

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 TRANSMITTER ENTITY PARAMETERS ARE:

$V_{max} = 28V$
 $I_{max} = 93mA$
 $C_i = 18nF$
 $L_i = 0uH$
 $P_i = 0.66W$ (including 300 Ohm series resistance)

CHOOSE A CSA/ETL CERTIFIED BARRIER WITH ENTITY PARAMETERS THAT SATISFY THE FOLLOWING CONDITIONS:

$V_{max} \geq V_{oc}$
 $I_{max} \geq I_{sc}$
 $C_i + C_{cable} \leq C_a$
 $L_i + L_{cable} \leq L_a$
 $P_i \geq P_o$

SUITABLE BARRIERS INCLUDE:

MTL 7087+, MTL 787+, MTL 7X87+ OR EQUIVALENT

SUITABLE GALVANIC ISOLATION SAFETY BARRIERS INCLUDE:

STAHL 9303/11-22-11 OR EQUIVALENT

3. INSTALL IN ACCORDANCE WITH THE APPROPRIATE NATIONAL ELECTRICAL REQUIREMENTS AND PER THE BARRIER INSTRUCTIONS.

4. THE TRANSMITTER MUST BE INSTALLED IN A SUITABLE ENCLOSURE ACCEPTABLE TO THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

- ⑤ THE TRANSMITTER PROBE ENTITY PARAMETERS ARE:

$V_{oc} = 5.36V$
 $I_{sc} = 93mA$
 $C_a = 62uF$
 $L_a = 8.5mH$
 $P_o = 0.5W$

THE SERIES 10,000 PROBE TOGETHER WITH ITS 10,000 EXTENSION CABLE AND 8093 CONNECTOR INSULATOR MAY BE REPLACED BY ANY CSA CERTIFIED INTRINSICALLY SAFE PROBE THAT SATIFIES THE FOLLOWING CONDITIONS:

$V_{max} \geq V_{oc}$
 $I_{max} \geq I_{sc}$
 $C_i + C_{cable} \leq C_a$
 $L_i + L_{cable} \leq L_a$
 $P_i \geq P_o$

CLASS I, DIV. 1, GROUPS A, B, C, D
T4, Tamb: -40°C to 85°C

WARNING – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

Exia, INTRINSICALLY SAFE, CLASS I, DIV. 1, GROUPS A – D, Tcode: T4, -40°C ≤ Tamb ≤ 85°C

AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQCJE.

WARNING – TO PREVENT IGNITION OF FLAMMABLE OR COMPUSTABLE ATMOSPHERES. DISCONNECT POWER BEFORE SERVICING.

