

Hazardous (Classified) Location  
Class I, Division 1, Groups A, B, C, D  
Class I, Zone 0, Groups IIA, IIB, IIC

Unclassified Location

IS-mC1 Sounder Section  
IS Class I, Zone 0, AEX Ia IIC T4  
(-40°C ≤ Ta ≤ +60°C)

Entity Parameters:

Terminals + w.r.t. -

Ui = 28V  
Ii = 93mA  
Pi = 660mW  
Ci = 0  
Li = 0

Terminals

S2 & S3 w.r.t. -

Ui = 28V  
Ii = 0  
Ci = 0  
Uo = 16.8V  
Io = 7.3mA  
Po = 31mW

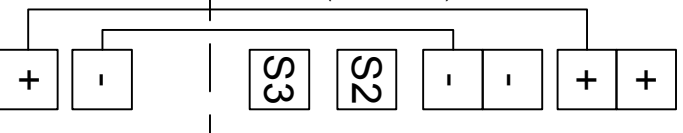
IS-mC1 Beacon Section  
IS Class I, Zone 0 AEX Ia IIC T4  
(-40°C ≤ Ta ≤ +60°C)

Entity Parameters:

Terminals + w.r.t. -

Ui = 28V  
Ii = 660mA  
Pi = 1.2W  
Ci = 0  
Li = 0

**NOTE:**  
THE BEACON SECTION CAN BE CONNECTED TO ITS OWN BARRIER INDEPENDENT OF THE SOUNDER SECTION. THE REQUIREMENTS OF CONTROL DRAWING D5036 SHEET 1 CAN THEN BE APPLIED TO THE BEACON SECTION. IF THIS OPTION IS USED, THE INTERNAL LINKS BETWEEN THE SOUNDER SECTION AND BEACON SECTION MUST NOT BE FITTED.



Associated Apparatus - Shunt Zener Diode Barrier with Entity Parameters:

Uo ≤ 28V  
Io ≤ 93mA  
Po ≤ 660mW  
Co ≥ Ccable (see note 10)  
Lo ≥ Lcable

Associated Apparatus - Diode Return Barrier with Entity Parameters:

Uo ≤ 28V  
Io = 0  
Co ≥ Ccable

Associated Apparatus - Diode Return Barrier with Entity Parameters:

Uo ≤ 28V  
Io = 0  
Co ≥ Ccable



1. No revision to drawing without prior FM approval.
2. The associated apparatus must be FM approved.
3. The associated apparatus manufacturer's installation drawing must be followed when installing this equipment.

4. Installation should be in accordance with ANSI/ISA RP12.06.01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code (ANSI/NFPA 70).

5. The resistance between the intrinsically safe ground and the earth ground must be less than 1 ohm.

6. The Shunt Zener Diode Barrier must be a FM approved, resistively limited, single channel barrier having parameters less than, or equal to, those quoted, and for which the output is non-ignition capable for the Class, Division or Zone and Group of use.

7. The IS-mC1 Combined Unit enclosure has an ingress protection rating of IP 65. If supplied without cable entry devices then metallic or plastic cable glands, or conduit hubs, shall be fitted that provide the required environmental protection.

8. To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

9. Substitution of components may impair safety.

10. The total capacitance connected to terminals +/- of the sounder, i.e. *Cable* plus any other capacitance, shall not exceed 83nF.

11. If the sounder and beacon +/- supply terminals are connected internally then the wiring used for such a connection shall have a minimum radial thickness of insulation of 0.5mm.

Notes:

**CAUTION** - Bonding between conduit connections is not automatic and must be provided as part of this installation.

**CAUTION** - The clearance between sounder terminals S2 and S3 is less than 6mm.

SCHEDULE DRAWING  
No modification permitted  
without reference to the  
"Notified Body"

Title

IS-mC1 Combined SOUNDER/BEACON  
Control Drawing for shunt zener  
diode barrier / diode return barrier.



