



Member of the FM Global Group

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

BR385 Sounder

IS / I / 1 / ABCD / T4 Ta = 60°C - Entity - CI385-32; IP66

I / 0 / AEx ia IIC T4 Ta = 60°C - Entity - CI385-32; IP66

Entity parameters:

Terminals "+" and "-"

$U_i = 28\text{ V}$, $I_i = 93\text{ mA}$, $P_i = 660\text{ mW}$, $C_i = 0$, $L_i = 0$

Terminals S2 and S3 to "-"

$U_i = 28\text{ V}$, $I_i = 0$, $C_i = 0$

$U_o = 16.8\text{ V}$, $I_o = 7.23\text{ mA}$, $P_o = 31\text{ mW}$

Special Conditions of Use

1. To avoid a possible electrostatic charge only clean with a damp cloth

Equipment Ratings:

Intrinsically safe, with entity parameters, for use in Class I, Division 1, Groups A, B, C, D and Class I, Zone 0, Group IIC, in accordance with Control Drawing No. CI385-32, Hazardous (Classified) Locations indoor/outdoor (IP66).

FM Approved for:

BEKA Associates Ltd
Hitchin, Hertfordshire United Kingdom



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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3610	2010
Class 3810	2005
IEC 60529	1989

Original Project ID: 0003027157

Approval Granted: June 19, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3054106	November 24, 2014		

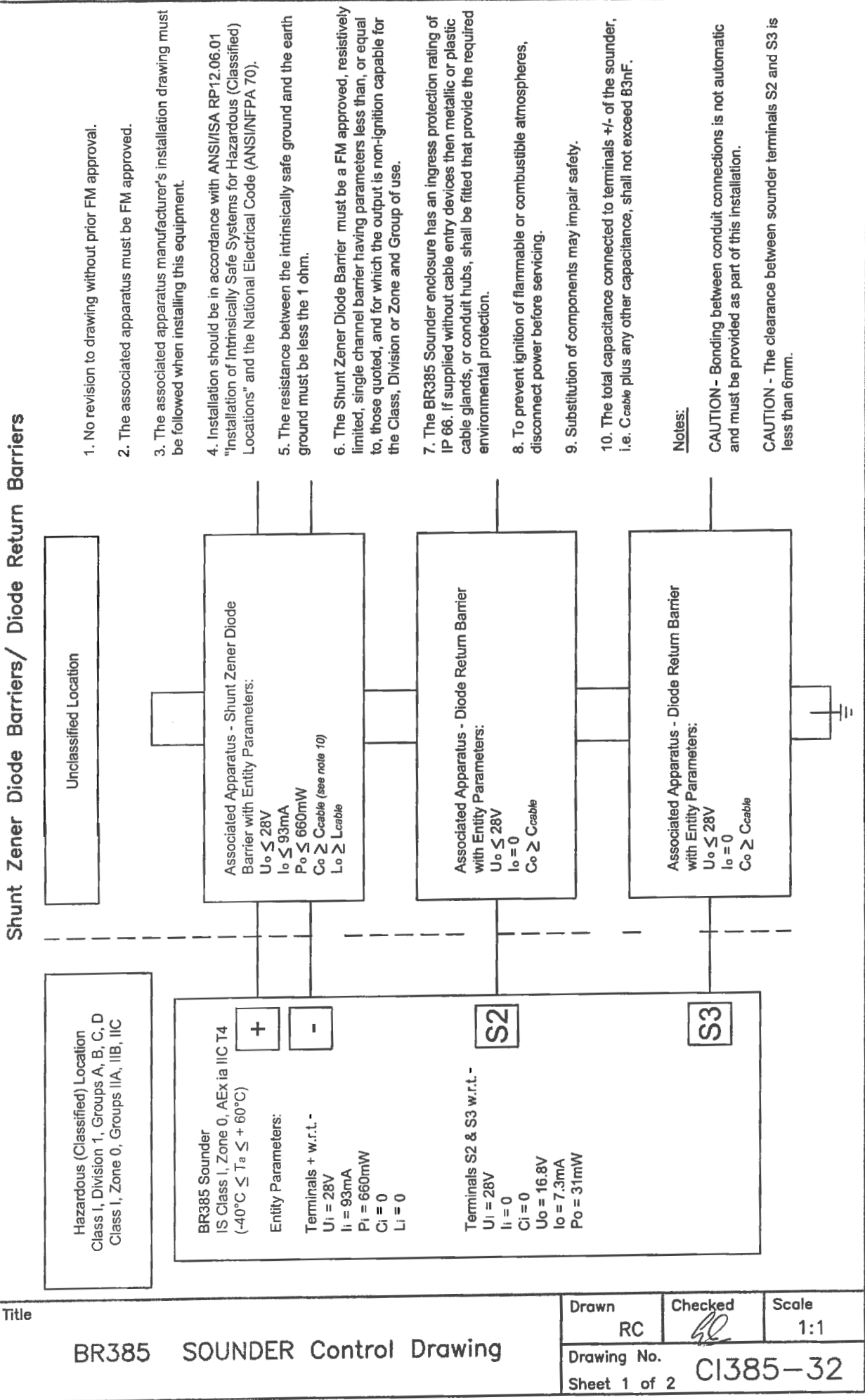
FM Approvals LLC

J.E. Marquedant
Manager of Electrical Systems

24 November 2014

Date

Iss.	Date	Modification	Ckd.	Appd.
1	02.05 2006	First issue		
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Iss.	Date	Modification	Ckd.	Appd.



