

TABULATION	
DASH NO.	DESCRIPTION
-0001	AS SHOWN

REVISION TABLE			
REVISION	ECO NO.	APP'D	DATE
AD	RTC1065414	Z.L.	04/29/16
DESCRIPTION			
UPDATE CONFIGURATION DRAWING INFORMATION FOR CURRENT CERTIFICATE			

## ROSEMOUNT INC. MODEL 3144P TEMPERATURE TRANSMITTERS INTRINSIC SAFETY INSTALLATION

**NOTES:**

- [1] FM APPROVED INTRINSICALLY SAFE LOOP CALIBRATOR CAN BE CONNECTED TO TERMINALS "+", "-", OR "T": SEE SPECIFIC PRODUCT MANUAL FOR CONNECTION DETAILS.
- [2] FM APPROVED INTRINSICALLY SAFE TEMP. SENSOR CALIBRATION CAN BE CONNECTED TO TERMINALS "1" TO "5".

[3] ASSOCIATED APPARATUS PARAMETERS LIMITS

$V_{oc}$ OR $V_T \leq V_{MAX}$
$I_{sc}$ OR $I_T \leq I_{MAX}$
$\frac{(V_{oc} \times I_{sc})}{4} \leq P_{MAX}$
$C_A \geq C_{CABLE+Ci}$
$L_A \geq L_{CABLE+Li}$

**FM CERTIFIED  
PRODUCT**

**NO MODIFICATIONS PERMITTED  
WITHOUT THE APPROVAL OF  
RTC TEMPERATURE DESIGN  
ENGINEERING**

[4] POWER / LOOP TERMINAL PARAMETERS

HART (Terminals "+" & "-")	
$V_{max} =$	30 Vdc
$I_{max} =$	300 mA dc
$P_{max} =$	1.0W
$C_i =$	0.023 uF
$L_i =$	0 uH

[5] ASSOCIATED APPARATUS LIMITS AT SENSOR TERMINALS ("1" THRU "5")

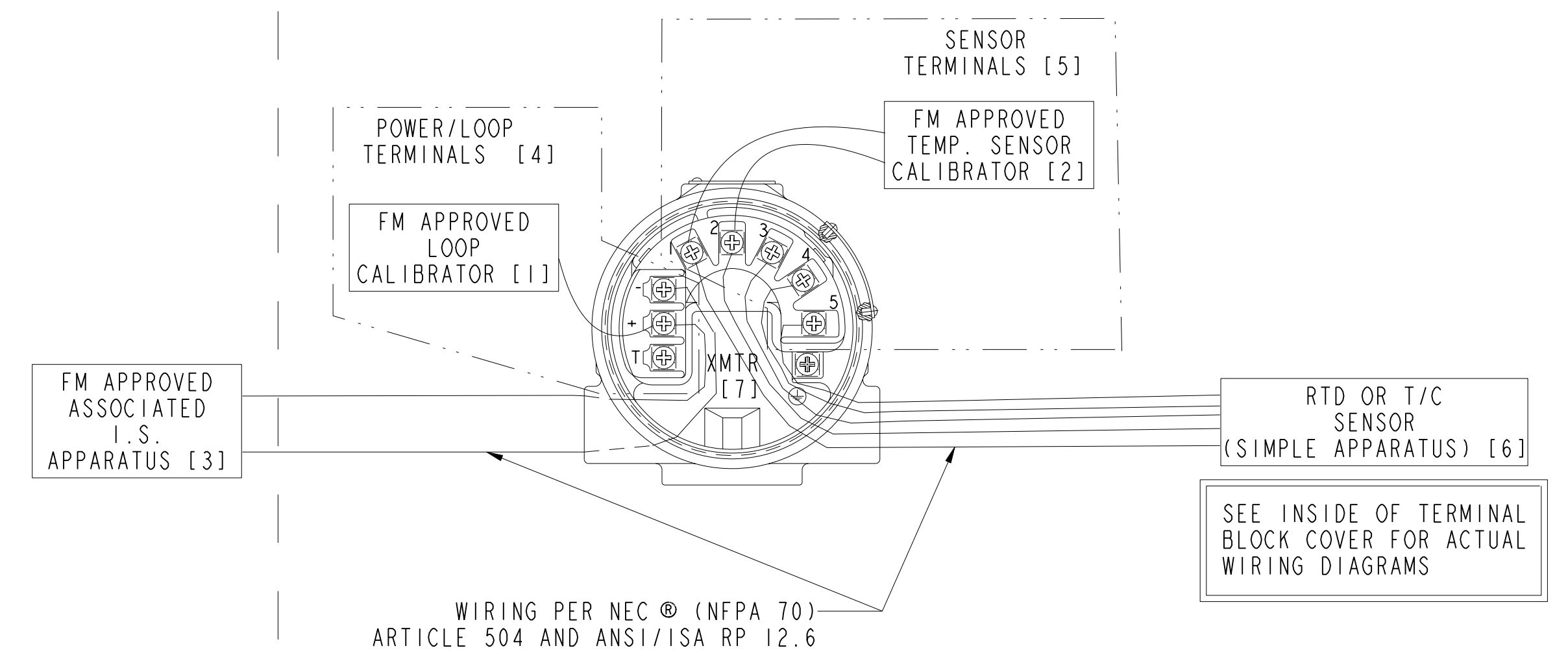
HART (ONLY)	
$V_T =$	14.1 Vdc
$I_T =$	13 mA dc
$P_{T,max} =$	45.8 mW
$C_A =$	0.63 uF
$L_A =$	180 mH

