

DETECT-A-FIRE

Detection and Release Devices



LICO HDL, „the“ Heat-Detector, custom-made & ready to install

FEATURES

- *Repeatable - resets itself, nothing to replace, testable*
- *Rugged - withstands shock and vibration*
- *Versatile - offers various temperature settings*
- *Durable - long lasting stainless steel shell*
- *Economical - wide spacing, reduces installation cost*
- *Factory set and the internal contact area is hermetically sealed in stainless steel*

APPLICATIONS

- *Protection of schools, hospitals, public facilities, factories, offices, libraries, transformer stations, tanks, etc.*
- *Paint spray booths*
- *Industrial Dust Collectors*
- *Gas Compressors*
- *Range hoods*
- *Marine engine rooms*



DESCRIPTION:

DETECT-A-FIRE units are the "heart" of many Fire Protection Systems.

These highly reliable devices have been a standard of the industry for over 50 years. Many thousands of these units are now in use controlling the release of extinguishants such as clean agents, CO₂, water, or dry chemicals. In some systems the device is used as an ALARM device, to sense overheat or fire, and alert personnel. In other systems, it is used as a RELEASE device, to sense fire and actuate fire attack systems.

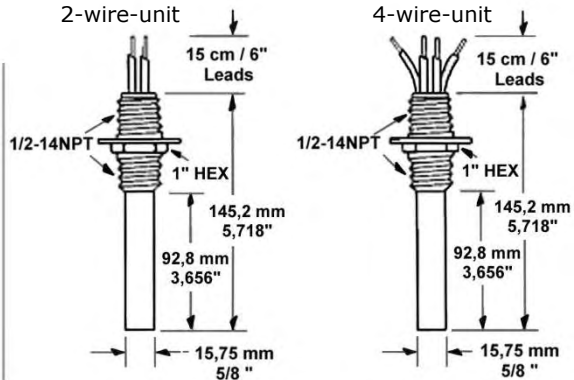
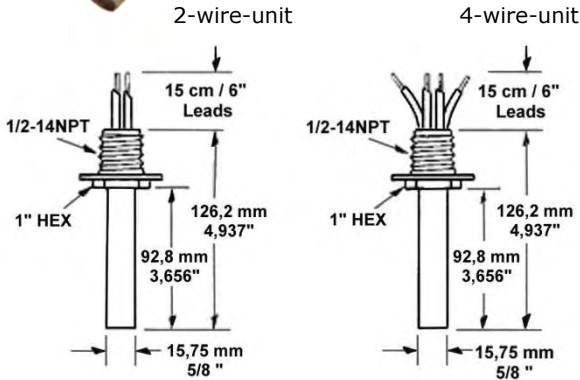
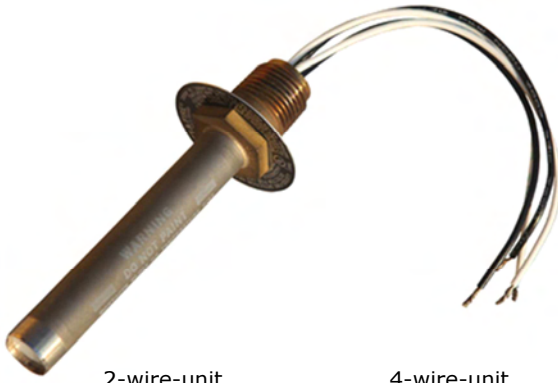
DETECT-A-FIRE units have met with wide acceptance because they are designed with RATE COMPENSATION. This provides a unique advantage over both fixed temperature and rate-of-rise types of detectors because only the DETECT-A-FIRE unit accurately senses the surrounding air temperature regardless of the fire growth rate. At precisely the predetermined danger point, the system is activated.

Fixed temperature detectors must be completely heated to alarm temperature and therefore a disastrous lag in time may occur with a fast rate fire. Rate-of-rise devices, on the other hand, are triggered by the rate of increase in ambient temperature and are subject to false alarms caused by harmless, transient thermal gradients such as the rush of warm air from process ovens.

VERTICAL DETECT-A-FIRE-UNITS For Concealed and Exposed Wiring

Hexagonal Head

Coupling Head



| MODEL NUMBER | MOUNTING HEAD MATERIAL | SHELL MATERIAL | CONTACT OPERATION ON TEMP. RISE | ELECTR. RATING RESISTIVE ONLY | ~WEIGHT PER UNIT |
|---------------|-------------------------|--------------------------|---------------------------------|--|------------------|
| 12-X27120-000 | Brass + | Type 300 Stainless Steel | Opens (232°C/450°F Max) | 5.0 Amps 125 VAC | 141 g / 5 oz. |
| 12-X27120-022 | Type300 Stainless Steel | | | 0.5 Amps 125 VDC | |
| 12-X27121-000 | Brass + | | Closes (385°C/725°F Max) | 5.0 Amps 125 VAC | 141 g / 5 oz. |
| 12-X27121-020 | Type300 Stainless Steel | | | 0.5 Amps 125 VDC | |
| | | | | 2.0 Amps 24 VDC 1.0 Amps 48 VDC | |
| 12X28020-003 | Type300 Stainless Steel | | Opens (232°C/450°F Max.) | 5.0 Amps 125 VAC 0.5 Amps 125 VDC | 145 g / 5 oz. |
| 12-X28021-000 | Brass version: obsolete | | Closes (385°C/725°F Max) | 5.0 Amps 125 VAC | 148 g / 5 oz. |
| 12-X28021-005 | Type300 Stainless Steel | | | 0.5 Amps 125 VDC 2.0 Amps 24 VDC 1.0 Amps 48 VDC | |