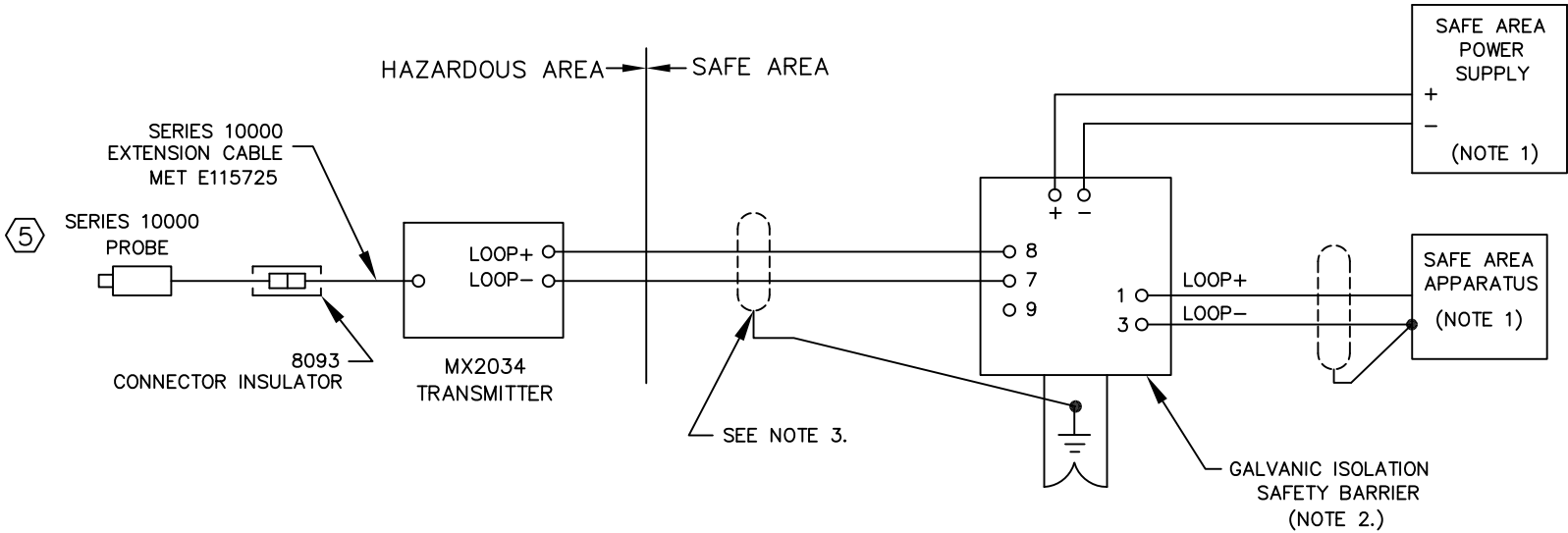
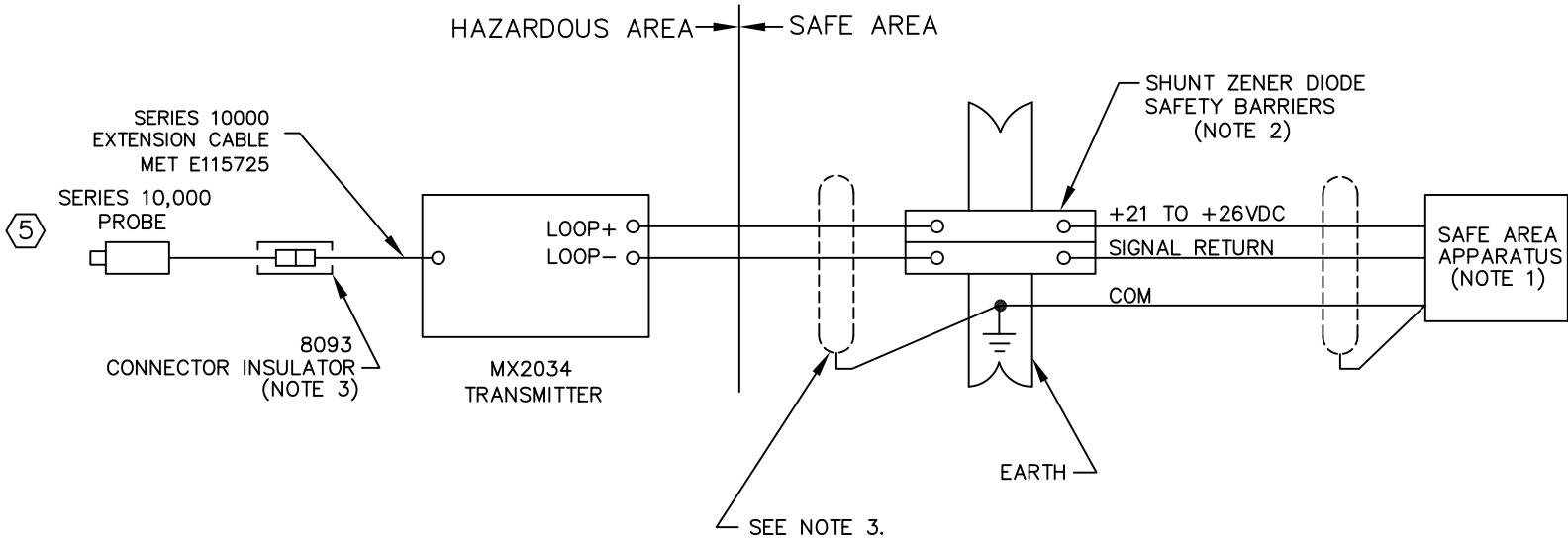
WARNING – TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTABLE ATMOSPHERES; READ, UNDERSTAND AND ADHERE TO THE MANUFACTURE’S LIVE MAINTENANCE PROCEDURES.



