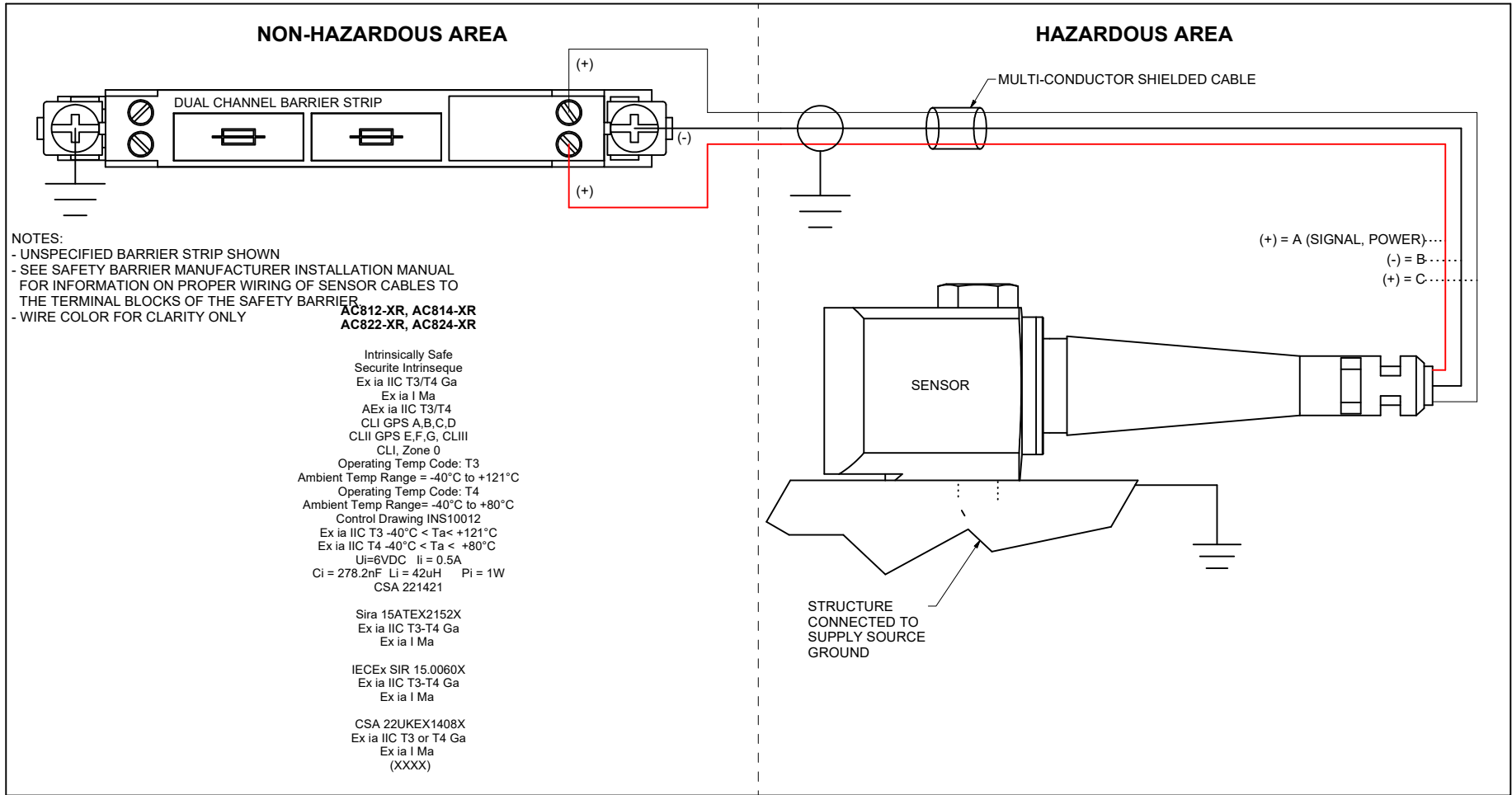




**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



**NOTES:**  
 - UNSPECIFIED BARRIER STRIP SHOWN  
 - SEE SAFETY BARRIER MANUFACTURER INSTALLATION MANUAL FOR INFORMATION ON PROPER WIRING OF SENSOR CABLES TO THE TERMINAL BLOCKS OF THE SAFETY BARRIER.  
 - WIRE COLOR FOR CLARITY ONLY

**AC812-XR, AC814-XR  
 AC822-XR, AC824-XR**

Intrinsically Safe  
 Securite Intrinsicque  
 Ex ia IIC T3/T4 Ga  
   Ex ia I Ma  
 AEx ia IIC T3/T4  
 CLI GPS A, B, C, D  
 CLII GPS E, F, G, CLIII  
   CLI, Zone 0  
 Operating Temp Code: T3  
 Ambient Temp Range = -40°C to +121°C  
 Operating Temp Code: T4  
 Ambient Temp Range = -40°C to +80°C  
 Control Drawing INS10012  
 Ex ia IIC T3 -40°C < Ta < +121°C  
 Ex ia IIC T4 -40°C < Ta < +80°C  
 Ui=6VDC li = 0.5A  
 Ci = 278.2nF Li = 42uH Pi = 1W  
 CSA 221421

Sira 15ATEX2152X  
 Ex ia IIC T3-T4 Ga  
   Ex ia I Ma

IECEX SIR 15.0060X  
 Ex ia IIC T3-T4 Ga  
   Ex ia I Ma

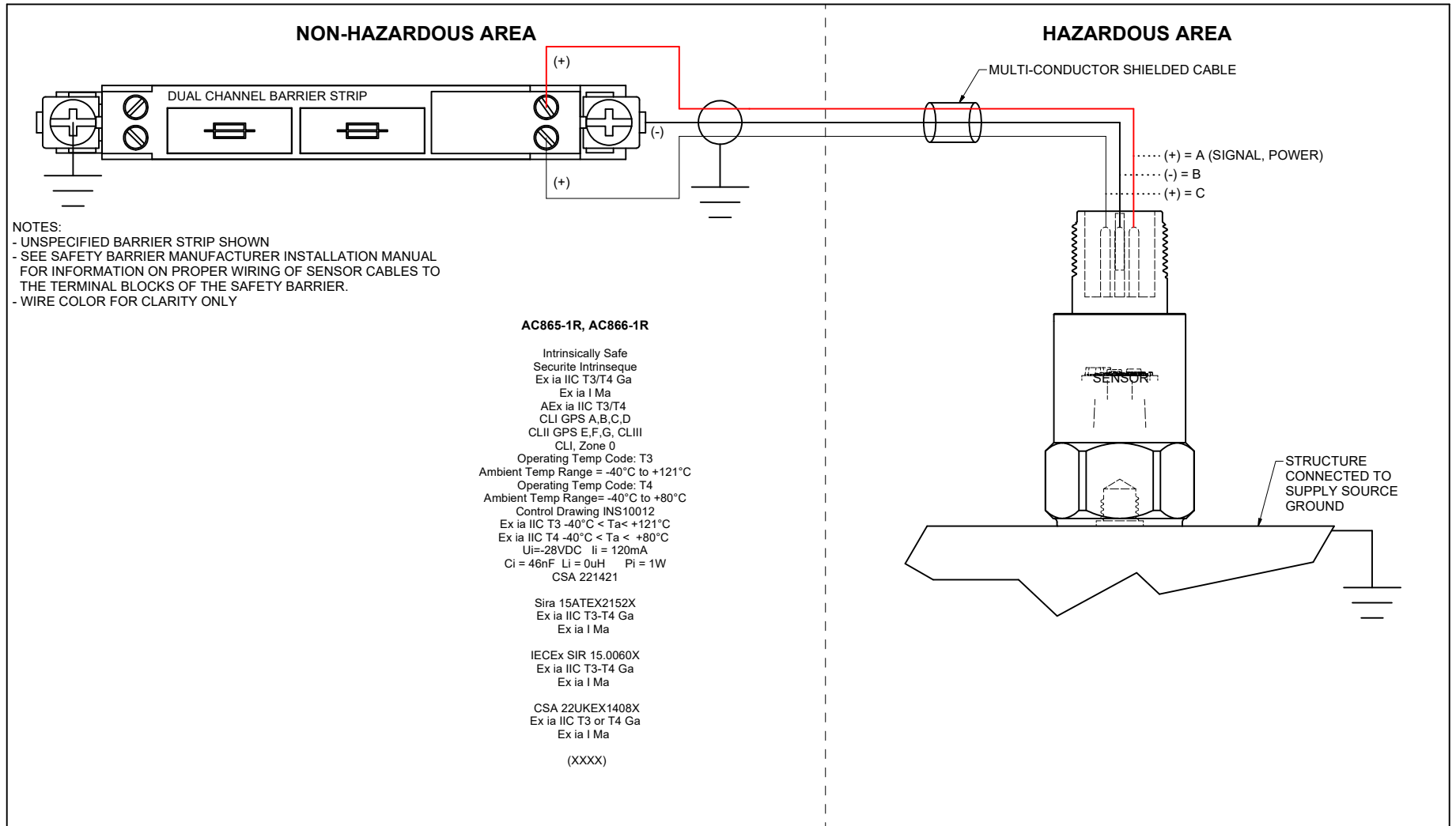
CSA 22UKEX1408X  
 Ex ia IIC T3 or T4 Ga  
   Ex ia I Ma  
 (XXXX)