Construction :

000 units have a Type300 stainless steel sensing shell and a brass mounting head, 002, 020, 003 and 005 units are all Type 300

| Model | Temperature Setting | | | | | | | | | | | | |
|------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | °C | 60 | 71 | 88 | 99 | 107 | 135 | 165 | 187 | 232 | 260 | 315 | 385 |
| | °F | 140 | 160 | 190 | 210 | 225 | 275 | 325 | 360 | 450 | 500 | 600 | 725 |
| x = Standardtype | | | | | | | | | | | | | |
| 12-X27020-000 | | X | | X | | | | | | | | | |
| 12-X27020-001 | | X | | | | | | | | | | | |
| 12-X27021-000 | | X | | X | | | | | | | | | |
| 12-X27021-001 | | X | | X | | | | | | | | | |
| 12-X27120-000 | | | X | X | X | X | | X | | | | | |
| 12-X27121-000 | | X | X | X | X | X | X | X | X | X | X | X | X |
| 12-X28021-005 | | | | | | X | | | | X | | | |

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Available Standard Part numbers:

Single Thread units:



DAF - Detect-a-Fire / Heat & Fire-Detector

| 2-wire unit N/C, Opens at Rise | | 4-wire unit N/O, Closes at Rise | | Nominal Switching- temperature |
|-----------------------------------|----------------|------------------------------------|----------------|--------------------------------------|
| Sensor Housing Stainless Steel | | Sensor Housing Stainless Steel | | |
| Body Brass | Body Stainless | Body Brass | Body Stainless | |
| 27120-000-140 | 27120-022-140 | 27121-000-140 | 27121-020-140 | 60°C / 140°F |
| 27120-000-160 | 27120-022-160 | 27121-000-160 | 27121-020-160 | 71°C / 160°F |
| 27120-000-190 | 27120-022-190 | 27121-000-190 | 27121-020-190 | 88°C / 190°F |
| 27120-000-210 | 27120-022-210 | 27121-000-210 | 27121-020-210 | 99°C / 210°F |
| 27120-000-225 | 27120-022-225 | 27121-000-225 | 27121-020-225 | 107°C / 225°F |
| 27120-000-275 | 27120-022-275 | 27121-000-275 | 27121-020-275 | 135°C / 275°F |
| 27120-000-325 | 27120-022-325 | 27121-000-325 | 27121-020-325 | 165°C / 325°F |
| 27120-000-360 | 27120-022-360 | 27121-000-360 | 27121-020-360 | 187°C / 360°F |
| 27120-000-450 | 27120-022-450 | 27121-000-450 | 27121-020-450 | 232°C / 450°F |
| | | 27121-000-500 | 27121-000-500 | 260°C / 500°F |
| | | 27121-000-600 | 27121-020-600 | 315°C / 600°F |
| | | 27121-000-725 | 27121-020-725 | 385°C / 725°F |

Double Thread units:

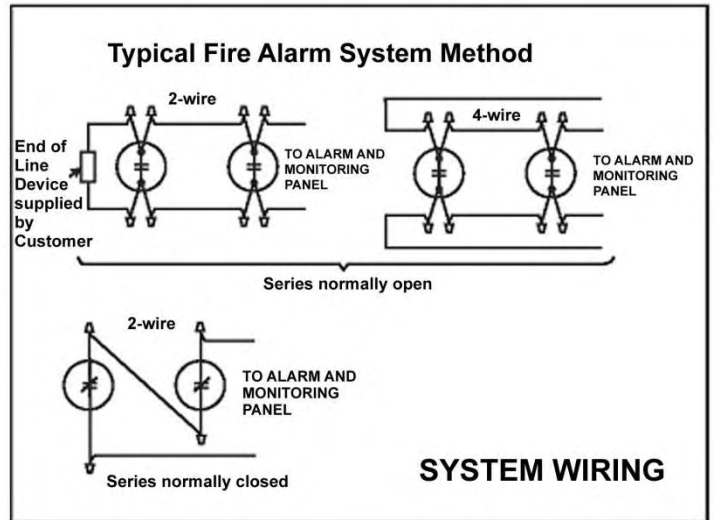


Class 1, Group A requires full Stainless-steel Fenwal versions

DAF - Detect-a-Fire / Heat & Fire-Detector

| 2-wire unit N/C, Opens at Rise | | 4-wire unit N/O, Closes at Rise | | Nominal Switch- temperature |
|-----------------------------------|----------------|------------------------------------|----------------|-----------------------------------|
| Sensor Housing Stainless Steel | | Sensor Housing Stainless Steel | | |
| Body Brass | Body Stainless | Body Brass | Body Stainless | |
| | 28020-003-140 | | 28021-005-140 | 60°C / 140°F |
| | 28020-003-160 | | 28021-005-160 | 71°C / 160°F |
| | 28020-003-190 | | 28021-005-190 | 88°C / 190°F |
| | 28020-003-210 | | 28021-005-210 | 99°C / 210°F |
| | 28020-003-225 | | 28021-005-225 | 107°C / 225°F |
| | 28020-003-275 | | 28021-005-275 | 135°C / 275°F |
| | 28020-003-325 | | 28021-005-325 | 165°C / 325°F |
| | 28020-003-360 | | 28021-005-360 | 187°C / 360°F |
| | 28020-003-450 | | 28021-005-450 | 232°C / 450°F |
| | | | 28021-005-500 | 260°C / 500°F |
| | | | 28021-005-600 | 315°C / 600°F |
| | | | 28021-005-725 | 385°C / 725°F |

| Setting | Toleranz | Setting | Toleranz | Color |
|---------|--------------|---------|----------|--------|
| °C | °C | °F | °F | Code |
| 60 | +.3,8/-4,5 | 140 | +.7/-8. | Black |
| 71 | +.4,0/-4,3. | 160 | +.7/-8. | Black |
| 88 | +.4,0/-4,3. | 190 | +.7/-8. | White |
| 99 | +.4,0/-4,3. | 210 | +.7/-8. | White |
| 107 | +.4,1/-4,3 | 225 | +.7/-8. | White |
| 135 | +.5,5/-5,5. | 275 | +.10/-10 | Blue |
| 165 | +.5,5/-5,5. | 325 | +.10/-10 | Red |
| 187 | +.5,5/-5,5. | 360 | +.10/-10 | Red |
| 232 | +.8,5/-8,1 | 450 | +.15/-15 | Green |
| 260 | +.8,3/-8,3 | 500 | +.15/-15 | Orange |
| 315 | +.11,6/-10,5 | 600 | +.20/-20 | Orange |
| 385 | +.13,9/-13,9 | 725 | +.25/-25 | Orange |



VERTICAL DETECT-A-FIRE-UNITS are UL, FM and Vds(*) approved:

Vertical detectors are designed for use in both "ordinary" or "hazardous" locations. For "ordinary" use, they may be mounted to any appropriate tight metal junction box (preferred: solid Alu) with 7/8" diameter opening by using 1/2-14 NPT mounting nuts or into a 1/2"-14NPT thread. The device may be wired in or out of conduit, depending on local preference and codes. Four lead-wires are provided on normally open vertical units (that close on temperature rise), per UL requirement, to facilitate supervision of system wiring. Instruments are Underwriters Laboratory and Underwriters Laboratory of Canada listed and Factory Mutual approved for hazardous locations, when mounted in a suitable fitting. (* expired)

DETECT-A-FIRE in Function:

The secret of the unit's sensitivity is in the design (Figure 1). The outer shell is made of a rapidly expanding alloy which closely follows changes in surrounding air temperature. The inner struts are made of a lower expanding alloy. Designed to resist thermal energy absorption and sealed inside the shell, the struts follow temperature changes more slowly. A slow rate fire (Figure 2) will heat the shell and struts together. At the "set point," the unit will trigger, actuating the alarm or releasing the extinguishant.

A transient rush of warm air up to 40° F/min. may expand the shell, but not enough to trigger the unit. By ignoring transient warm air excursions, the DETECT-A-FIRE unit virtually eliminates false alarms prevalent with rate-of-rise devices.

If a fast rate fire (Figure 3) starts, the shell will expand rapidly. The struts will close, actuating the alarm or releasing the agent. The faster the fire rate of growth, the sooner the DETECT-A-FIRE unit will react.