REFER TO MANUAL 100545 FOR MAINTENANCE AND OPERATING INSTRUCTIONS.

AVERTISSEMENT – RISQUE D’EXPLOSION. NE PAS DEBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, A MOINS QU’IL NE S’AGISSE D’UN EMPLACEMENT NON DANGEREUX.

INTRINSICALLY SAFE INSTALLATION, 2 WIRE
NORTH AMERICAN STANDARDS



AGENCY APPROVED PRODUCT

DO NOT DEVIATE FROM
DOCUMENTED CONSTRUCTION
OR LISTED PARTS

MATERIAL:

FINISH:

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ALL CORNERS BROKEN TO .010 MIN RADIUS AND TOLERANCES ARE:

FRACTIONS: DECIMALS:
 $\pm 1/64$.XX $\pm .01$
ANGLES:
 $\pm 1^\circ$
SURFACE FINISH
64

APPROVALS	DATE
DRAWN BY:	
A. Wilson	08-01-11
CHECKED BY:	
APPROVED BY:	
NEXT ASSY	USED ON
APPLICATION	

DO NOT SCALE DRAWING

METRIX HOUSTON, TEXAS U.S.A.		
INTRINSICALLY SAFE INSTALLATION (INTERTEK) MX2033 & MX2034		
SIZE B	DRAWING NO. 100506	REV. D
SCALE: 1:1	SHEET: 1 of 3	

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:
LOOP POWER CONNECTION: 24VDC POWERED GALVANIC ISOLATOR WITH THE FOLLOWING OR LOWER OUTPUT PARAMETERS:
 $U_o = 25.4V$
 $I_o = 86.8mA$
 $P_o = 0.551W$
A SUITABLE EXAMPLE IS A KFD1-STC4-Ex1 OR EQUIVALENT
DYNAMIC SIGNAL CONNECTION: 24VDC POWERED GALVANIC ISOLATOR WITH THE FOLLOWING OR LOWER OUTPUT PARAMETERS:
 $U_o = 15.5V$
 $I_o = 7.2mA$
 $P_o = 0.028W$
A SUITABLE EXAMPLE IS A KFD2-VR-Ex1.19-Y109129 OR EQUIVALENT
THE BARRIER MUST BE CERTIFIED, BY CSA OR ANY NRTL/ETL APPROVED CERTIFICATION BODY TO [EEx ia] IIC.
GALVANIC ISOLATORS MUST BE RATED FOR AT MINIMUM THE LIMITS OF CAPACITANCE AND INDUCTANCE SHOWN IN TABLE 2.
3. INSTALL IN ACCORDANCE WITH THE APPROPRIATE NATIONAL ELECTRICAL REQUIREMENTS AND PER THE BARRIER INSTRUCTIONS.
4. THE TRANSMITTER MUST BE INSTALLED IN A SUITABLE ENCLOSURE ACCEPTABLE TO THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

⑤ THE TRANSMITTER PROBE ENTITY PARAMETERS ARE:

$$\begin{aligned} V_{oc} &= 5.36V \\ I_{sc} &= 94mA \\ C_a &= 62\mu F \\ L_a &= 8.5mH \\ P_o &= 0.5W \end{aligned}$$

THE SERIES 10,000 PROBE TOGETHER WITH ITS 10,000 EXTENSION CABLE AND 8093 CONNECTOR INSULATOR MAY BE REPLACED BY ANY CSA CERTIFIED INTRINSICALLY SAFE PROBE THAT SATISFIES THE FOLLOWING CONDITIONS:

$$\begin{aligned} V_{max} &\geq V_{oc} \\ I_{max} &\geq I_{sc} \\ C_i + C_{cable} &\leq C_a \\ L_i + L_{cable} &\leq L_a \\ P_i &\geq P_o \end{aligned}$$

CLASS I, DIV. 1, GROUPS A, B, C, D
T4, Tamb: -40°C to 85°C

WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.

Exia, INTRINSICALLY SAFE, CLASS I, DIV. 1, GROUPS A - D, Tcode: T4, -40°C ≤ Tamb ≤ 85°C

AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE.

