**INTRINSICALLY SAFE FIRE DETECTION**

Hochiki’s Intrinsically Safe Conventional range of products has been designed around the existing world-proven Hochiki conventional range. The detectors have been approved for hazardous area use by both LPCB and Germanischer Lloyd.

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**Z867 ZENER BARRIER**
The Zener Barrier is a relatively simple device, the technique employed to reduce the amount of energy entering the hazardous area is the limiting of the voltage and current using resistors and zener diodes. Zener Barriers require earthing in accordance with standards (typically <1 ohm to main building earth point).

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**BASEEFA Flammable Atmospheres symbol**
- Maximum normal environment temperature
- Maximum Surface Temperature of any component, $T_5$ = 55°C
- Defines Gas Group within which device can be used
- Method of Protection, “I” = Intrinsically Safe with two faults
- Explosion protected
- Meets European Standard
- Type of Explosive Atmosphere, “G” = Gas group
- Equipment Category, “II” = Very High Protection
- Equipment Group, “1” = Non-mining Atmosphere
- EU Explosives Atmospheres symbol

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**HAZARDOUS AREA**

- **BASEEFA Flammable Atmospheres symbol**
- Maximum normal environment temperature
- Maximum Surface Temperature of any component, $T_5$ = 55°C
- Defines Gas Group within which device can be used
- Method of Protection, “I” = Intrinsically Safe with two faults
- Explosion protected
- Meets European Standard
- Type of Explosive Atmosphere, “G” = Gas group
- Equipment Category, “II” = Very High Protection
- Equipment Group, “1” = Non-mining Atmosphere
- EU Explosives Atmospheres symbol

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**Up to 20 INTRINSICALLY SAFE Detectors (SLR-E-IS or DCD-1E-IS)**

Unlimited number of INTRINSICALLY SAFE Manual Call Points (CCP-E-IS) (always first on the zone)

To ensure that the surface temperature of the resistor remains below that of the flash-point of the hazardous material present it is certified that the overall surface area must be greater than 230mm².

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**KFD0 CS-EX2.5P ISOLATED BARRIER**
This isolated barrier is used for intrinsic safety applications. It transfers DC signals from fire alarms, smoke alarms, and temperature sensors in hazardous areas. It can also be used to control I/P converters, power solenoids, LEDs, and audible alarms.
Intrinsically Safe Fire Detection

**SLR-E/IS**
A Conventional I.S. Photoelectric Smoke Detector designed for use in hazardous areas. Incorporates a remote indicator output and a removable chamber for easy maintenance.

**DCD-1E/IS**
A Conventional I.S. Rate of Rise Heat Detector designed for use in hazardous areas. Incorporates a remote indicator output and a 60°C fixed temperature element.

**IFD-E(10)S**
Infra Red Intrinsically Safe Flame Detector Alloy Housing is an Explosion-Proof IRD flame detector designed for use where open flaming fires may be expected and responds to the light emitted from flames during combustion. The detector discriminates between flames and other light sources by responding only to particular optical wavelengths and flame flicker frequencies. This enables the detector to avoid false alarms due to such factors as flickering sunlight. Ideal for the detection of flames from the burning of Aviation Fuels (kerosene), Butane, Grain & Feeds, Hydrogen, Paper, Natural Gas, Petrol (gasoline) etc.

**YBN-8/4 (1S)**
A Conventional Detector Mounting Base associated with the Hochiki conventional range of Intrinsically Safe Detectors and is fully compatible with the majority of existing conventional fire alarm Control Panels.

**IFD-E(10)X**
Infra Red Flame Detector Alloy Flameproof Housing is an Explosion-Proof IRD flame detector designed for use where open flaming fires may be expected and responds to the light emitted from flames during combustion. The detector discriminates between flames and other light sources by responding only to particular optical wavelengths and flame flicker frequencies. This enables the detector to avoid false alarms due to such factors as flickering sunlight. Ideal for the detection of flames from the burning of Aviation Fuels (kerosene), Butane, Grain & Feeds, Hydrogen, Paper, Natural Gas, Petrol (gasoline) etc.

**Z728 ZENER BARRIER**
Zener barriers provide cost saving Ex-protection for various applications in process automation systems. The amount of energy transferred to the hazardous location is limited to a safe level incapable of igniting the explosive atmosphere.

**CFP-E/IS**
A Conventional Manual Call Point designed for use in hazardous areas and based upon the industry standard KAC world series housing.