**NOTES:**  
 - DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
 - CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
 [(Cable + Ci < Ca) & (Lcable + Li < La)]

REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEX CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	PART #: <span style="float: right;">SHEET</span> <span style="float: right;">2 / 16</span>	
DESCRIPTION: INTRINSIC SAFE SENSOR CONTROL DRAWING		NOT DRAWN TO SCALE

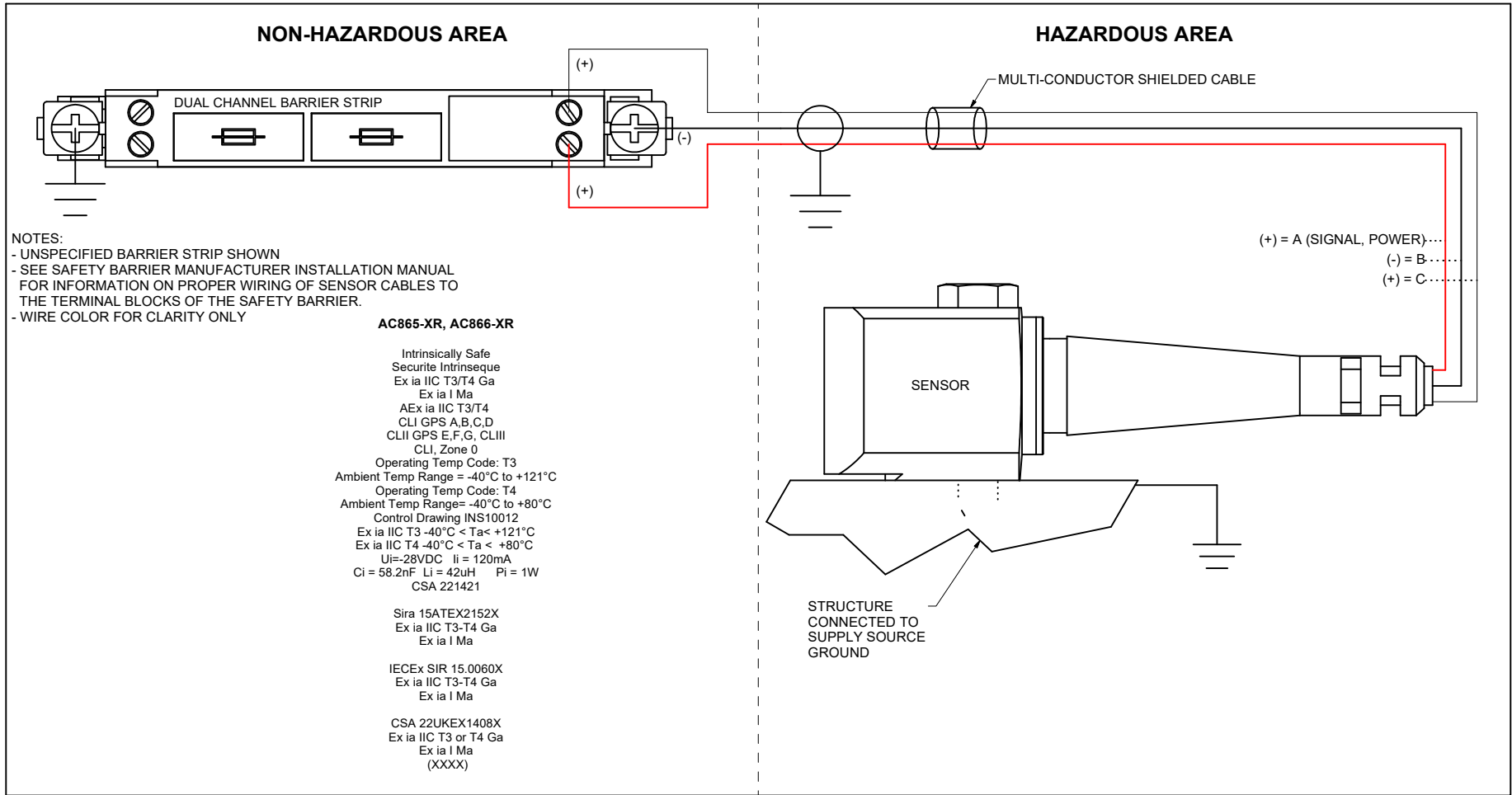
**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



NOTES:  
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 - CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
 [(Cable + Ci < Ca) & (Lcable + Li < La)]


REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83*, CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> <b>INS10012</b>	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 3 / 16 NOT DRAWN TO SCALE