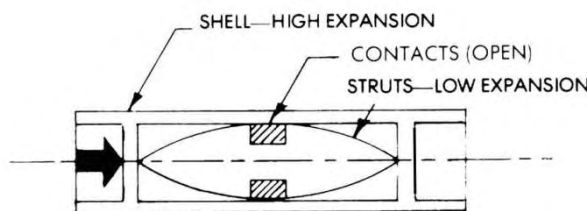


FIGURE 1: READY

Ambient Room Temperature

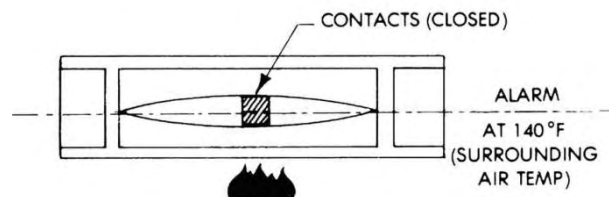


FIGURE 2: SLOW FIRE

Alarm at i.e. 60°C

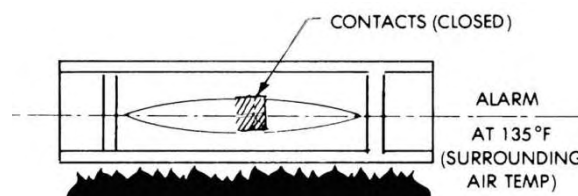


FIGURE 3: FAST FIRE

Alarm at i.e. under 57°C

Agency Listings Rate Compensated DETECT-A-FIRE Unit

Fenwal DETECT-A-FIRE units are UL and ULC listed and FM approved as fire detection thermostats (close on temperature rise) and as releasing devices (open on temperature rise).

| AGENCY | FILE NUMBER | LOCATION |
|--------|---------------|---------------------------|
| UL | S492 | Ordinary |
| UL | E19310 | Hazardous |
| ULC | CS341-E | Ordinary and Hazardous |
| FM | J.I. OV3HO.AE | Hazardous |
| FM | 17302 | Ordinary |
| UL | S2410 | Ordinary (600 & 725 ° F) |
| UL | E89599 | Hazardous (600 & 725 ° F) |

Rate of Rise:

| TYPE OF DEVICE | UNDER 10 °F/MIN. | BETWEEN 10-40 °F/MIN | OVER 40 ° F/MIN |
|-------------------------------------|--|--|---|
| RATE Compensated DETECT-A-FIRE Unit | FIRST | FIRST | SECOND but at selected protection level |
| Fixed Temperature | SECOND | SECOND | THIRD |
| Rate-of-Rise | Will not operate unless fixed temperature supplement at 165° F is provided, then it is THIRD in sequence | Will not operate unless fixed temperature supplement at 165° F is provided, then it is THIRD in sequence | FIRST but may be a false alarm |

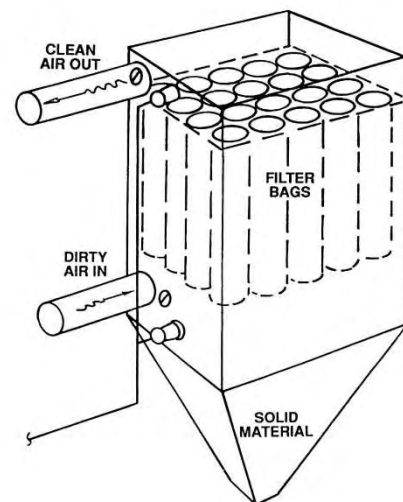
Modifications

12-99202X-XXX, Extended lead wires, Series 12-X271XX and Series 12-X28XXX only. 12-992012-XXX, Fluorocarbon coating, Available on 27120-022, 27121-020, 28020-003, 28021-005 models only (500 °F max.). Minimum quantities apply.

Applications



Typical ceiling installation of a horizontal DETECT-A-FIRE model. Here it is used in combination with a sprinkler system to detect overheating and actuate an alarm.



Dust Cover Application

This is a typical application of DETECT-A-FIRE units used as a release device to actuate a complete fire suppression system. In this application DETECT-A-FIRE units are mounted in a Dust Collector to sense an overheating condition and release a clean agent extinguishant.

NOTES:

Construction: Stainless steel shell sensing element. Cold rolled steel mounting facility.

Mounting: DETECT-A-FIRE units are not position sensitive. Horizontal and vertical detectors refer to the most common mounting configuration for that unit. However, each type can be mounted either horizontally or vertically depending on the application and installation requirements.

Temperature rating:

Suggested setting a minimum of 100F° above ambient (which is about 50 – 55°C)

NOTE: Only units with stainless steel shell and head are approved for Class I, Group A locations.

NOTE A: Spacing shown are distances between units on smooth ceilings, the distances from partitions or walls would be half that shown. Authority having LOCAL jurisdiction should be consulted before installation.

NOTE B: Temperature preset at factory only. Special settings available upon request. Consult LICO for additional information.

NOTE C: In applications where corrosion is suspect, care should be taken to protect the DETECT-A-FIRE unit to realize optimum performance and maximum life. Consult factory for suggestions.

NOTE D: Up to 375°F-#18 AWG Teflon insulated wire used on units. Above 375°F-#16 AWG TGGT insulated wire used on units.

NOTE E: Specifications subject to change without notice.

UL of Canada labelling available upon request.

Although incandescent lamps are considered resistive, their inrush current is 10-15 times their steady current. Do not exceed ratings.