Notes:

- No revision to drawing without prior FM approval.
- The associated apparatus must be FM approved.
- The associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
- 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).
- The resistance between the intrinsically safe ground and the earth ground must be less than 1 ohm.
- 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.
- The BR385 Sounder enclosure has an ingress protection rating of IP 66. If supplied without cable entry devices then metallic or plastic cable glands, or conduit hubs, shall be fitted that provide the required environmental protection.
- To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
- Substitution of components may impair safety.
- The total capacitance connected to terminals +/- of the sounder, i.e. C_{cabl} plus any other capacitance, shall not exceed 83nF.

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.

Title
BR385 SOUNDER Control Drawing

Drawn
RC

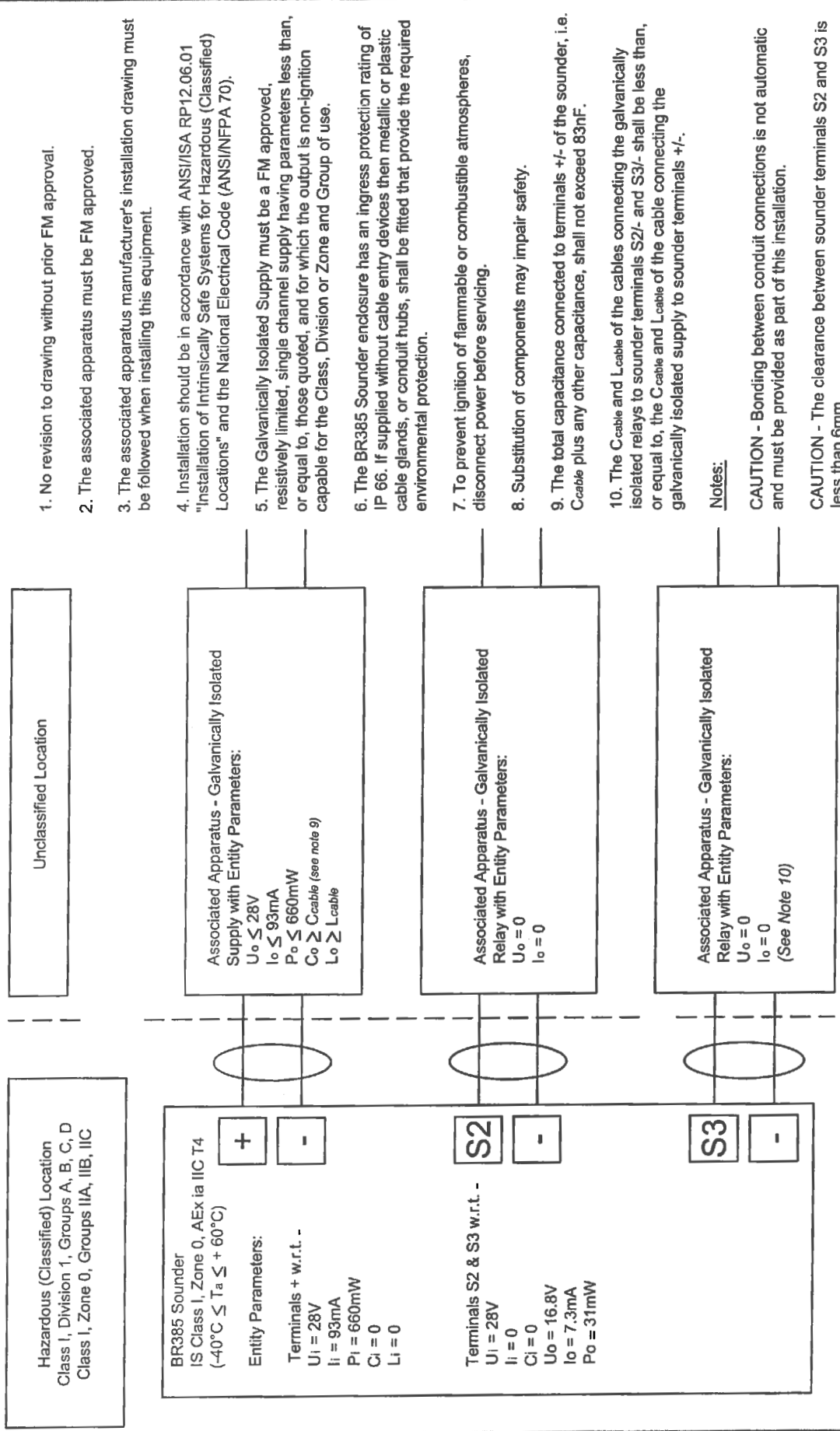
Checked
[Signature]

Scale
1:1

Drawing No. Sheet 1 of 2 **C1385-32**

Iss.	Date	Modification	Ckd.	Appd.
1	02.05 2006	First issue		
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Galvanically Isolated Supply / Isolated Relay Installation



- No revision to drawing without prior FM approval.
- The associated apparatus must be FM approved.
- The associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
- 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).
- 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.
- The BR385 Sounder enclosure has an ingress protection rating of IP 66. If supplied without cable entry devices then metallic or plastic cable glands, or conduit hubs, shall be fitted that provide the required environmental protection.
- To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.
- Substitution of components may impair safety.
- The total capacitance connected to terminals +/- of the sounder, i.e. Ccable plus any other capacitance, shall not exceed 83nF.
- The Ccable and Lcable of the cables connecting the galvanically isolated relays to sounder terminals S2/- and S3/- shall be less than, or equal to, the Ccable and Lcable of the cable connecting the galvanically isolated supply to sounder terminals +/-.

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.

BR385 SOUNDER Control Drawing

Drawn RC	Checked 	Scale 1:1
Drawing No.		CI385-32
Sheet 2 of 2		