WARNING - TO PREVENT IGNITION OF FLAMMABLE OR COMPUSTABLE ATMOSPHERES. DISCONNECT POWER BEFORE SERVICING.

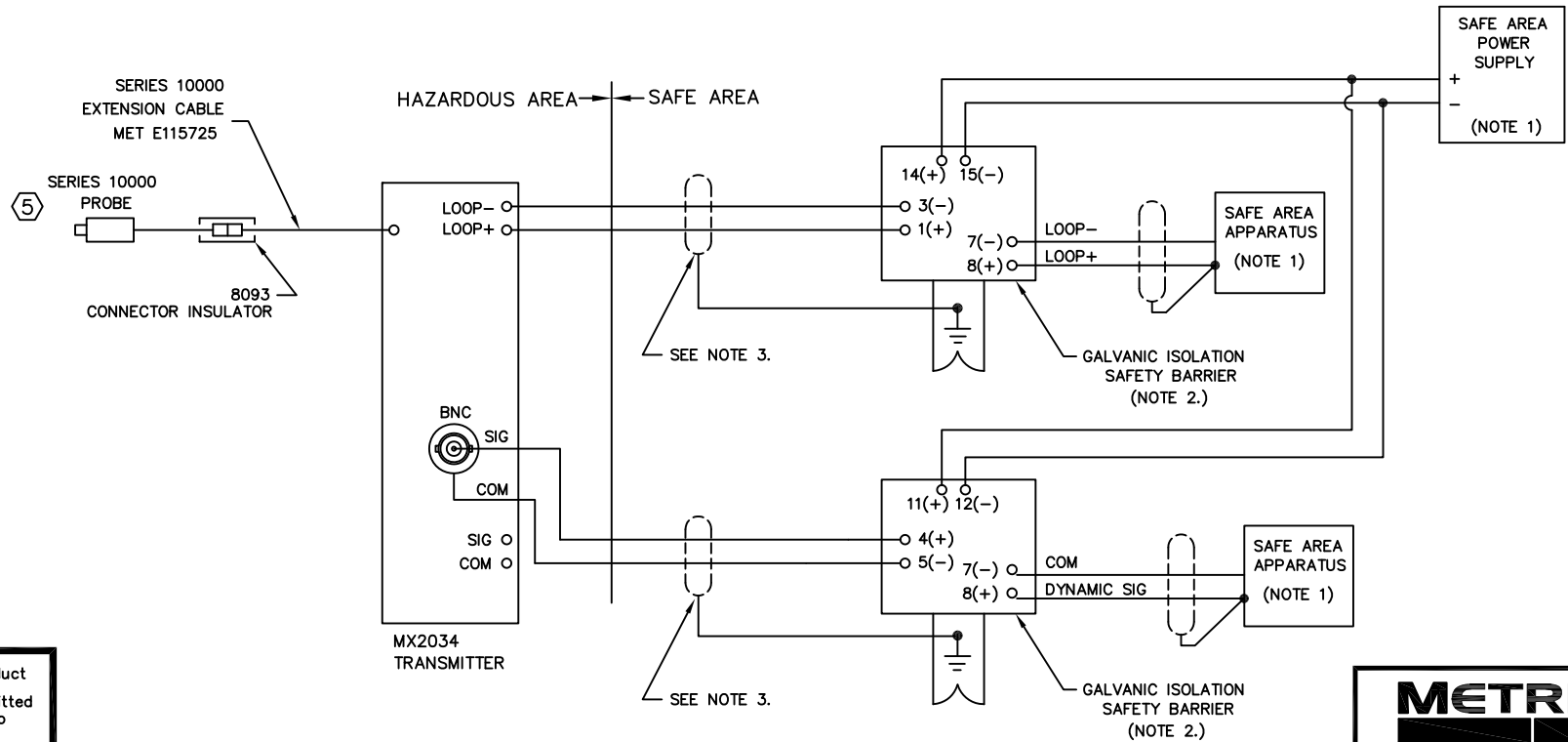
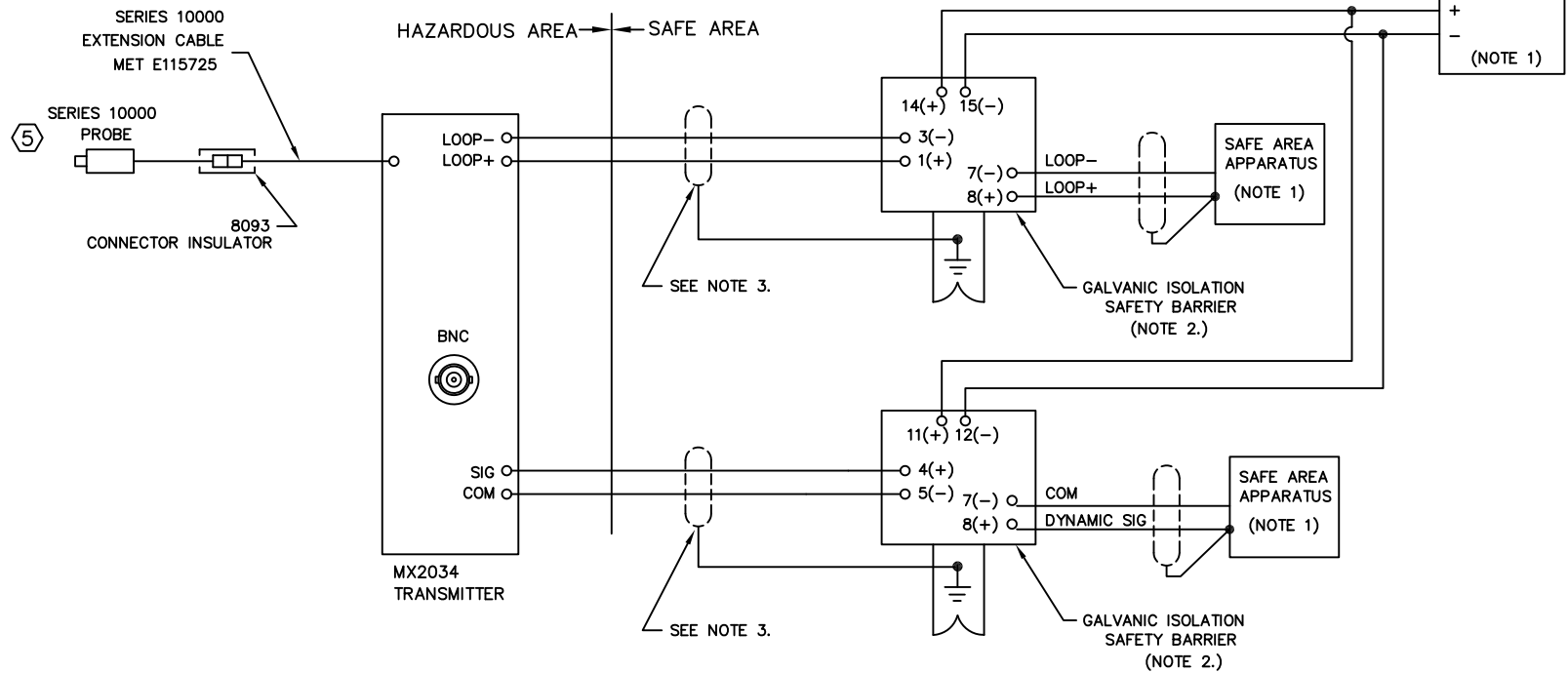
WARNING - TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTABLE ATMOSPHERES; READ, UNDERSTAND AND ADHERE TO THE MANUFACTURE'S LIVE MAINTENANCE PROCEDURES.