- [6] ANSI/ISA RP 12.6 (SIMPLE APPARATUS) DEFINITION: A DEVICE WHICH WILL NEITHER GENERATE NOR STORE MORE THAN 1.5 VOLTS, 100 mA, 25 mW, OR 20 microJoules.
- [7] 3144P HART TEMPERATURE TRANSMITTERS
- [8] WARNING: TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.
- [9] WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY OR SUITABILITY FOR DIVISION 2.
- [10] NO REVISIONS TO DRAWING WITHOUT PRIOR FM APPROVAL.
- [11] ASSOCIATED APPARATUS MANUFACTURER'S INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT.
- [12] CONTROL EQUIPMENT CONNECTED TO BARRIER MUST NOT USED OR GENERATE MORE THAN 250 Vrms OR Vdc.
- [13] THE ASSOCIATED APPARATUS MUST BE FM APPROVED.
- [14] RESISTANCE BETWEEN INTRINSICALLY SAFE GROUND AND EARTH GROUND MUST BE LESS THAN 1 OHM
- [15] THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS WITH ASSOCIATED APPARATUS WHEN THE FOLLOWING IS TRUE:  
 $V_{max}$  OR  $i_i \geq V_{oc}$ ,  $V_T$  OR  $i_o$ ;  $I_{max}$  OR  $I_i \geq I_{sc}$ ,  $I_T$  OR  $I_o$ ;  $P_{max}$  OR  $P_i \geq P_o$ ;  
 $C_a \geq C_i + C_{cable}$ ;  $L_a \geq L_i + L_{cable}$ .

CLASSIFICATIONS AND "T" RATINGS	HART
IS/1/1, II, III/ABCDEFG	T4A (-60°C ≤ T <sub>a</sub> ≤ 60°C) T5 (-60°C ≤ T <sub>a</sub> ≤ 50°C)
IS/CLASS I, ZONE 0, AEx ia IIC	T4 (-60°C ≤ T <sub>a</sub> ≤ 60°C)

UNCLASSIFIED LOCATION

HAZARDOUS (CLASSIFIED) LOCATION  
INTRINSICALLY SAFE FOR CLASS I, DIVISION 1, GROUPS A,B,C,D,E,F,G  
CLASS I, ZONE 0 AEx ia IIC  
CLASS II, DIVISION 1, GROUPS EF & G  
CLASS II, DIVISION 1



DRAWING NO. 03144-0321

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.	SURFACE FINISH UNLESS OTHERWISE SPECIFIED	3RD ANGLE	SIZE D	SCALE N/A	REV AD
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES.					
-DEC TOLERANCES-	TITLE: FM I/S NONINCENDIVE FIELD CIRCUIT CONFIGURATIONS FOR MODEL 3144P				
.X ± .1 (2.5)	DR. NGA DOAN 06/09/01 DRAWING NO. 03144-0321				
.XX ± .02 (0.5)	APP'D: DRK BAUSCHKE 07/16/01				
.XXX ± .010 (0.25)	DOC TYPE SHEET 1 OF 3				
FRACTIONS ± 1/32	CAD MAINTAINED, (PRO/E) PRODUCT CODE				
ANGLES ± 2°	SHEET 1 OF 3				

ROSEMOUNT INC. MODEL 3144P TEMPERATURE TRANSMITTER  
DIV. 2 INSTALLATION OPTIONS

CLASSIFICATIONS AND "T" RATINGS	HART
NI/1/2/ ABCD	T6 (-60°C ≤ Ta ≤ 60°C) T5 (-60°C ≤ Ta ≤ 85°C)

NOTES:

[1] INTRINSICALLY SAFE OR NONINCENDIVE FIELD CIRCUIT APPROVED LOOP CALIBRATOR CAN BE CONNECTED TO TERMINALS "+", "-", OR "T": SEE SPECIFIC PRODUCT MANUAL FOR CONNECTION DETAILS.