Notes: - What cannot be installed:

- Damaged, painted, overheated, over torqued (more than 27 Newton), fallen (especially on floor) or any other treated, modified or damaged units.
- Any of this could change the factory setting or even damage the unit now or later, which may result in accidents, injury, loss, damage and even death.
- Never remove any paint, dirt, building debris or other things from the unit: exchange it!
- The above also voids any and any kind of warranty.
- Damaged or shifted units do not necessarily show the evidence outside, therefore:
- Installations at least have to be tested periodically.
- Periodic calibrations are recommended to confirm designed function.
- This information does not describe all details or variations on the equipment described, nor it provides solutions for all possible circumstances. Installation, use and maintenance have to be performed under sufficient failure exclusion considerations according to rules, laws, regulations or necessities of the planned function.

Ordinary Locations: The DETECT-A-FIRE Units are to be installed in grounded metallic junction boxes only. They are to be secured to the boxes using two lock nuts, one on either side of the mounting plate or into an NPT thread. DETECT-A-FIRE Units are not to be installed in non-metallic junction boxes.

Hazardous Locations: For Class I, Division 1 and 2 locations install the DETECT-A-FIRE Unit in a listed explosion-proof enclosure with a minimum thread engagement of five full turns. No non-conductive material is to be placed on the threaded joint of the DETECT-A-FIRE Unit or in the listed explosion-proof enclosure.

For Division 2 locations assure that a protective ground terminal is provided in the listed explosion-proof enclosure when flexible metal conduit is used.

Non-Hazardous Outdoor Locations: Mount the DETECT-A-FIRE in a Listed NEMA Type 3 outlet box, cover and conduit, with 1/2 - 14 NPT threads and a minimum thread engagement of 5 full turns. Use of pipe plugs with RTV silicone rubber sealant, a rubber gasket and self-sealing screws to attach the cover, and PTFE thread seal tape on the DETECT-A FIRE threads should be appropriate for outdoor applications and in accordance with the National Electric Code and/or local authority have jurisdiction.

Field Wiring Requirement: Field wiring must be capable of withstanding the maximum anticipated ambient temperature in the application.

Location: 1. DETECT-A-FIRE detectors are precision temperature sensors. They must be mounted in an area (normally a ceiling) so that: 1. The detector spacing complies with both system requirements and requirements of the agency having local jurisdiction.
2. The thermal air path to the shell is not obstructed. Spacing are usually 8-16 m Distances given are for between units on smooth ceilings. Distances from partitions or walls are half that shown. To assure that all spacing requirements are met, consult the authority having local jurisdiction.

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DAF, Detect-a-Fire: Temperatures, Tolerances & Spacings

| SETTING | | TOLERANCE | | SPACINGS (in ft/m) See NOTE A | | | COLOR |
|---------|-----|-----------|-----------|-------------------------------|-------|------|--------|
| °F | °C | °F | °C | UL | ULC | FM | CODING |
| 140 | 60 | +7/-8 | +3,8/-4,5 | 50/14 | 50/14 | 25/7 | Black |
| 160 | 71 | +7/-8 | +4,0/-4,3 | 25/7 | 25/7 | 25/7 | Black |
| 190 | 88 | +7/-8 | +4,0/-4,3 | 50/14 | 50/14 | 25/7 | White |
| 210 | 99 | +7/-8 | +4,0/-4,3 | 25/7 | 50/14 | 25/7 | White |
| 225 | 107 | +7/-8 | +4,1/-4,3 | 50/14 | 50/14 | 25/7 | White |
| 275 | 135 | +10 | +5,5/-5,5 | 25/7 | 50/14 | 25/7 | Blue |
| 325 | 165 | +10 | +5,5/-5,5 | 50/14 | 50/14 | 25/7 | Red |
| 360 | 187 | +10 | +5,5/-5,5 | 25/7 | 50/14 | 25/7 | Red |
| 450 | 232 | +15 | +8,5/-8,1 | 25/7 | 50/14 | 25/7 | Green |
| 600 | 315 | +20 | +20/-20 | N/A | 50/14 | 25/7 | Orange |
| 725 | 385 | +25 | +25/-25 | N/A | 50/14 | 25/7 | Orange |

Specifications subject to change without notice.

UL of Canada labelling available upon request.

Although incandescent lamps are considered resistive, their inrush current is 10-15 times their steady current. Do not exceed ratings.

NOTE: Only units with stainless steel shell and head are approved for Class I, Group A locations.

NOTE A: Spacings shown are distances between units on smooth ceilings, the distances from partitions or walls would be half that shown. Authority having LOCAL jurisdiction should be consulted before installation.

NOTE B: Temperature preset at factory only. Special settings available upon request. Consult Fenwal Representative for additional information.

NOTE C: In applications where corrosion is suspect, care should be taken to protect the DETECT-A-FIRE unit to realize optimum performance and maximum life. Consult factory for suggestions.

NOTE D: Up to 375°F-#18 AWG Teflon insulated wire used on units. Above 375°F-#16 AWG TGGT insulated wire used on units.