⚠ REFER TO MANUAL 100545 FOR MAINTENANCE AND OPERATING INSTRUCTIONS.

AVERTISSEMENT - RISQUE D'EXPLOSION. NE PAS DEBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, A MOINS QU'IL NE S'AGISSE D'UN EMPLACEMENT NON DANGEREUX.

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No modifications permitted
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INTRINSICALLY SAFE INSTALLATION, 4 WIRE
NORTH AMERICAN STANDARDS



METRIX

HOUSTON, TEXAS
USA

INTRINSICALLY SAFE
INSTALLATION (INTERTEK)
MX2033 & MX2034

SIZE B PART NO. 100506 REV. D
SCALE: 1:1 DOCUMENT NO.: 100506-DWG SHEET: 2 of 3

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. ENTITY INSTALLATION:

PROBE DRIVER ENTITY PARAMETERS ARE:

V_{max} = 30V
I_{max} = 150mA
C_i = 52nF
L_i = 160uH

CHOOSE A CSA/ETL CERTIFIED BARRIER WITH ENTITY PARAMETERS THAT SATISFY THE FOLLOWING CONDITIONS:

V_{max} ≥ V_{oc}
I_{max} ≥ I_{sc}
C_i + C cable ≤ C_a
L_i + L cable ≤ L_a

SUITABLE BARRIERS INCLUDE:

MTL 787S (–) AND STAHL 9002/13–280–093–00

SUITABLE GALVANIC ISOLATION SAFETY BARRIERS INCLUDE:

STAHL 9307/11–99–10

3. INSTALL IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE PART I AND PER THE BARRIER INSTRUCTIONS.
4. PROBE DRIVER MUST BE INSTALLED IN A SUITABLE ENCLOSURE ACCEPTABLE TO THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

5 THE TRANSMITTER PROBE ENTITY PARAMETERS ARE:

V_{oc} = 5.36V
I_{sc} = 93mA
C_a = 62uF
L_a = 8.5mH
P_o = 0.5W

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V_{max} ≥ V_{oc}
I_{max} ≥ I_{sc}
C_i + C cable ≤ C_a
L_i + L cable ≤ L_a
P_i ≥ P_o

CLASS I, DIV. 1, GROUPS A, B, C, D
T₄, T_{amb}: –40°C to 85°C

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AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQCJE.