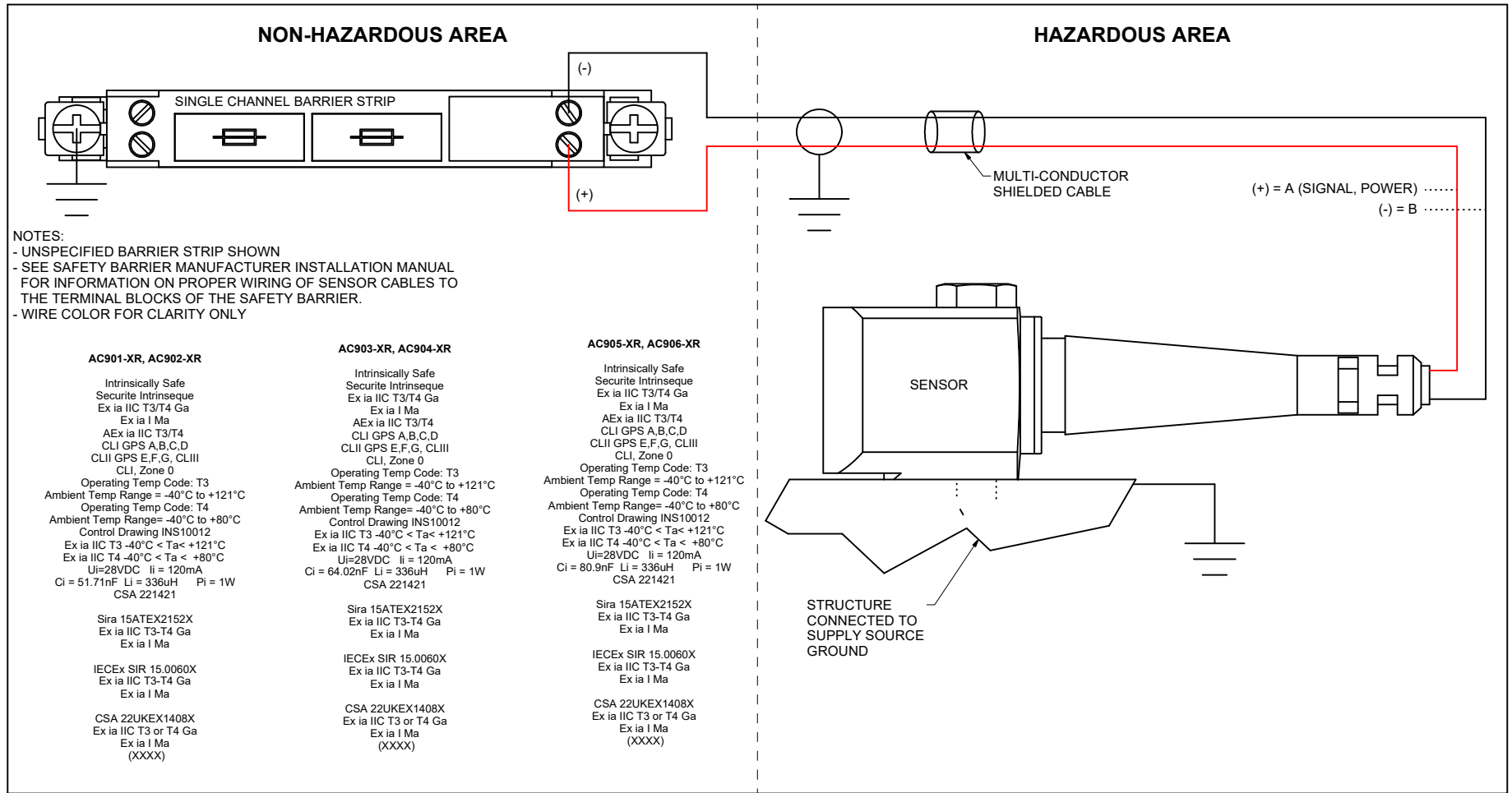
NOTES:  
- DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
- CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
[(Cable + Ci < Ca) & (Lcable + Li < La)]

REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEX CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> <div style="text-align: center; font-size: 1.2em;">INS10012</div>	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET <div style="text-align: center; font-size: 1.2em;">4 / 16</div> NOT DRAWN TO SCALE



**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**

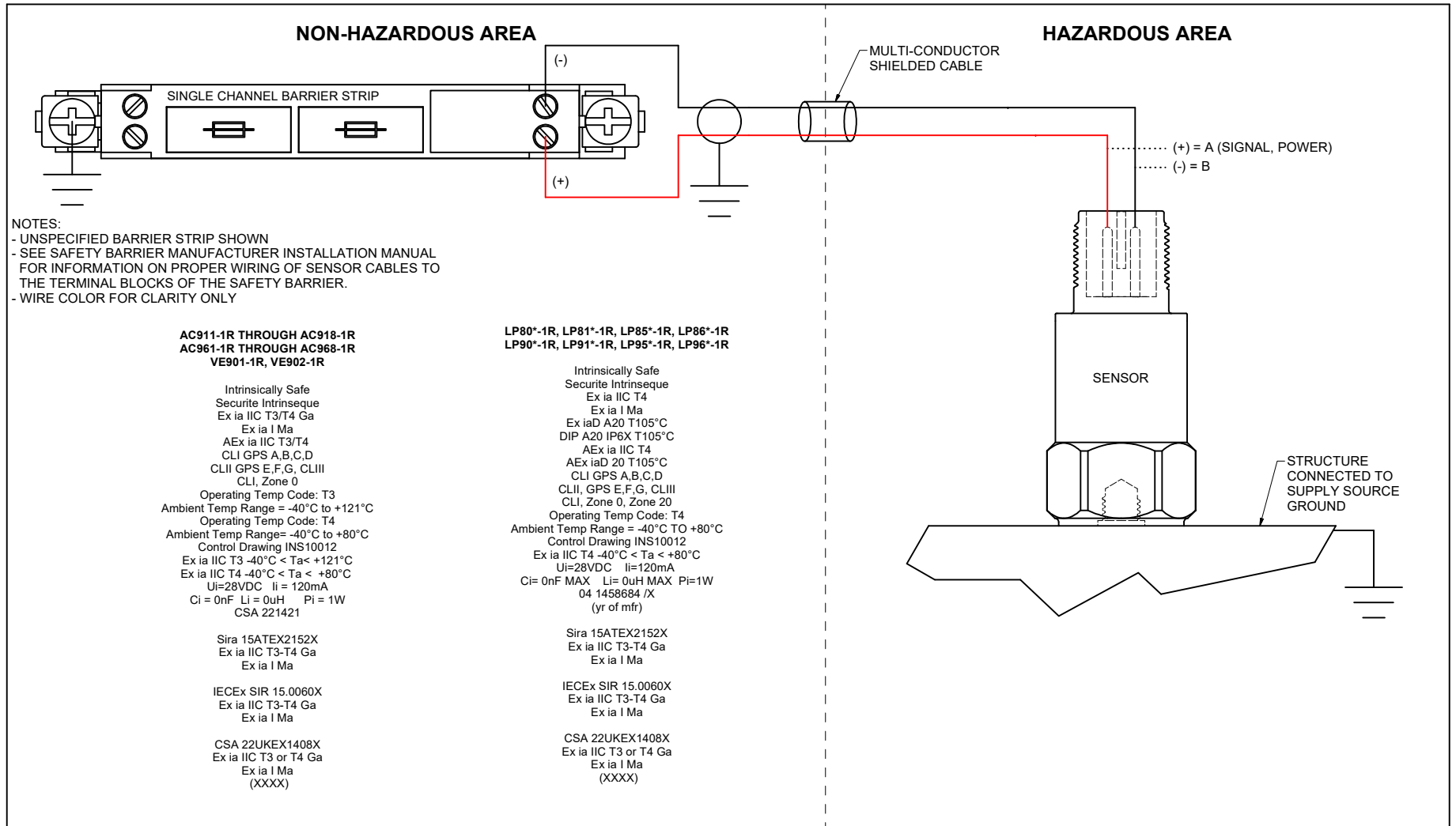


**NOTES:**  
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 - CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
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REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
J	REMOVED WT83*, CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
A	UPDATE TO LP TEMP CODE CHANGE, ZONE DESIGNATION ADDED	-	JDB	SAS	4/27/2007	-	-
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-
E	ADDED NOTE ABOUT BARRIER WIRING	-	CRW	TJW	6/10/2015	-	-
D	UPDATED ENTITY PARAMETERS	-	CRW	TL	6/4/2015	-	-
C	ADD TA/TRIAX VARIATIONS	-	DMG	CRW	5/1/2015	-	-
B	UPDATE TO ADD LOW CAPACITANCE/DUST APPROVAL	-	DMG	SAS	12/21/2009	-	-

	MATERIAL	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 63 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
CONNECTION TECHNOLOGY CENTER, INC 7939 RAE BLVD. VICTOR NY, 14564		
<b>PART #:</b> <div style="text-align: center; font-size: 1.2em; font-weight: bold;">INS10012</div>		SHEET <div style="text-align: center; font-size: 1.2em; font-weight: bold;">6 / 16</div>
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		NOT DRAWN TO SCALE