[2] INTRINSICALLY SAFE OR NONINCENDIVE FIELD CIRCUIT APPROVED TEMP. SENSOR CALIBRATION CAN BE CONNECTED TO TERMINALS "1" TO "5".

[3] ASSOCIATED NONINCENDIVE APPARATUS PARAMETERS LIMITS
$V_{oc} \text{ OR } V_T \leq V_{max}$
$C_A \geq C_{CABLE} + C_i$ $L_A \geq L_{CABLE} + L_i$

[4] TRANSMITTER POWER/LOOP TERMINAL PARAMETER LIMITS
HART ("+ TO -") $V_{max}$
55 Vdc
$C_i = 0.023 \mu F$ $L_i = 0 \mu H$

[5] ASSOCIATED NONINCENDIVE (ANI) FIELD CIRCUIT PARAMETER LIMITS AT SENSOR TERMINALS ("1" THRU "5")	
	HART (ONLY)
$V_T =$	14.1 Vdc
$C_A =$	0.63 $\mu F$
$L_A =$	180 mH

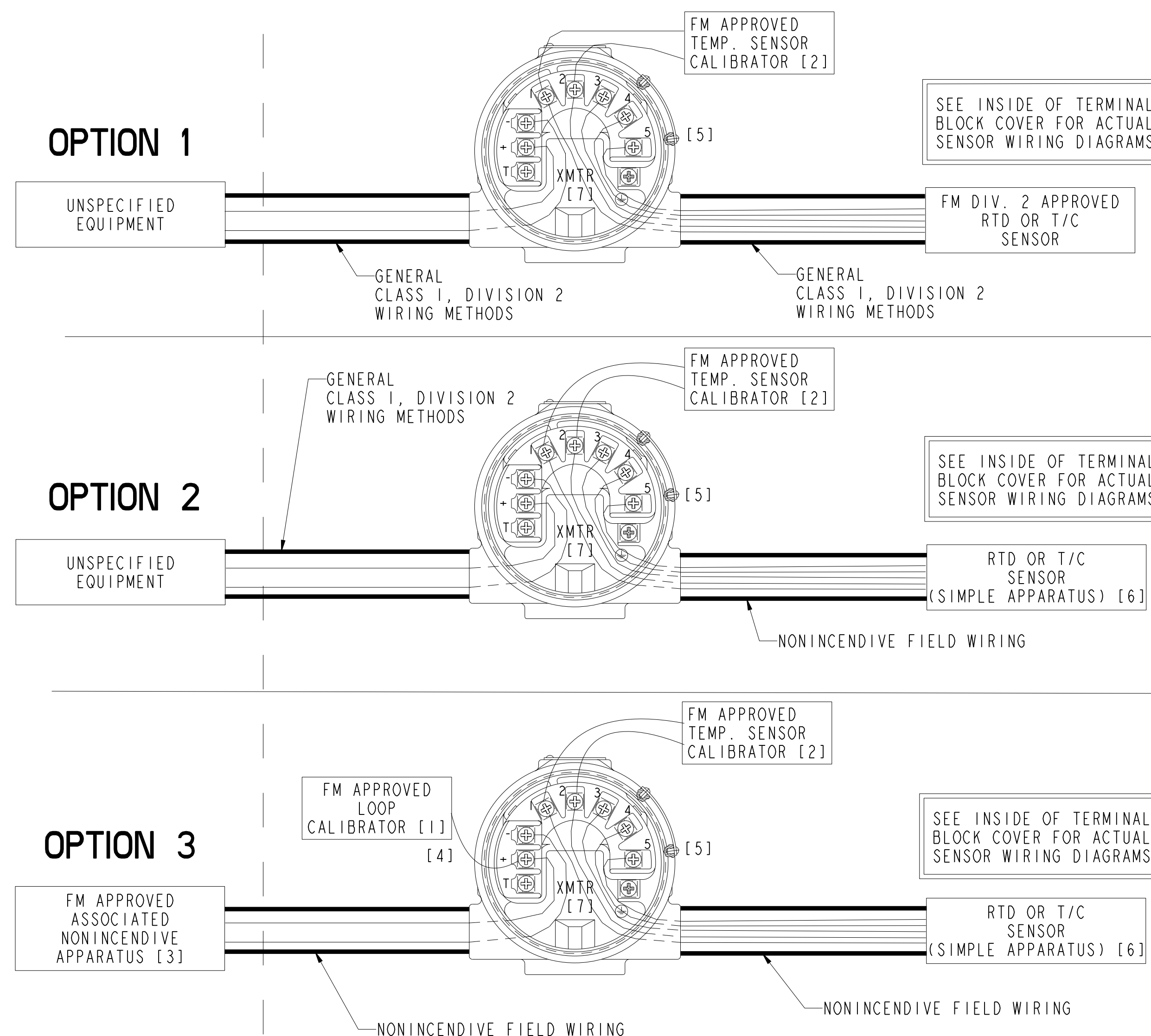
[6] ANSI/ISA RP 12.6 (SIMPLE APPARATUS) DEFINITION: A DEVICE WHICH WILL NEITHER GENERATE NOR STORE MORE THAN 1.5 VOLTS, 100 mA, 25 mW.