**CHQ-DZM (SCI)-IS**
A Dual Zone Module which is fully compatible with Hochiki’s ESP Analogue Addressable protocol and I.S. equipment. The module will allow connection of up to 40 Hochiki I.S. conventional detectors (20 per zone) through a Galvanic isolator, which are then fully monitored for open and short circuit. Also available as a DIN Rail mountable version. Both models feature an integral Short-Circuit Isolator.

**CHQ-ISM**
This Sounder Control Module interfaces between the Hochiki Analogue system via a CHQ-DSC or conventional sounder O/P’s and the Intrinsically Safe Sounder/Beacon units via an intrinsically safe barrier. The module provides line monitoring for open or short circuits on the wiring connected to both the safe and hazardous areas.

**Z728 ZENER BARRIER**
Zener barriers provide cost saving Ex-protection for various applications in process automation systems. The amount of energy transferred to the hazardous location is limited to a safe level incapable of igniting the explosive atmosphere.
INTRINSICALLY SAFE FIRE DETECTION

**KFDO-CS-EX2.51P ISOLATED BARRIER**

This Isolated Barrier is used for intrinsic safety applications. It transfers DC signals from fire alarms, smoke alarms, and temperature sensors in hazardous areas. It can also be used to control I/P converters, power solenoids, LEDs, and audible alarms. Reverse polarity protection prevents damage to the isolator caused by faulty wiring. Since this isolator is loop powered, use the technical data to verify that proper voltage is available to the field devices.

- 2-channel isolated barrier
- 24 Vdc supply (Loop powered)
- Current input/output 0 mA ~ 40 mA
- I/P or transmitter power supply
- Accuracy 1%
- Reverse polarity protection
- Up to SIL2 acc. to IEC 61508

**Z787 ZENER BARRIER**

Zener barriers provide cost saving Ex-protection for various applications in process automation systems. The amount of energy transferred to the hazardous location is limited to a safe level incapable of igniting the explosive atmosphere.

- 2-channel
- DC version, positive polarity
- Working voltage 26.5 V at 10 QA
- Series resistance max. 327 Ω
- Fuse rating 50 mA
- DIN rail mounting
- With diode return

**IS-A105N ALARM SOUNDER**

This is a high output, 105dBA alarm sounder. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications. The IS-A105N is suitable for all intrinsically safe signalling applications including fire, security and process control.

- Input overload and reverse current protection
- Auto synchronised sound output
- Unit can be mounted using external lugs or internal BESA compatible fixing positions.
- Duplicate cable terminations (in & out for daisy-chain installations)
- Available with custom tone configurations and frequencies

**IS-L101L INTRINSICALLY SAFE L.E.D BEACON**

The IS-L101L unit is an intrinsically safe field mounting beacon which provides a bright flashing warning signal. The unit can be used independently or combined with an IS-A105N 49 alarm sounder. Combination units can utilise a common zener barrier or galvanic isolator and may be coupled together or mounted separately. With the IS-A105N the alarm accept function can be utilised. By closing a pair of external contacts (i.e push switch) the operator may silence the alarm for set periods between 5 seconds and 2 hours. If after the pre-set time the alarm condition still exists the sounder will activate again.

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness

**IS-mB1 IS-MINIALITE**

The IS-mB1 is a compact beacon with an array of six high output L.E.D’s. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications. The IS-mB1 is suitable for all intrinsically safe signalling applications including fire, security and process control.

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness

**IS-mC1 IS-MINIALERT**

The IS-mC1 is a compact combined 100dB(A) alarm sounder and L.E.D. beacon – only one Zener barrier or galvanic isolator required to run both sounder & beacon or alternatively the unit can be operated as individual signals. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications.

- Input overload and reverse current protection
- Auto synchronised sound output
- Available with custom tone configurations and frequencies

**IS-mA1 IS-MINIALARM**

The IS-mA1 is a compact, 100dB(A) alarm sounder. Approvals include ATEX, IECEx and GOST-R for Zone 0 applications and FM approval for Class I Division 1 and Class I Zone 0 applications. The IS-mA1 is suitable for all intrinsically safe signalling applications including fire, security and process control. The IS-mA1M version is also available for Group I mining environments.

- Input overload and reverse current protection
- Prismatic lens optimises L.E.D effectiveness
- Available with custom tone configurations and frequencies.