NOTE E: Per UL521 requirements - low temperature exposure test is -22°F (-30°C)

HORIZONTAL DETECT-A-FIRE-UNITS

for i.e. Residential areas, Saunas, Oven-rooms, Parking Houses

Horizontal detectors are designed for locations where appearance is a factor. The attractive, functional design lends physical protection of the unit while making it suitable for commercial, industrial, mercantile and public buildings, institutions and ships in non-hazardous locations (those classified as "ordinary" under the National Electric Code). Flush mounted units are designed to fit standard 4" octagonal electrical boxes and surface mounting units are designed to mount directly on ceilings or on 4" electrical junction boxes. Canadian Electrical Codes requires mounting only to an electrical junction box.

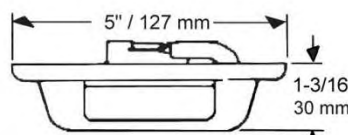
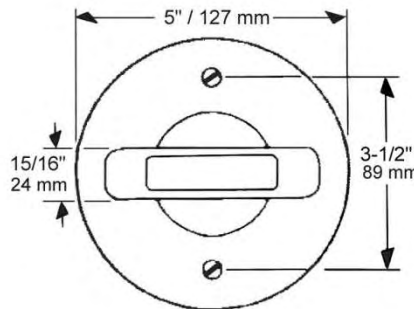
MOUNTING

DETECT-A-FIRE units are not position sensitive. Horizontal and vertical detectors refer to the most common mounting configuration for that unit. However, each type can be mounted either horizontally or vertically depending on the application and installation requirements.

SPECIFICATIONS



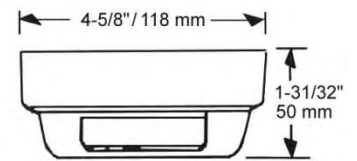
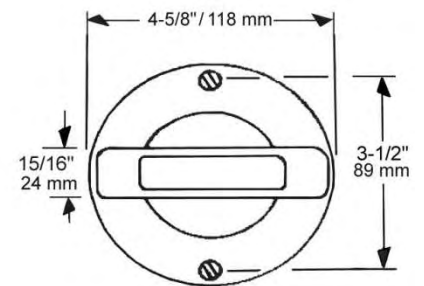
Surface Mounting Unit for Exposed Wiring (-000)



12-X27020-000
12-X27021-000



Flush Mounting Unit for Concealed Wiring (-001)



12-X27020-001
12-X27021-001

NOTE

Specifications subject to change without notice.

UL of Canada labelling available upon request.

Although incandescent lamps are considered resistive, their inrush current is 10-15 times their steady current. Do not exceed ratings.

| Model No. | Contract Operation on temperature rise | Function | Weight | Electrical Rating (resistive ONLY) |
|---------------|--|----------|---------|---|
| 12-X27020-000 | Opens | N/C | ~ 170 g | 5,0 Amps 125VAC |
| 12-X27020-001 | Opens | N/C | ~ 270 g | 0,5Amps 125 VDC |
| 12-X27021-000 | Closes | N/O | ~ 170 g | 5,0 Amps 125VAC |
| 12-X27021-001 | Closes | N/O | ~ 270 g | 0,5Amps 125 VDC 2,0 Amps 24 VDC 1,0 Amps 48 VDC |

CONSTRUCTION

Stainless steel shell sensing element Cold rolled steel mounting facility.

COLOR

Off-White finish.

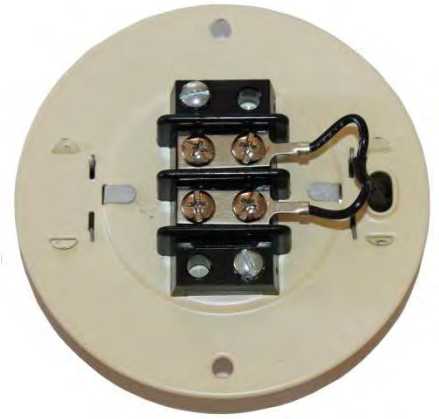
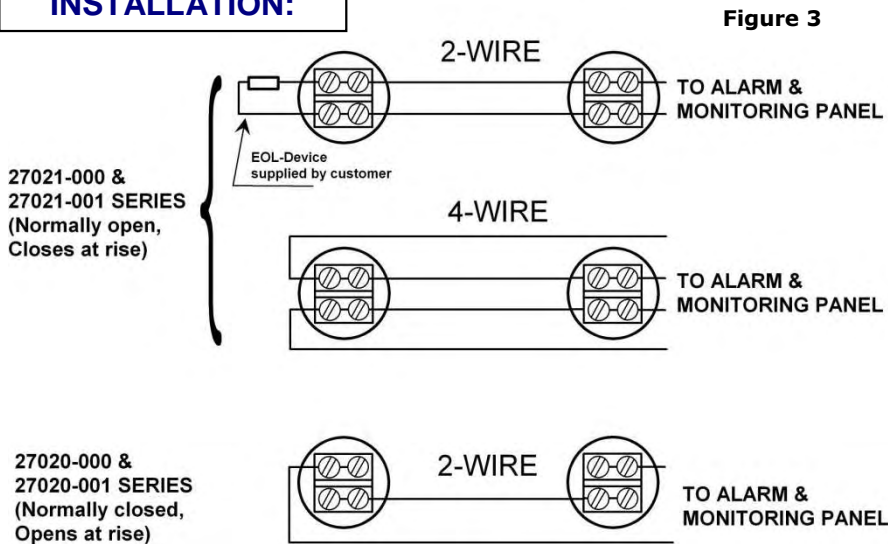
TEMPERATURE RATING

