

REVISIONS	
REV	CR/JOHANN
C	CR1054 - TXR5521 ADDED
D	CR1058 - UPDATED TO REVISED AGENCY SPEC

NOTES:

1. SAFE AREA APPARATUS IS NOT SPECIFIED 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 VRMS OR 250 VDC.

2. THE SAFETY BARRIER MUST BE:

A 28V, 300 OHM AND A 28V DIODE RETURN DUAL CHANNEL SHUNT ZENER DIODE SAFETY BARRIER HAVING THE FOLLOWING OR LOWER OUTPUT PARAMETERS:

$$U_z = 28V$$

$$I_o = 93mA$$

$$P_o = 0.66W$$

A SUITABLE EXAMPLE IS MTL#7087+.

THE BARRIERS MUST BE CERTIFIED BY BASEEFA OR ANY EEC APPROVED CERTIFICATION BODY TO [Eex ia] IIC AND THE OUTPUT CURRENT MUST BE LIMITED BY A RESISTOR "R" SUCH THAT: $I_o = v_z/R$

A 24VDC POWERED GALVANIC ISOLATOR WITH THE FOLLOWING OR LOWER OUTPUT PARAMETERS:

$$U_z = 28V$$

$$I_o = 91mA$$

$$P_o = 0.637W$$

A SUITABLE EXAMPLE IS A STAHL 9303/11-22-11.

THE BARRIER MUST BE CERTIFIED, BY BASEEFA OR ANY EEC APPROVED CERTIFICATION BODY TO [Ex ia] IIC.

3. THE CAPACITANCE AND EITHER THE INDUCTANCE OR INDUCTANCE TO RESISTANCE (L/R) RATIO OF THE INTERCONNECTING CABLE MUST NOT EXCEED THE VALUES IN TABLE 3. THE VALUES IN THE TABLE HAVE TAKEN ACCOUNT OF C_{eq} AND L_{eq} .

4. THE CAPACITANCE AND EITHER THE INDUCTANCE OR INDUCTANCE TO RESISTANCE (L/R) RATIO OF THE INTERCONNECTING CABLE MUST NOT EXCEED THE VALUES IN TABLE 1 OR TABLE 2, WHICHEVER IS APPLICABLE. THE VALUES IN THE TABLE HAVE TAKEN ACCOUNT OF C_{eq} AND L_{eq} .

5. IN ACCORDANCE TO EN 60079-25:2010: CLAUSE 8: THE HAZARDOUS AREA CABLE IS TO BE INSTALLED AS EITHER A SEPARATE CABLE OR A SEPARATE CIRCUIT WITHIN A "TYPE A" CABLE OR WITHIN A "TYPE B" CABLE. THE PEAK VOLTAGE OF ANY CIRCUIT IN THE "TYPE B" CABLE MUST NOT EXCEED 60V.

CLAUSE 9.1: DIAMETER OF INDIVIDUAL CONDUCTORS OR STRANDS OF MULTI-STRANDED CONDUCTORS WITHIN THE HAZARDOUS AREA MUST BE GREATER THAN 0.1 MM. ONLY INSULATED CABLES WITH INSULATION CAPABLE OF WITHSTANDING A DIELECTRIC TEST OF AT LEAST 500 VAC OR 750 VDC SHALL BE USED IN INTRINSICALLY SAFE CIRCUITS.

CLAUSE 9.2: FOR MULTI-CORE CABLES: A) THE RADIAL THICKNESS OF THE INSULATION OF EACH CORE SHALL BE APPROPRIATE TO THE CONDUCTOR DIAMETER AND THE NATURE OF THE INSULATION WITH A MINIMUM OF 0.2 MM. B) MUST WITHSTAND A DIELECTRIC TEST OF AT LEAST 500 VRMSAC OR 750 VDC APPLIED BETWEEN ANY ARMORING AND/OR SCREEN(S) JOINED TOGETHER AND ALL THE CORES JOINED TOGETHER C) MUST WITHSTAND A DIELECTRIC TEST OF AT LEAST 1000 VRMSAC OR 1500 VDC APPLIED BETWEEN A BUNDLE COMPRISING ONE HALF OF THE CABLE CORES JOINED TOGETHER AND A BUNDLE COMPRISING THE OTHER HALF OF THE CORES JOINED TOGETHER (NOT APPLICABLE TO MULTI-CORE CABLES WITH CONDUCTING SCREENS FOR INDIVIDUAL CIRCUITS). D) DIELECTRIC STRENGTH TEST SHOULD BE IN ACCORDANCE WITH AN APPROPRIATE CABLE STANDARD OR DIELECTRIC STRENGTH TEST OF IEC 60079-11.

