



DUAL TEMPERATURE OVERRIDE SENSOR
REOPENABLE CONTROL SYSTEM WITH HIGH LIMIT
FOR COMBINATION FIRE / SMOKE DAMPERS
MODEL: DTO FIRE SENSOR

The DTO Dual Temperature Override Sensor is a factory installed option on Nailor combination fire/smoke dampers, incorporating two electric heat sensors (with external manual reset buttons). A primary heat sensor (manual reset) automatically closes the damper upon sensing an elevated temperature of 165°F (74°C) at the damper. The sensor interrupts power to the actuator, and the actuator's spring return mechanism causes the damper to close. The damper may be closed at anytime by placing a control switch (by others) in the closed position.

The primary heat sensor and the smoke detector (if used) can be bypassed by an external electrical signal from a remote control station, allowing the damper to reopen as may be required in the operation of a smoke control system. The Fire Fighter's Smoke-Control Station must include a three position (double throw, center off) master switch for correct operation.

The damper remains operational until the the temperature at the damper reaches that of the high limit secondary heat sensor. This is the UL listed elevated/degradation temperature rating (operational limit) of the damper/actuator assembly. The standard high limit temperature is 250°F (121°C). A 350°F (177°C) elevated temperature classification is available as an option. When the temperature of the high limit heat sensor is exceeded, the damper closes and locks and remains closed thereafter, in conformance with UL 555 and NFPA 90A. The secondary sensor can be manually reset, using the external button, at the damper after temperatures have cooled down.

The DTO can be ordered with electric (120 or 24 Vac) or pneumatic actuators. Pneumatic actuators are supplied with a factory mounted EP (electric/pneumatic) switch.

The DTO Fire Sensor also incorporates a position indicator package. Two auxiliary switches indicate the open and closed damper position at a remote control station.

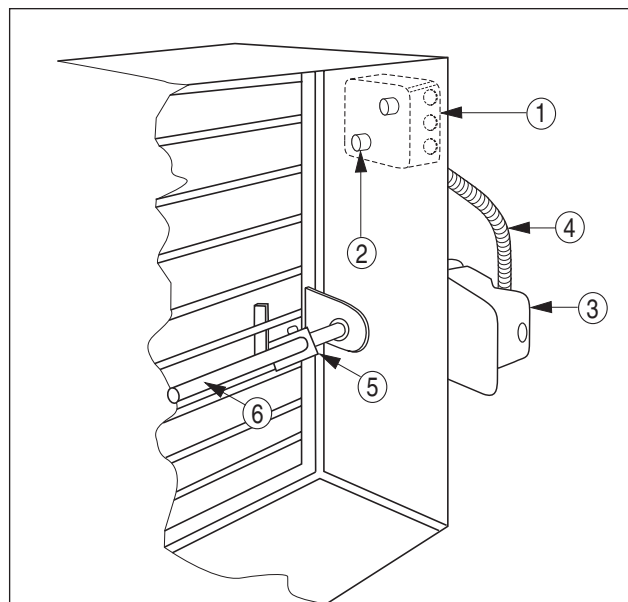
For installation and operation instructions, see dwg. IOM-DTO.

NOTE:

Nailor recommends the use of a single ERL Electric Resettable Link at the elevated/degradation temperature of the damper/actuator assembly on all combination fire/smoke dampers. 250°F Standard (350°F optional). Together with a position indicator package (MLS-300) where remote damper position status is required.

The re-openable system only provides a narrow temperature window of operation, increased cost and complexity of operation, since UL555 introduced the high limit closure requirement in 1995 in full compliance with the intent of NFPA 90A.

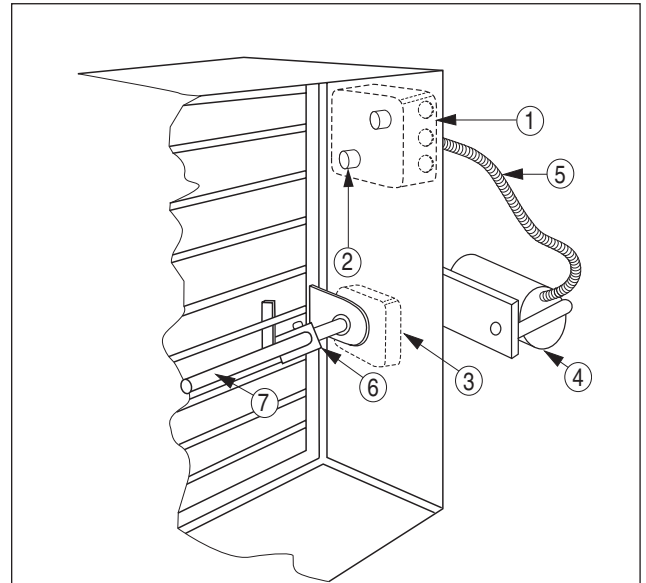
Previous building codes used to require 165°F (74°C) for all fire dampers. This is no longer the case for Smoke Management Systems.



With UL Listed Electric Actuator
Description:

1. Electrical Junction Box with 165°F (74°C) Primary Heat Sensor
2. High Limit Secondary Heat Sensor 250°F or 350°F (121°C or 177°C)
3. Electric Actuator with Auxiliary Position Indicator Switches
4. Flexible Conduit
5. Over-Center Knee Lock
6. Jackshaft

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| PROJECT: | Dimensions are in inches (mm) | | | |
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With UL Listed Pneumatic Actuator
Description:

1. Electrical Junction Box with 165°F (74°C) Primary Heat Sensor and EP Switch
2. High Limit Secondary Heat Sensor 250°F or 350°F (121°C or 177°C)
3. Position Indicator Package
4. Pneumatic Actuator
5. Silicone Tubing
6. Over-Center Knee Lock
7. Jackshaft

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Dimensions are in inches (mm)

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