**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



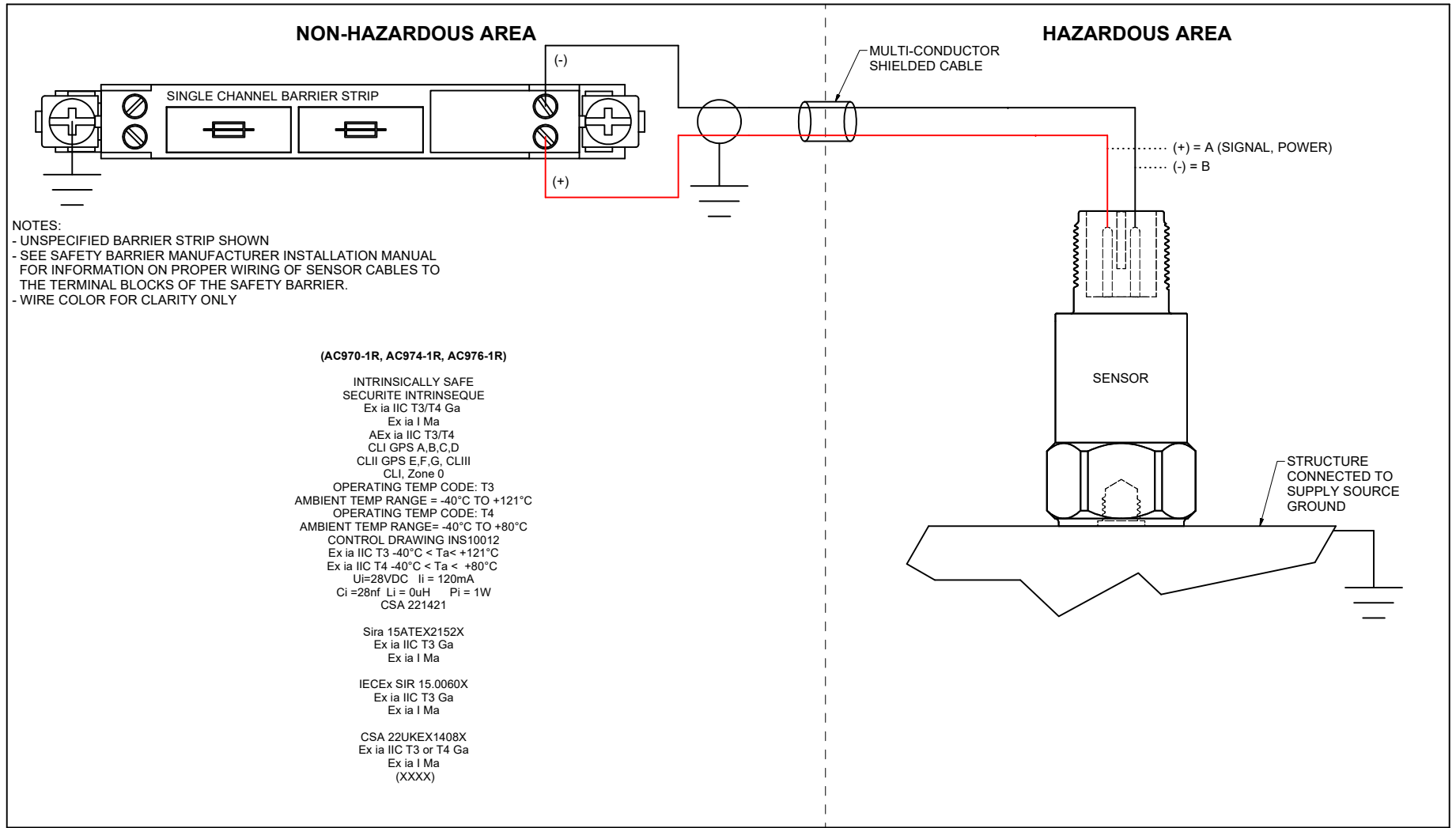
NOTES:  
- DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
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[(Cable + Ci < Ca) & (Lcable + Li < La)]

REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83*, CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 63 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	PART #: <div style="text-align: center; font-size: 1.2em;">INS10012</div>	
DESCRIPTION: <div style="text-align: center; font-weight: bold;">INTRINSIC SAFE SENSOR CONTROL DRAWING</div>		NOT DRAWN TO SCALE






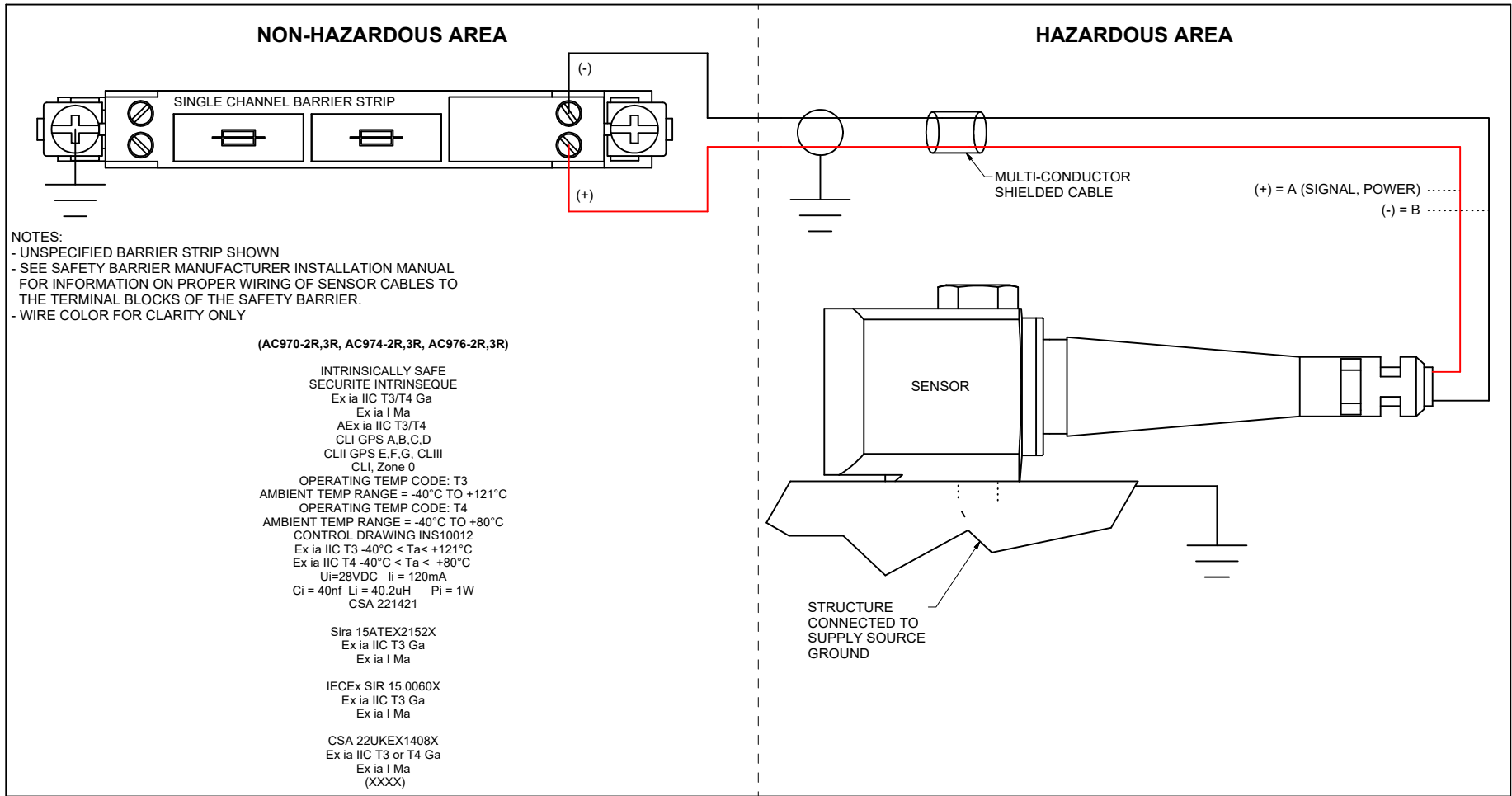


**NOTES:**  
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- CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
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REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83*, CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEX CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> INS10012	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 9 / 16 NOT DRAWN TO SCALE