CLAUSE 9.4: WHERE CONDUCTING SCREENS PROVIDE PROTECTION FOR SEPARATE INTRINSICALLY SAFE CIRCUITS IN ORDER TO PREVENT SUCH CIRCUITS BECOMING CONNECTED TO ONE ANOTHER, THE COVERAGE OF THOSE SCREENS SHALL BE AT LEAST 60% OF THE SURFACE AREA.

CLAUSE 9.10: INTRINSICALLY SAFE SYSTEMS THAT CONTAIN JUNCTION BOXES OR MARSHALING CUBICLES WHERE INTRINSICALLY SAFE CIRCUITS ARE TERMINATED SHALL COMPLY WITH THE TERMINAL REQUIREMENTS IN THE FACILITIES OF THE CONNECTION OF EXTERNAL CIRCUITS OF IEC 60079-11.

6. THE INSTALLATION MUST COMPLY WITH THE APPROPRIATE NATIONAL INSTALLATION REQUIREMENTS. EXAMPLE: BS 6704: 1996/EN60079-14: 2008

7. SYSTEM LABEL METRIX P/N: 8446-015 SHOULD APPEAR ON OR ADJACENT TO THE PRINCIPAL ITEM OF THE ELECTRICAL APPARATUS IN THE SYSTEM OR AT THE INTERFACE BETWEEN THE INTRINSICALLY SAFE AND NON-INTRINSICALLY SAFE CIRCUIT.

8. THE SERIES 10,000 PROBE TOGETHER WITH ITS 10,000 EXTENSION CABLE AS REQUIRED BASED ON PROBE SYSTEM SELECTED AND 8093 CONNECTOR INSULATOR MAY BE REPLACED BY A BENTLY NEVADA 3300 PROXIMITY TRANSDUCER SYSTEM PROBE AND CABLE (BAS 99ATEX1099).

9. THE APPARATUS ENCLOSURE IS MADE FROM PLASTIC WHICH MUST BE PROTECTED AGAINST IMPACT AND FRICTION.

TABLE 1			
DIODE RETURN BARRIER			
GROUP	CAPACITANCE uF	INDUCTANCE mH	L/R RATIO uH/OHM
IIC	0.065	4.1	54
IIB	0.231	12.3	162
IIA	0.646	32.8	432

TABLE 2			
GALVANIC ISOLATOR			
GROUP	CAPACITANCE uF	INDUCTANCE mH	L/R RATIO uH/OHM
IIC	0.065	4.3	56
IIB	0.632	17.72	210
IIA	2.132	36.02	444