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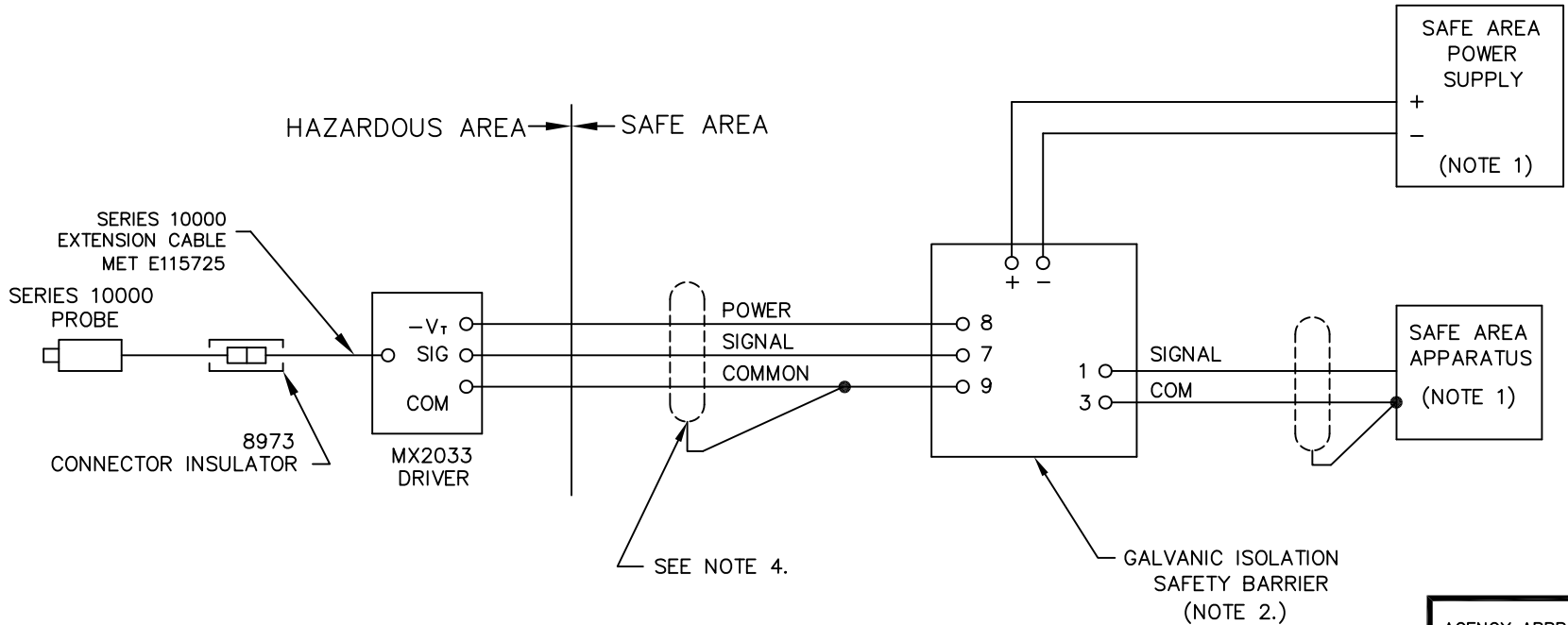
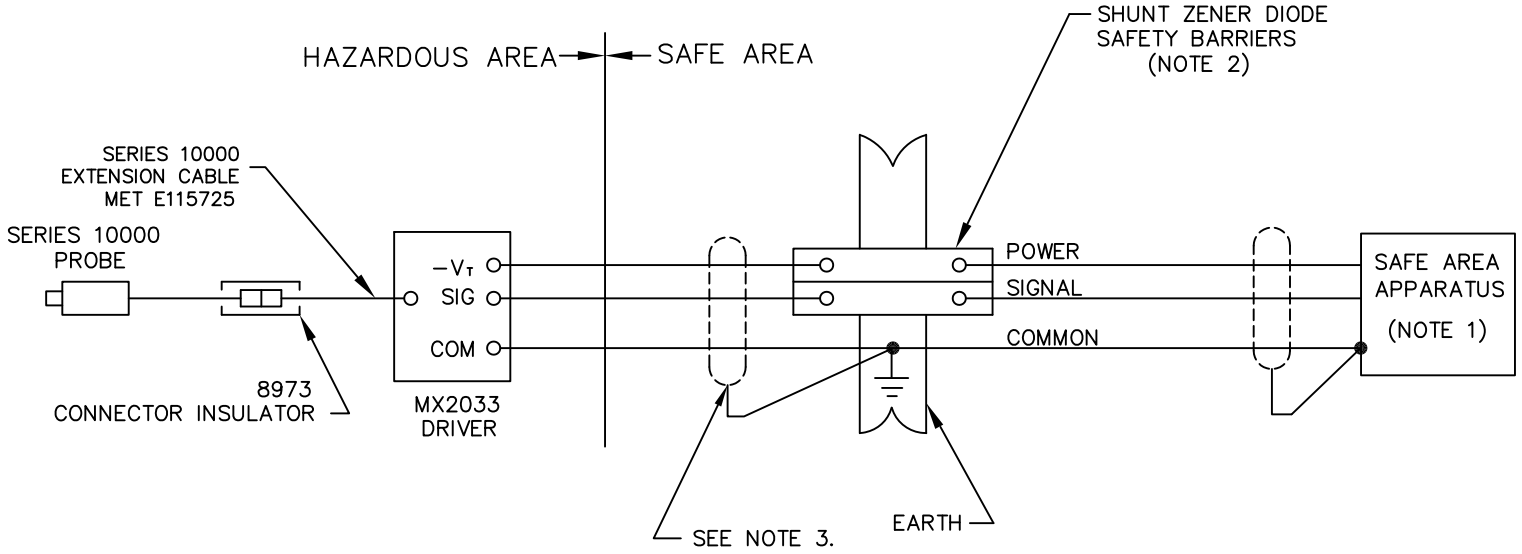
Exia, INTRINSICALLY SAFE, CLASS I, Div. 1, GROUPS A – D, T_{code}: T₄, –40°C ≤ T_{amb} ≤ 85°C

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HOUSTON, TEXAS U.S.A.

INTRINSICALLY SAFE
INSTALLATION (INTERTEK)
MX2033 & MX2034

SIZE B PART NO.: 100506 REV. D
SCALE: 1:1 DOCUMENT NO.: 100506-DWG SHEET: 3 of 3