**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



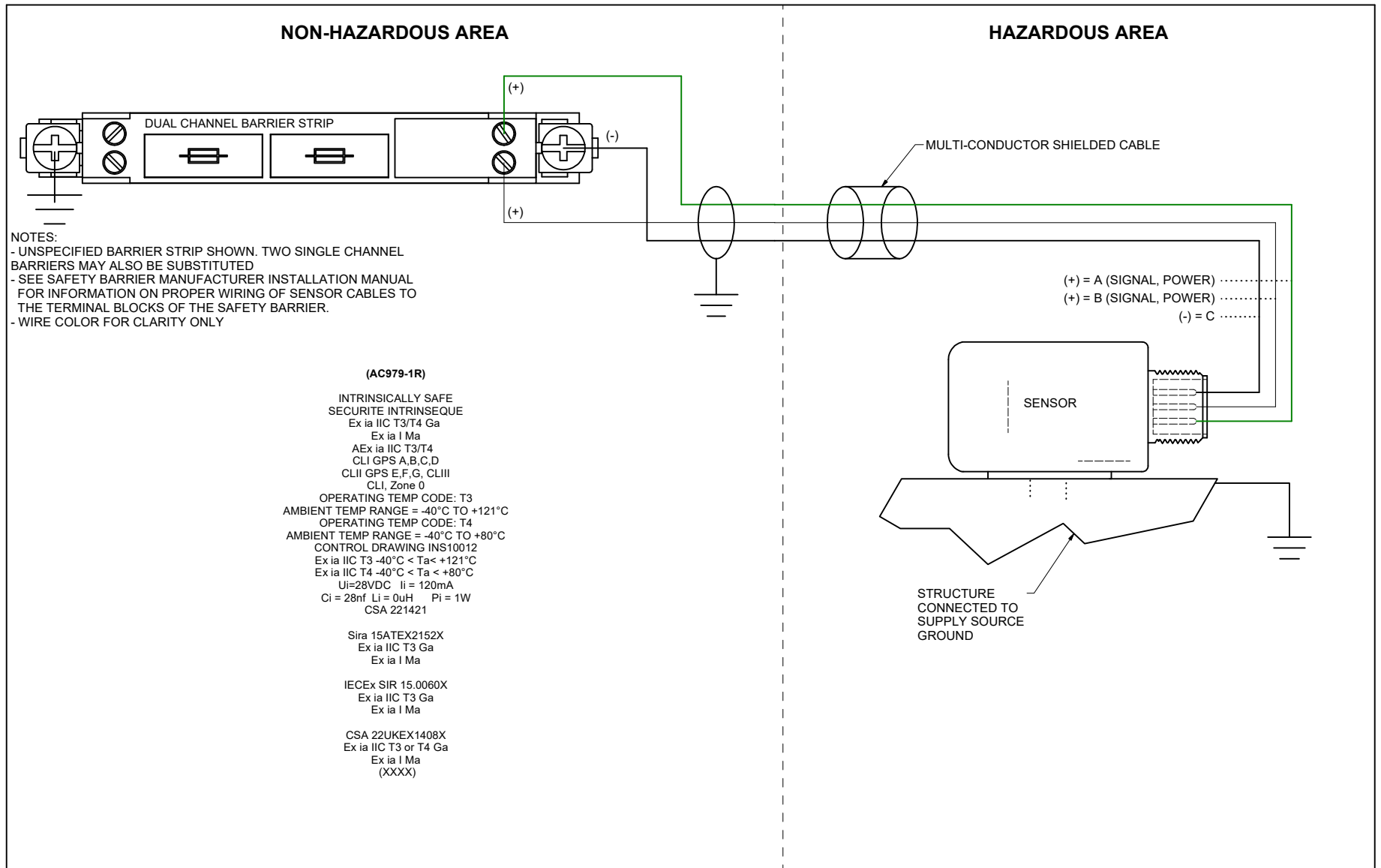
NOTES:  
- UNSPECIFIED BARRIER STRIP SHOWN  
- SEE SAFETY BARRIER MANUFACTURER INSTALLATION MANUAL FOR INFORMATION ON PROPER WIRING OF SENSOR CABLES TO THE TERMINAL BLOCKS OF THE SAFETY BARRIER.  
- WIRE COLOR FOR CLARITY ONLY

NOTES:  
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REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-


 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b> -	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 63/√ X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> INS10012	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 10 / 16 NOT DRAWN TO SCALE

**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



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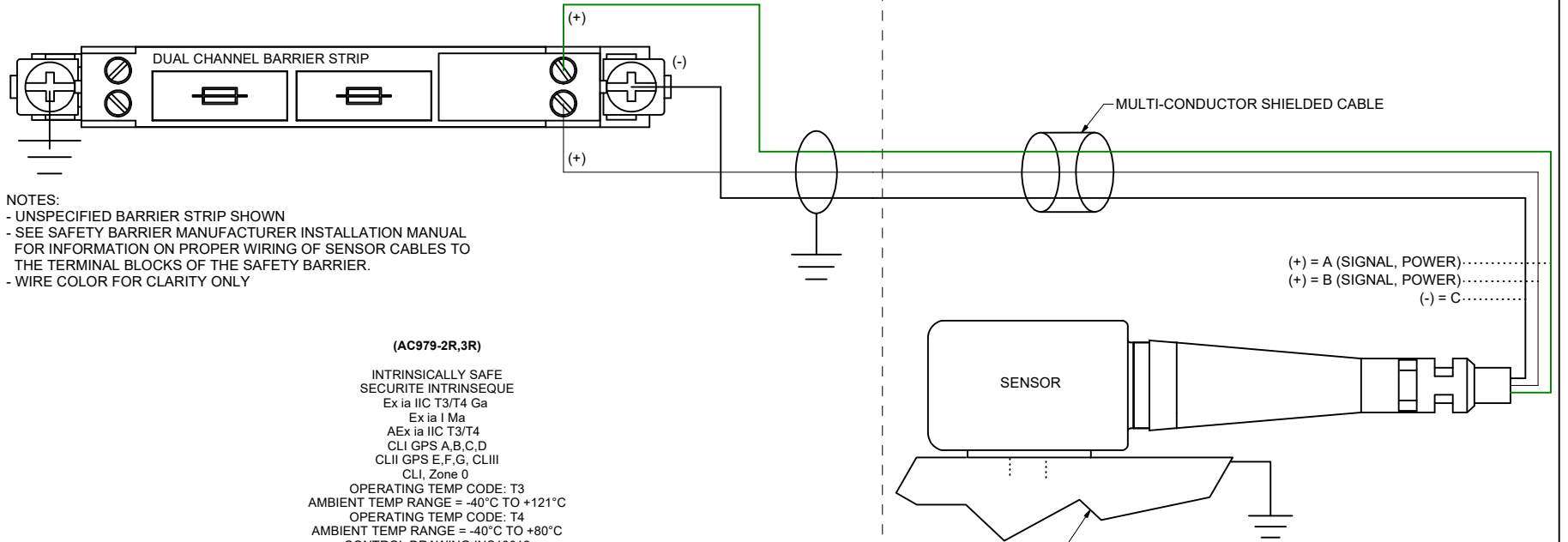
REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	PART #: <b>INS10012</b>	
DESCRIPTION: INTRINSIC SAFE SENSOR CONTROL DRAWING		NOT DRAWN TO SCALE

**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**

**NON-HAZARDOUS AREA**

**HAZARDOUS AREA**



NOTES:  
 - UNSPECIFIED BARRIER STRIP SHOWN  
 - SEE SAFETY BARRIER MANUFACTURER INSTALLATION MANUAL FOR INFORMATION ON PROPER WIRING OF SENSOR CABLES TO THE TERMINAL BLOCKS OF THE SAFETY BARRIER.  
 - WIRE COLOR FOR CLARITY ONLY