(Suggested setting a minimum of 100°F above ambient)
~ about 50 - 55°C



HORIZONTAL DETECT-A-FIRE-UNITS

INSTALLATION:



Series and EOL-Devices are not included in p/n

SELECTION:

| Part number | Nominal Switching temperature | Function | Mounting | Funktion | Montage |
|---------------|-------------------------------|----------------|---------------|------------|---------|
| 27020-000-140 | 60°C / 140°F | opens at rise | Surface mount | Öffner | Einbau |
| 27020-000-160 | 71°C / 160°F | opens at rise | Surface mount | Öffner | Einbau |
| 27020-000-190 | 88°C / 190°F | opens at rise | Surface mount | Öffner | Einbau |
| 27020-000-225 | 107°C / 225°F | opens at rise | Surface mount | Öffner | Einbau |
| 27020-000-275 | 135°C / 275°F | opens at rise | Surface mount | Öffner | Einbau |
| 27020-000-325 | 165°C / 325°F | opens at rise | Surface mount | Öffner | Einbau |
| 27021-000-140 | 60°C / 140°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27021-000-160 | 71°C / 160°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27021-000-190 | 88°C / 190°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27021-000-225 | 107°C / 225°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27021-000-275 | 135°C / 275°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27021-000-325 | 165°C / 325°F | closes at rise | Surface mount | Schliesser | Einbau |
| 27020-001-140 | 60°C / 140°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27020-001-160 | 71°C / 160°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27020-001-190 | 88°C / 190°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27020-001-225 | 107°C / 225°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27020-001-275 | 135°C / 275°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27020-001-325 | 165°C / 325°F | opens at rise | Flush mount | Öffner | Aufbau |
| 27021-001-140 | 60°C / 140°F | closes at rise | Flush mount | Schliesser | Aufbau |
| 27021-001-160 | 71°C / 160°F | closes at rise | Flush mount | Schliesser | Aufbau |
| 27021-001-190 | 88°C / 190°F | closes at rise | Flush mount | Schliesser | Aufbau |
| 27021-001-225 | 107°C / 225°F | closes at rise | Flush mount | Schliesser | Aufbau |
| 27021-001-275 | 135°C / 275°F | closes at rise | Flush mount | Schliesser | Aufbau |
| 27021-001-325 | 165°C / 325°F | closes at rise | Flush mount | Schliesser | Aufbau |

HORIZONTAL DETECT-A-FIRE-UNITS

LOCATION

DETECT-A-FIRE® Units are precision temperature sensors.

They must be mounted in an area (normally a ceiling) so that:

1. The detector spacing complies with both system requirements and requirements of the agency having local jurisdiction.
2. The thermal air path to the shell is not obstructed.

Spacing per UL, FM, and UL of Canada are shown in Table 1. Distances given are for between units on smooth ceilings. Distances from partitions or walls are half that shown. To assure that all spacing requirements are met, consult the authority having local jurisdiction.

MOUNTING

Detect-A-Fire units are not position sensitive. Horizontal and vertical detectors refer to the most common mounting configuration for that unit. However, each type can be mounted either horizontally or vertically depending on the application and installation requirements.

Table 1:

| °F SETTING AND TOLERANCE | COLOR CODING | SPACINGS (in feet) | | |
|--------------------------------|-----------------|--------------------|----|-----|
| | | UL | FM | ULC |
| 140 +7°/-8° | Black | 50 | 25 | 50 |
| 160 +7°/-8° | Black | 25 | 25 | 25 |
| 190 +7°/-8° | White | 50 | 25 | 50 |
| 225 +7°/-8° | White | 25 | 25 | 50 |
| 275 ± 10° | Blue | 25 | 25 | 50 |
| 325 ± 10° | Red | 50 | 25 | 50 |

Horizontal DETECT-A-FIRE Units, series 27020 & 27021, are not suitable for use in hazardous locations.

LICO's HDL3 - HDL6 series maybe used in these areas.

INSTALLATION

Surface Mount Units: (Series 27010-001 & 27021-001)

These detectors are provided with a surface mount adaptor which may be mounted on a ceiling or to an outlet box. However, if the adaptor is direct ceiling mounted, CIRCUIT VOLTAGE MUST BE LIMITED TO 30 VOLTS.