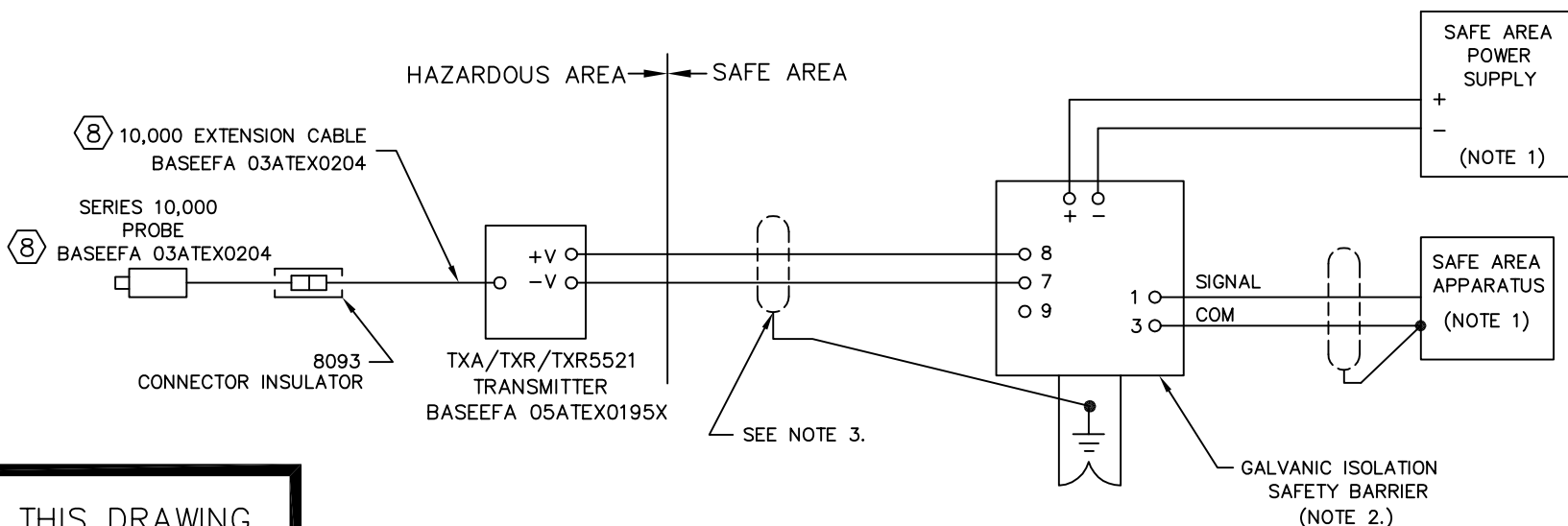
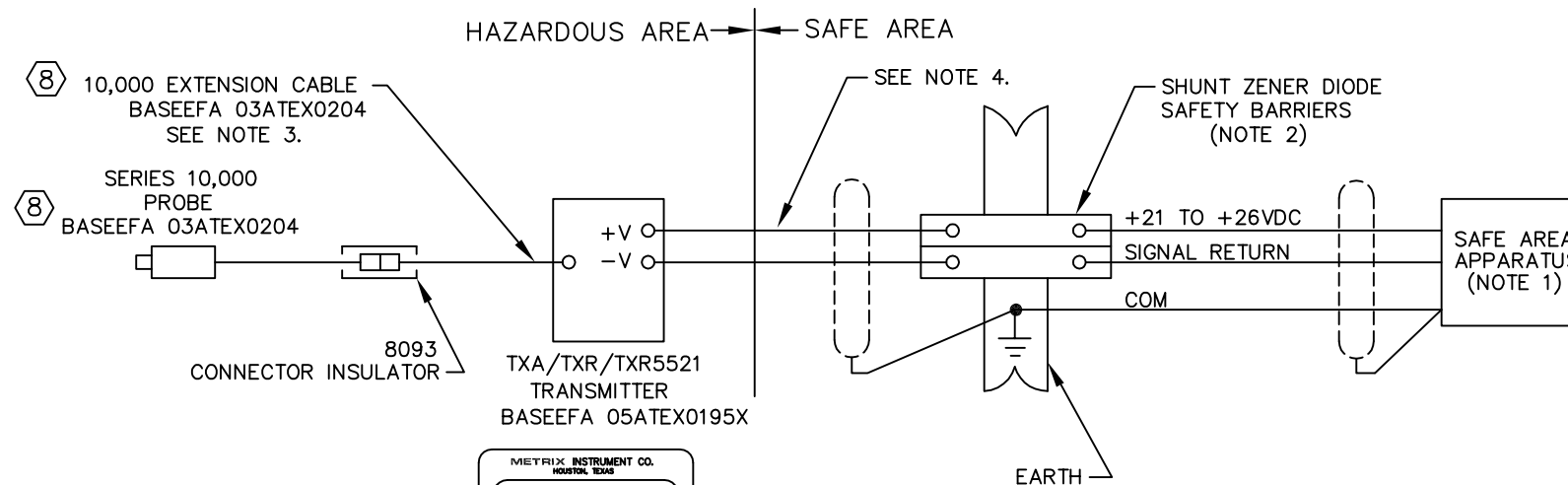
TABLE 3			
EXTERNAL PROBE CABLE			
GROUP	CAPACITANCE uF	INDUCTANCE mH	L/R RATIO uH/OHM
IIC	32	500	4000
IIB	720	1000	17000
IIA	1000	1000	35000

SPECIFIC CONDITION OF USE:

TRANSMITTER MUST BE INSTALLED IN AN ENCLOSURE COMPLYING WITH IP 20.

THE APPARATUS IS NOT CAPABLE OF WITHSTANDING THE 500V INSULATION TEST REQUIRED BY CLAUSE 6.3.13 OF EN 60079-11:2012. THIS MUST BE TAKEN INTO ACCOUNT WHEN INSTALLING THE APPARATUS.

INSTALLATION -
PROXIMITY TRANSMITTER IN HAZARDOUS LOCATION
CENELEC



REVISIONS TO THIS DRAWING
TO BE APPROVED BY BASEEFA

MATERIAL:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ALL CORNERS BROKEN TO .010 MIN RADIUS AND TOLERANCES ARE:	APPROVALS	DATE	
FINISH:	FRACTIONS: DECIMALS: ±1/64 .XX ±.01 .XXX ±.005	DRAWN BY:	07-19-05	
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	SURFACE FINISH 64	APPROVED BY:	05-18-06	
		TXR5521 TXR5521		INSTALLATION (CENELEC) TXA/TXR/TXR5521 TRANSMITTER
		TXR TXR		
		TXA TXA		DRAWING NO. 9678
		NEXT ASSY USED ON		SCALE: 1:1
		APPLICATION	DO NOT SCALE DRAWING	SHEET: 1 of 1