**(AC979-2R,3R)**  
 INTRINSICALLY SAFE  
 SECURITE INTRINSEQUE  
 Ex ia IIC T3/T4 Ga  
 Ex ia I Ma  
 AEx ia IIC T3/T4  
 CLI GPS A,B,C,D  
 CLII GPS E,F,G, CLIII  
 CLI, Zone 0  
 OPERATING TEMP CODE: T3  
 AMBIENT TEMP RANGE = -40°C TO +121°C  
 OPERATING TEMP CODE: T4  
 AMBIENT TEMP RANGE = -40°C TO +80°C  
 CONTROL DRAWING INS10012  
 Ex ia IIC T3 -40°C < Ta < +121°C  
 Ex ia IIC T4 -40°C < Ta < +80°C  
 Ui=28VDC Ii = 120mA  
 Ci = 40nf Li = 40.2 uH Pi = 1W  
 CSA 221421  
  
 Sira 15ATEX2152X  
 Ex ia IIC T3 Ga  
 Ex ia I Ma  
  
 IECEx SIR 15.0060X  
 Ex ia IIC T3 Ga  
 Ex ia I Ma  
  
 CSA 22UKEX1408X  
 Ex ia IIC T3 or T4 Ga  
 Ex ia I Ma  
 (XXXX)

(+) = A (SIGNAL, POWER)  
 (+) = B (SIGNAL, POWER)  
 (-) = C

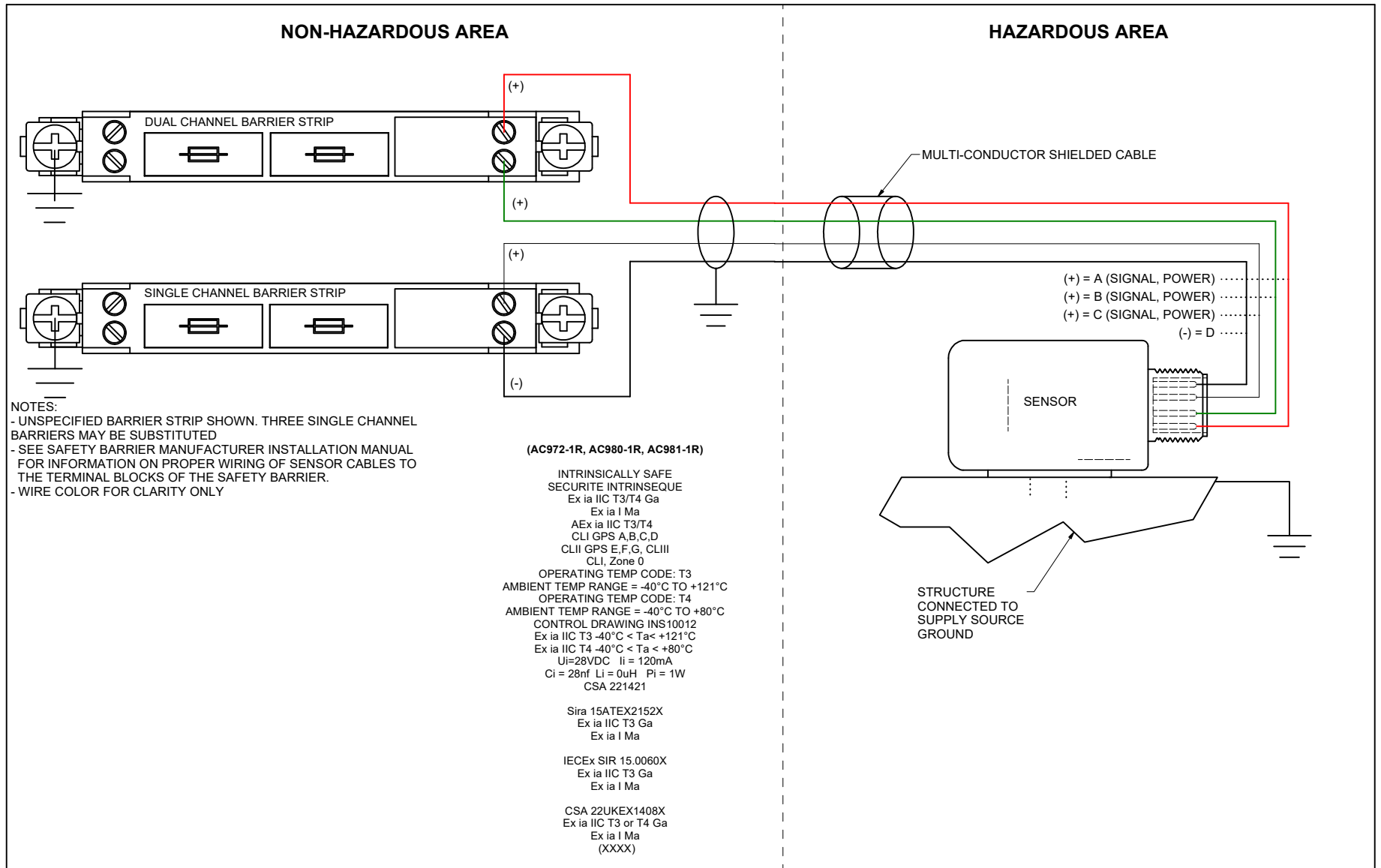
STRUCTURE  
 CONNECTED TO  
 SUPPLY SOURCE  
 GROUND

NOTES:  
 - DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
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REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
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G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b>	SHEET
<b>INS10012</b>		12 / 16
<b>DESCRIPTION:</b>		NOT DRAWN TO SCALE
INTRINSIC SAFE SENSOR CONTROL DRAWING		


**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**



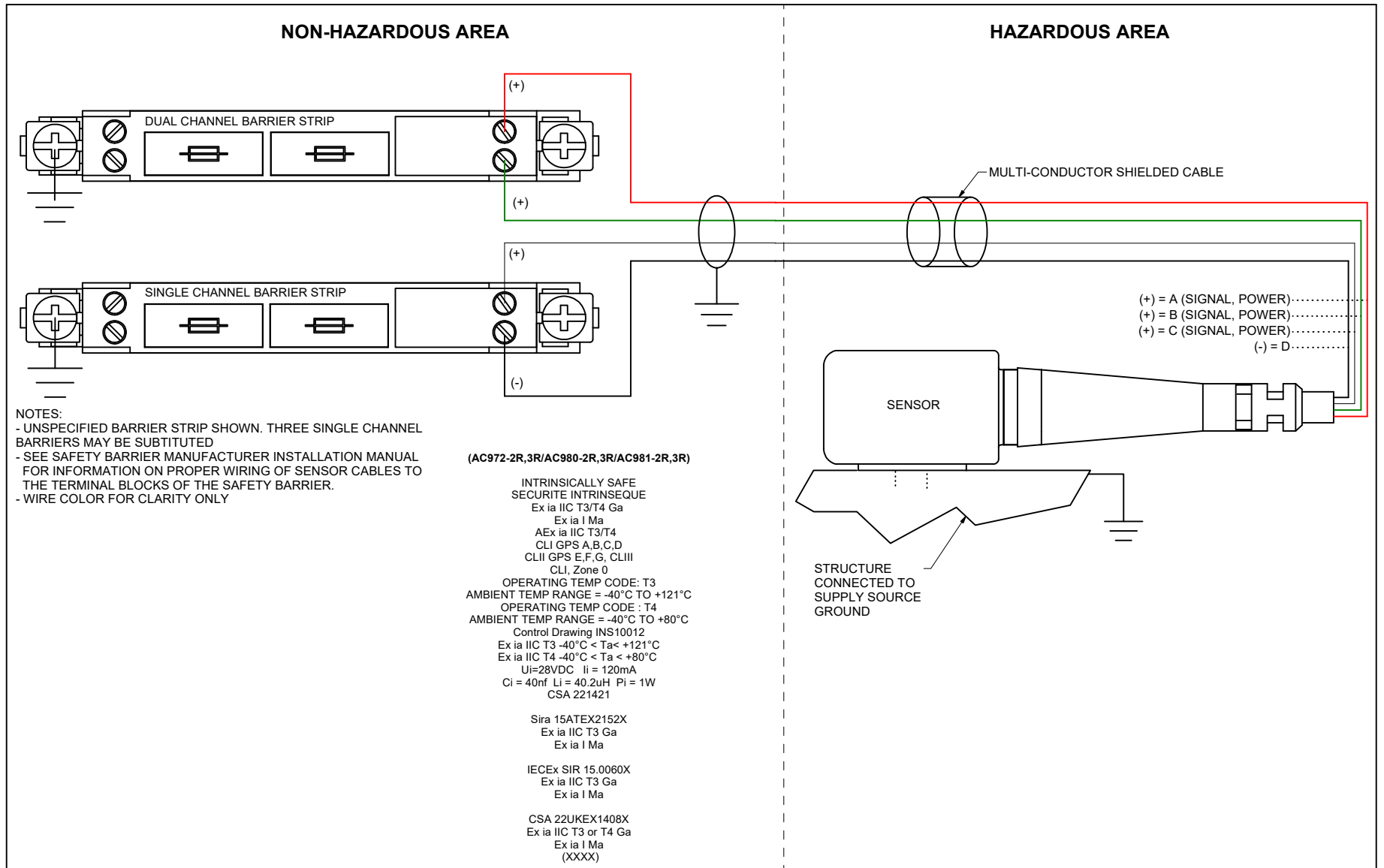
NOTES:  
- UNSPECIFIED BARRIER STRIP SHOWN. THREE SINGLE CHANNEL BARRIERS MAY BE SUBSTITUTED  
- SEE SAFETY BARRIER MANUFACTURER INSTALLATION MANUAL FOR INFORMATION ON PROPER WIRING OF SENSOR CABLES TO THE TERMINAL BLOCKS OF THE SAFETY BARRIER.  
- WIRE COLOR FOR CLARITY ONLY