warning sign

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London W3 7QH

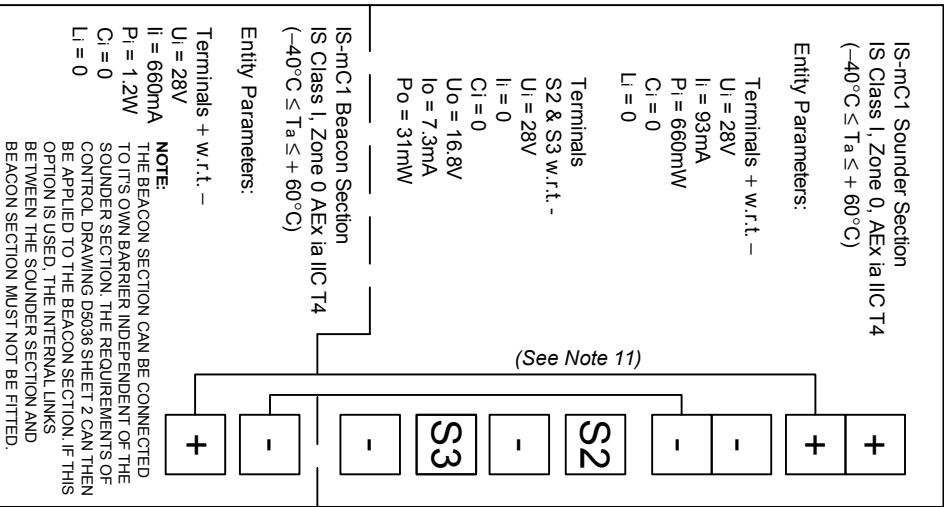
Drawing No. Computer Ref: D5037a.dwg

D 5037 Sheet 1 of 2

Issue:	Appd.	Date:	Drawn:	Date:
A	MRS	10-01-07	MRS	21-04-06

Hazardous (Classified) Location  
 Class I, Division 1, Groups A, B, C, D  
 Class I, Zone 0, Groups IIA, IIB, IIC

Unclassified Location



Associated Apparatus - Galvanically Isolated Supply with Entity Parameters:  
 $U_o \leq 28V$   
 $I_o \leq 93mA$   
 $P_o \leq 660mW$   
 $C_o \geq C_{cable}$  (see note 9)  
 $L_o \geq L_{cable}$

Associated Apparatus - Galvanically Isolated Relay with Entity Parameters:  
 $U_o = 0$   
 $I_o = 0$   
 (See Note 10)

Associated Apparatus - Galvanically Isolated Relay with Entity Parameters:  
 $U_o = 0$   
 $I_o = 0$   
 (See Note 10)

SCHEDULE DRAWING  
 No modification permitted without reference to the "Notified Body"

1. No revision to drawing without prior FM approval.
2. The associated apparatus must be FM approved.
3. The associated apparatus manufacturer's installation drawing must be followed when installing this equipment.

4. Installation should be in accordance with ANSII/ISA RP12.06 01 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code (ANSI/NFPA 70).

5. The Galvanically Isolated Supply must be a FM approved, resistively limited, single channel supply having parameters less than, or equal to, those quoted, and for which the output is non-ignition capable for the Class, Division or Zone and Group of use.

6. The IS-mC1 Combined Unit enclosure has an ingress protection rating of IP 65. If supplied without cable entry devices then metallic or plastic cable glands, or conduit hubs, shall be fitted that provide the required environmental protection.

7. To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

8. Substitution of components may impair safety.

9. The total capacitance connected to terminals +/- of the sounder, i.e.  $C_{cable}$  plus any other capacitance, shall not exceed 83nF.

10. The  $C_{cable}$  and  $L_{cable}$  of the cables connecting the galvanically isolated relays to sounder terminals S2/- and S3/- shall be less than, or equal to, the  $C_{cable}$  and  $L_{cable}$  of the cable connecting the galvanically isolated supply to sounder terminals +/-.

11. If the sounder and beacon +/- supply terminals are connected internally then the wiring used for such a connection shall have a minimum radial thickness of insulation of 0.5mm.

Notes:  
 CAUTION - Bonding between conduit connections is not automatic and must be provided as part of this installation.  
 CAUTION - The clearance between sounder terminals S2 and S3 is less than 6mm.

Issue:	Appd.	Date:	Drawn:	Date:
A	MRS	10-01-07	MRS	21-04-06

Title  
**IS-mC1 Combined SOUNDER / BEACON Control Drawing for galvanically isolated supply / isolated relay installation.**

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Drawing No. **D 5037 Sheet 2 of 2**

Computer Ref. D5037b.dwg