

**A)** Apparatus which is unspecified except that it must not be supplied from nor contain in normal or abnormal conditions a source of potential with respect to earth in excess of 250 volts d.c.

**B)** Any single channel shunt zener diode safety barrier or single channel of a dual shunt zener safety certified by any EEC Approved Certification Board to (EEx ia) IIC having the following or lower output parameters:-

U <sub>o</sub> = 28V	U <sub>i</sub> = 28V	E <sub>i</sub> = 93.3mA
I <sub>o</sub> = 93.3mA	P <sub>i</sub> = 0.6W	L <sub>i</sub> = negligible
P <sub>o</sub> = 0.66W		C <sub>i</sub> = 1nf

In any safety barrier used the output current must be limited by a resistor 'R' such that  $I_o = U_z/R$

or

One of the following isolators:-

- 1) MTL5061 DC Isolator (BAS01ATEX7160)
- 2) MTL4061 Two channel Fire & Smoke detector interface (BAS01ATEX7176)
- 3) KFD0-CS-Ex1.54 Isolator (BAS00ATEX7087X)
- 4) KFD0-CS-Ex2.54 Isolator (BAS00ATEX7087X)
- 5) KFD0-CS-Ex1.51P Isolator (BAS98ATEX7343)
- 6) KFD0-CS-Ex2.52P Isolator (BAS98ATEX7343)

**C)** Up to 20 Type EVC-PY-IS optical smoke detectors and type UB-4-IS or EV-SPB-IS Bases (Certificate No: ITS09ATEX26418X).

**D)** An optional RIL circuit, comprising an LED, two diodes and a resistor, may be connected to terminals 2 and 5 of a smoke detector and mounting base. The surface area of the RIL circuit components must be greater than 20mm. The RIL circuit may be considered to

have a temperature class of T4 in a maximum ambient temperature of 50 Deg. C. The RIL circuit and its terminations must be afforded a degree of protection of at least IP20 and must be segregated from other circuits and conductors as defined in clause 6 of EN50020:2002.

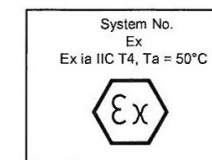
**E)** An end of line resistor meeting the same requirements as for the RIL circuit mentioned above may be connected to the base terminals 2 and 6.

**F)** The installation must comply with the European Harmonised Standard EN60079 Part 14: 2008.

**G)** The capacitance and inductance or inductance to resistance (L/R) ratio of the hazardous area cable must not exceed the values in the table below:-

GROUP	CAPACITANCE IN $\mu F$	INDUCTANCE IN mH	OR	L/R RATIO IN $\mu H/\Omega$
IIC	0.083	3.05		46
IIB	0.650	9.15		200
IIA	2.15	24.4		360

**H)** A durable label as shown below, to be affixed at the interface of the IS and non-IS circuits.



**I)** The electrical circuit in the hazardous area must be capable of withstanding an a.c. test voltage of 500V rms to earth or frame of the apparatus.



**Certified product**

No modifications permitted  
without reference to notified body