NOTES:  
- DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
- CABLE CAPACITANCE & INDUCTANCE PLUS THE I.S. APPARATUS UNPROTECTED CAPACITANCE (Ci) AND INDUCTANCE (Li) MUST NOT EXCEED THE ALLOWED CAPACITANCE (Ca) AND INDUCTANCE (La) INDICATED ON THE ASSOCIATED APPARATUS  
[(C<sub>cable</sub> + Ci < Ca) & (L<sub>cable</sub> + Li < La)]

REV	DESCRIPTION	ECO#	DESIGNER	ENG APPROVED	DATE	MFG APPROVED	DATE
L	UPDATED TO INCLUDE Ex ia Ma	-	CRW	LC	02/22/2023	JN	02/22/2023
K	CHANGED FORMAT TO BE MORE SPECIFIC, ADDED UK CA	-	CRW	LC	02/07/2022	JN	02/07/2022
J	REMOVED WT83", CHANGED TO 120mA	-	CRW	JBD	02/19/2019	AJN	02/19/2019
H	ADDED SINGLE CHANNEL BARRIER WIRING OPTIONS, UPDATE LAYOUT OF DRAWINGS AND ADD MODAL TRIAX VARIATION, MOVE ADDRESS TO TITLE BLOCK, SEPERATED TA & BIAIXIAL SENSORS	-	CRW / DMG	MGS	4/18/2017	JLS	4/18/2017
G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> <div style="text-align: center; font-size: 1.2em;">INS10012</div>	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 13 / 16 NOT DRAWN TO SCALE


**CTC HIGHLY CONFIDENTIAL AND PROPRIETARY INFORMATION**

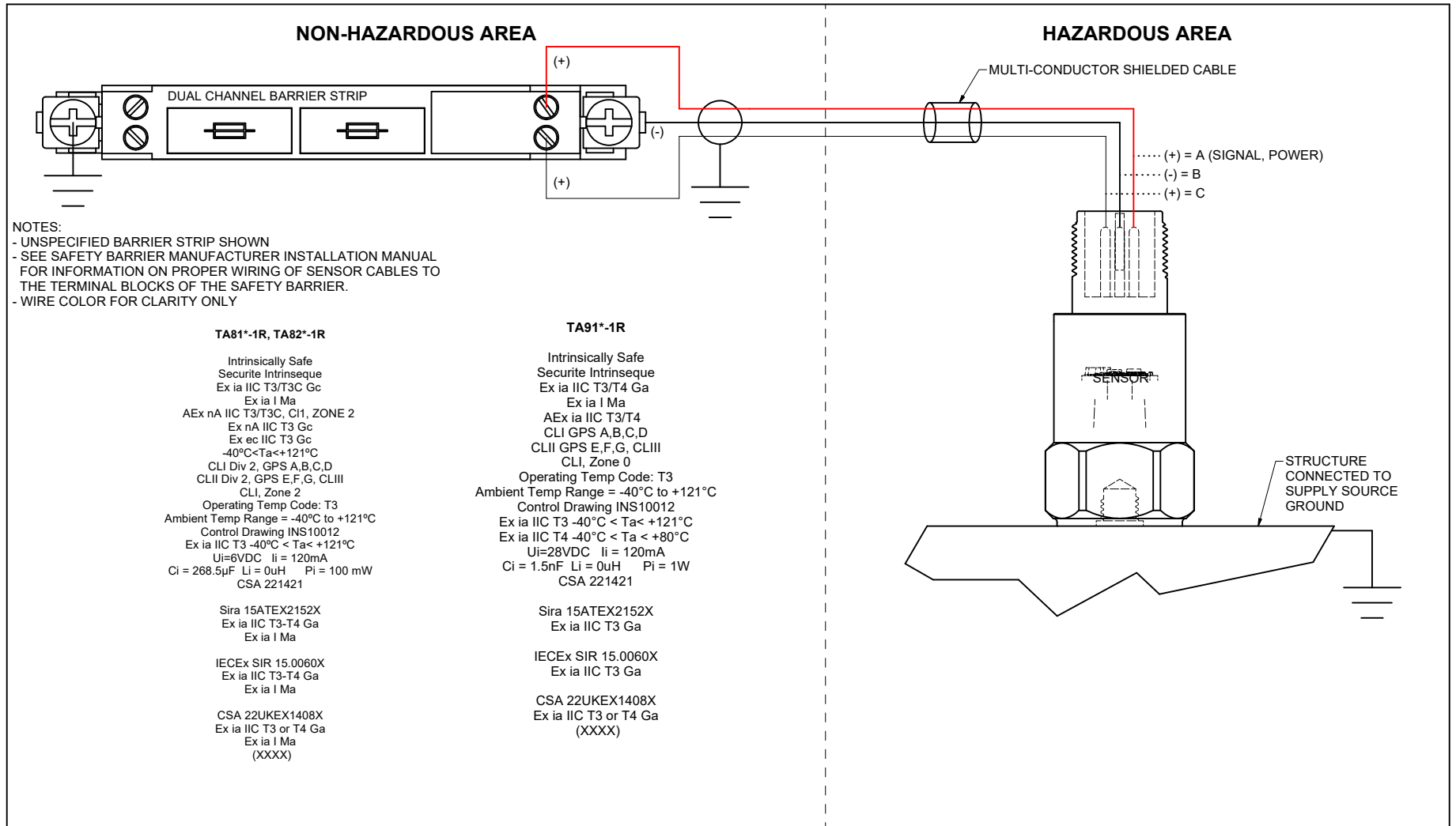


NOTES:  
 - UNSPECIFIED BARRIER STRIP SHOWN. THREE SINGLE CHANNEL BARRIERS MAY BE SUBSTITUTED  
 - SEE SAFETY BARRIER MANUFACTURER INSTALLATION MANUAL FOR INFORMATION ON PROPER WIRING OF SENSOR CABLES TO THE TERMINAL BLOCKS OF THE SAFETY BARRIER.  
 - WIRE COLOR FOR CLARITY ONLY