The Canadian Electrical Code, Part 1, requires that these devices be installed, mounted to an approved outlet box and connected to Class 1 wiring. Surface mount units shall be used only in this manner for Canadian approval.

For direct ceiling mount, proceed as follows:

1. Four knockouts are located on the side of the surface mount adaptor. Remove appropriate knockouts and install supplied rubber grommets.
2. Mount adaptor to solid ceiling surface through slotted holes in adaptor mounting brackets. Supplied insulator gasket should be placed between ceiling and adaptor. Adaptor may be rotated to position detector.
3. Run system wiring through rubber grommets and connect to terminals on detector per Figure 3 observing applicable electrical codes.
4. Mount detector to adaptor with two #8-32 screws supplied.

Continue next page...

For optional outlet box mount, proceed as follows:

1. Bend the mounting brackets on the supplied adaptor to fit standard 4-inch outlet box.
2. Mount adaptor to outlet box through two slotted holes in adaptor mounting brackets. Adaptor may be rotated to position detector.
3. Connect system wiring to terminals on detector per Figure 3 observing applicable electrical codes.
4. Mount detector to adaptor with two #8-32 screws supplied.

Flush Mount Units: Series 27020-000 & 27021-000

1. It is recommended that a standard 4-inch outlet box be used to mount the detector. Care should be taken that a neat 4-inch diameter hole be cut in ceiling to allow mounting clearance for detector. An oversized or ragged hole may show around the mounted unit.
2. Attach supplied flush mount adaptor to outlet box. Adaptor may be rotated in screw slots to position detectors as desired.
3. Connect system wiring to terminals on detector per Figure 3 observing applicable electrical codes.
4. Mount detector to adaptor with two #8-32 screws supplied.

Surface Mount units:

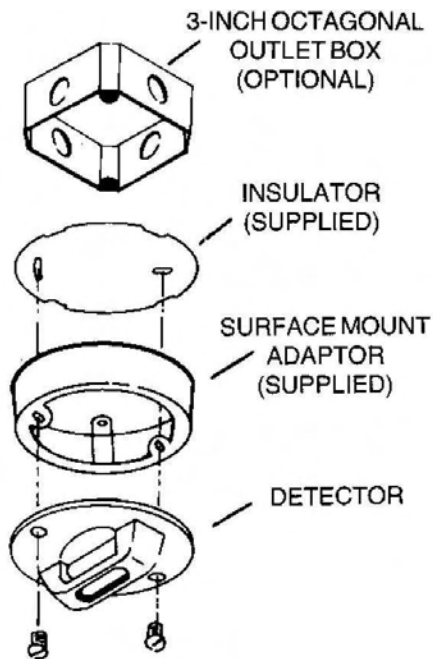


Figure 1

Flush Mount Units:

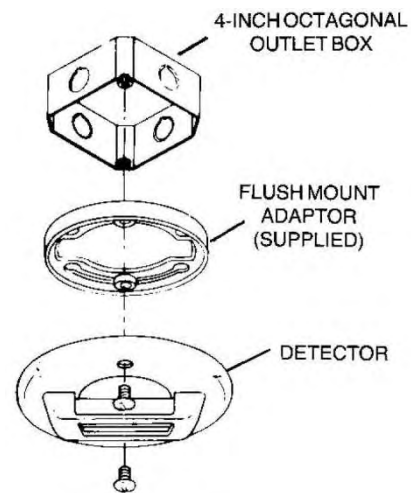


Figure 2

! WARNINGS:

1. In order to function properly, the shell of the unit must remain free from paint, grease, oil, etc. Should such a build-up occur, do not, under any circumstances, attempt to remove it. Replace the unit.
2. Detectors mounted in an area subject to physical abuse or damage, other than above, must be suitably protected without obstructing the thermal air path to the unit.
3. Do not install the unit where the shell would be physically damaged by sand, grain, rocks, etc.
4. Any detector that has been abused or damaged must be replaced.
5. Consult the factory for special precautions necessary for outdoor use.

ANY OF THE ABOVE COULD CHANGE THE FACTORY TEMPERATURE SETTING, WHICH MAY RESULT IN PROPERTY DAMAGE AND/OR PERSONAL INJURY OR DEATH.

IT IS POSSIBLE FOR A UNIT TO HAVE BEEN ABUSED OR DAMAGED AND NOT DISPLAY ANY OUTWARD INDICATION OF THE DAMAGE. ALL UNITS SHOULD BE TESTED PERIODICALLY IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION REQUIREMENTS (72E) OR THE AGENCY HAVING LOCAL JURISDICTION.

HDL1 – HDL6 Heat- Overheat- & Fire Detectors,
Boxes, wiring blocks & Cable glands:  Exe & Exd



www.prevent-a-fire.eu



HDL-2



HDL-3



HDL-5-28000



HDL-5



HDL-6



HDL-1



HDL-3-XL



HDL-4