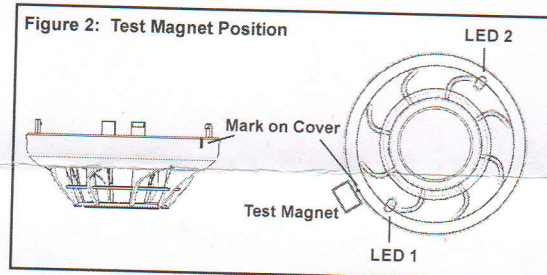
## TESTING

Sensors must be tested after installation and following periodic maintenance. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

Test the sensors as follows:

## Magnet Method

- Test the sensor by positioning the test magnet (model M02-24-optional) against the sensor body approximately 2 cm from LED 1, indicated by a mark on the sensor cover as shown in figure 2.
- Both LED's on the sensor should latch into alarm within 30 seconds, activating the control panel.



## Control Panel Method

- Test the sensitivity from the system control panel.

## Direct Heat Method (Hair dryer of 1000-1500 watts).

- Direct the heat toward the sensor from its side. Hold the heat source about 15 cm away to prevent damage to the cover during testing.
- The LEDs on the sensor should light when the temperature at the sensor reaches 58°C/78°C (dependent on the model being tested).
- Reset the sensor at the system control panel.

After completion of the test notify the proper authorities that the system is operational.

## WARNING

## LIMITATIONS OF THERMAL SENSORS

Fire sensors must be used in conjunction with compatible equipment.

**Heat sensors are designed to protect property, not life.** They do not provide early warning of fire and cannot detect smoke, gas, combustion particles or flame.

Heat sensors do not always detect fires because the fire may be a slow smouldering, low-heat type (producing smoke) or because they may not be near where the fire occurs, or because the heat of the fire may bypass them. Consideration must be made of the environment when selecting heat sensors.

**Fire sensors cannot last forever.** Fire sensors contain electronic parts. Even though sensors are made to last over 10 years, any of these parts could fail at any time. Therefore, test your fire detection system at least semi-annually. Taking care of the fire detection system you have installed will significantly reduce your product liability risks.

## Safety Information

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.