NOTES:  
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 [(C<sub>cable</sub> + C<sub>i</sub> < C<sub>a</sub>) & (L<sub>cable</sub> + L<sub>i</sub> < L<sub>a</sub>)]

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G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEx CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 CONNECTION TECHNOLOGY CENTER, INC 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b> -	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> INS10012	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 14 / 16 NOT DRAWN TO SCALE



**NOTES:**  
 - UNSPECIFIED BARRIER STRIP SHOWN  
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 - WIRE COLOR FOR CLARITY ONLY

**TA81\*-1R, TA82\*-1R**  
 Intrinsically Safe  
 Securite Intrinsic  
 Ex ia IIC T3/T3C Gc  
 Ex ia I Ma  
 AEx nA IIC T3/T3C, C1, ZONE 2  
 Ex nA IIC T3 Gc  
 Ex ec IIC T3 Gc  
 -40°C < Ta < +121°C  
 CLI Div 2, GPS A,B,C,D  
 CLII Div 2, GPS E,F,G, CLIII  
 CLI, Zone 2  
 Operating Temp Code: T3  
 Ambient Temp Range = -40°C to +121°C  
 Control Drawing INS10012  
 Ex ia IIC T3 -40°C < Ta < +121°C  
 Ui=6VDC li = 120mA  
 Ci = 268.5µF Li = 0uH Pi = 100 mW  
 CSA 221421

Sira 15ATEX2152X  
 Ex ia IIC T3-T4 Ga  
 Ex ia I Ma

IECEX SIR 15.0060X  
 Ex ia IIC T3-T4 Ga  
 Ex ia I Ma

CSA 22UKEX1408X  
 Ex ia IIC T3 or T4 Ga  
 Ex ia I Ma  
 (XXXX)

**TA91\*-1R**  
 Intrinsically Safe  
 Securite Intrinsic  
 Ex ia IIC T3/T4 Ga  
 Ex ia I Ma  
 AEx ia IIC T3/T4  
 CLI GPS A,B,C,D  
 CLII GPS E,F,G, CLIII  
 CLI, Zone 0  
 Operating Temp Code: T3  
 Ambient Temp Range = -40°C to +121°C  
 Control Drawing INS10012  
 Ex ia IIC T3 -40°C < Ta < +121°C  
 Ex ia IIC T4 -40°C < Ta < +80°C  
 Ui=28VDC li = 120mA  
 Ci = 1.5nF Li = 0uH Pi = 1W  
 CSA 221421

Sira 15ATEX2152X  
 Ex ia IIC T3 Ga

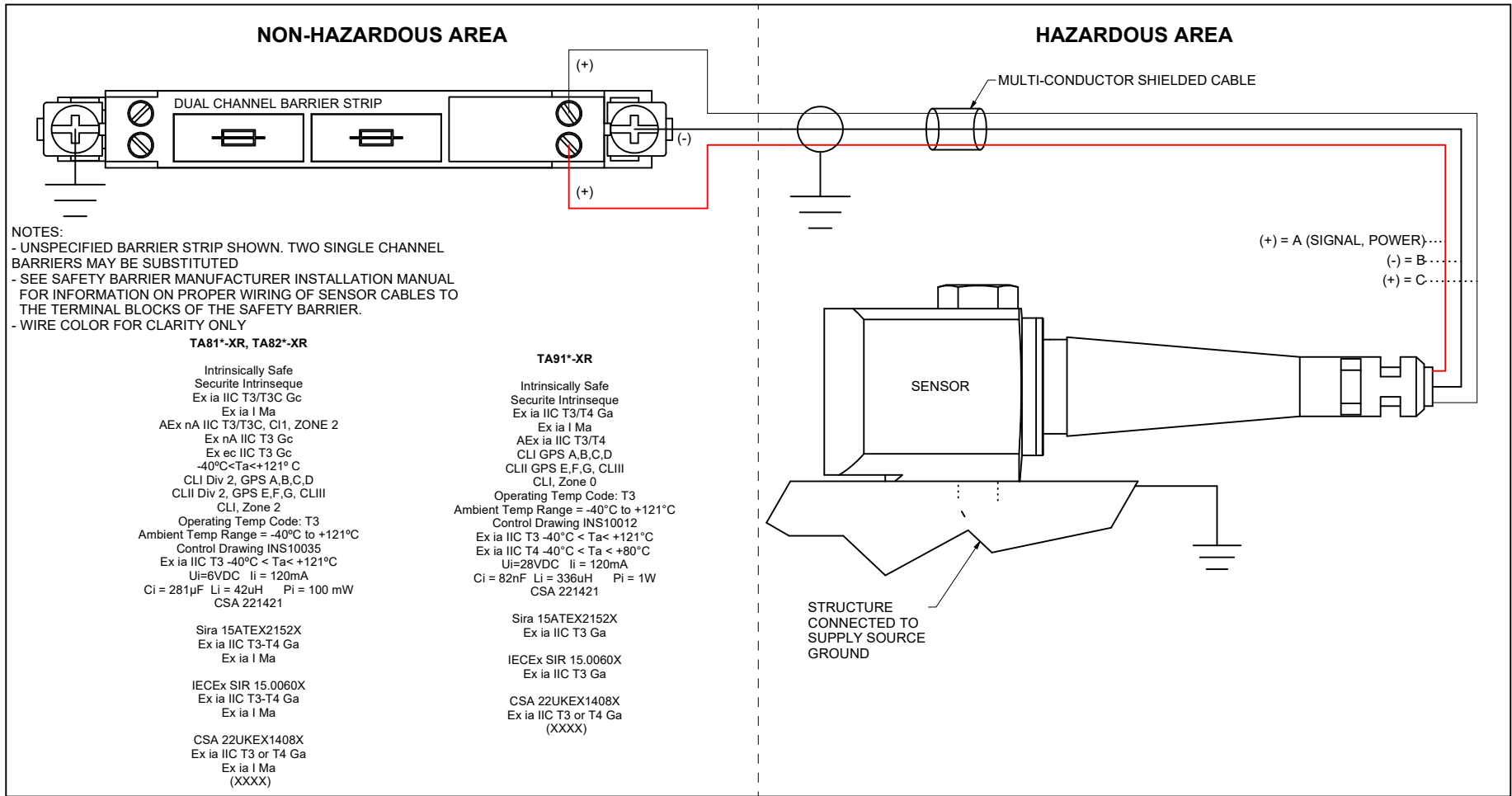
IECEX SIR 15.0060X  
 Ex ia IIC T3 Ga

CSA 22UKEX1408X  
 Ex ia IIC T3 or T4 Ga  
 (XXXX)

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G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-
F	ADDED "X" TO ATEX AND IECEX CERTIFICATE NUMBERS	-	CRW	TJW	6/11/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 63 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b>	SHEET
<b>INS10012</b>		15 / 16
<b>DESCRIPTION:</b>		NOT DRAWN TO SCALE
INTRINSIC SAFE SENSOR CONTROL DRAWING		



NOTES:  
- DO NOT PARALLEL ASSOCIATE APPARATUS UNLESS PERMITTED BY ASSOCIATED APPARATUS APPROVAL  
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G	ADDING CTC ADDRESS	-	CRW	TJW	6/15/2015	-	-

 <b>CONNECTION TECHNOLOGY CENTER, INC</b> 7939 RAE BLVD. VICTOR NY, 14564	<b>MATERIAL</b>	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES (UNLESS SPECIFIED) XXX ± 0.005 XX ± 0.01 X ± 0.1 ANGLE ± 2° BREAK ALL SHARP EDGES .010 MAX
	<b>PART #:</b> INS10012	
<b>DESCRIPTION:</b> INTRINSIC SAFE SENSOR CONTROL DRAWING		SHEET 16 / 16  NOT DRAWN TO SCALE