[7] 3144P HART TEMPERATURE TRANSMITTERS.

[8] MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (ANSI-NFPA 70) FOR WIRING IN DIVISION 2 HAZARDOUS (CLASSIFIED) LOCATIONS.

UNCLASSIFIED LOCATION

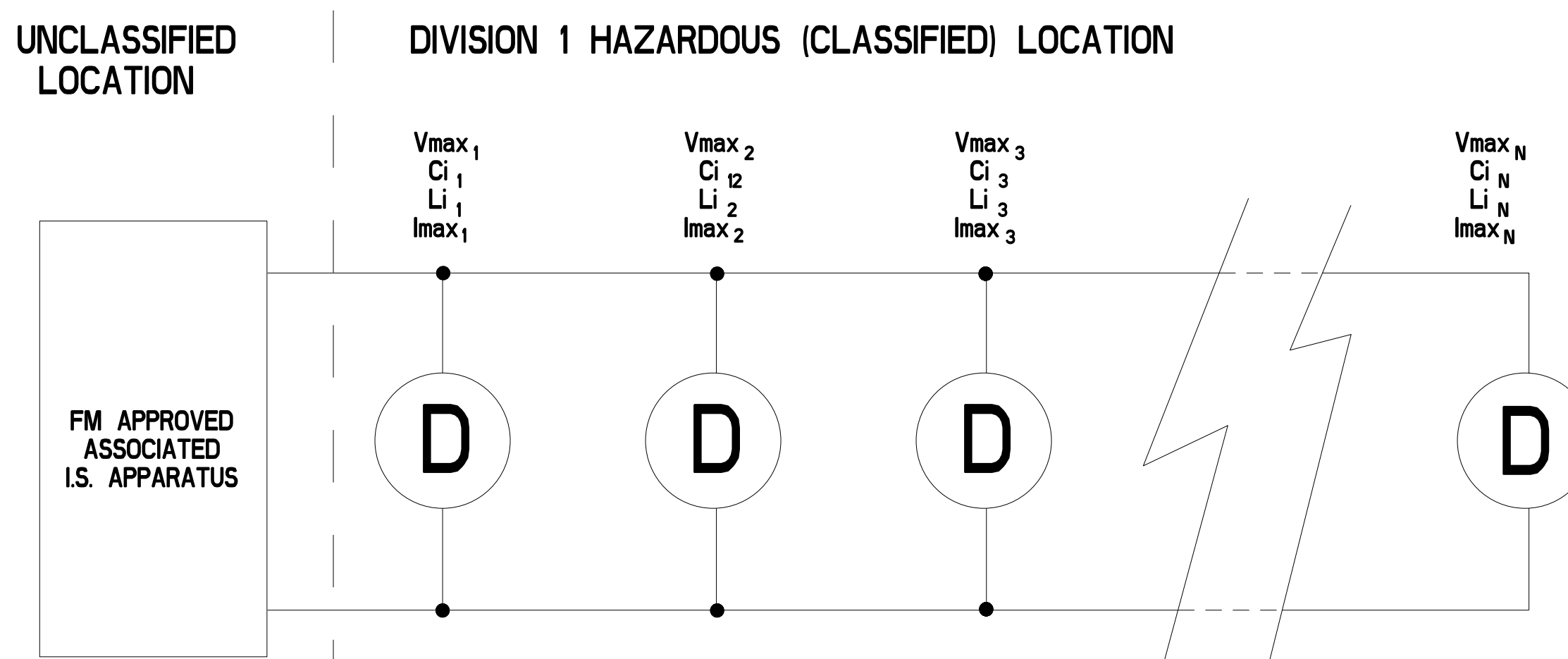
DIV. 2 HAZARDOUS (CLASSIFIED) LOCATION  
SUITABLE FOR CLASS I, DIVISION 2, GROUPS A, B, C, & D



DRAWING NO. 03144-0321

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.	SURFACE FINISH UNLESS OTHERWISE SPECIFIED <input checked="" type="checkbox"/>	3RD ANGLE <input checked="" type="checkbox"/>	SIZE D	SCALE N/A	REV AD
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES.	<b>EMERSON</b> Process Management <b>ROSEMOUNT</b> 8200 Market Boulevard, Chanhassen, MN 55371 USA				
-DEC TOLERANCES- .X ± .1 (2.5) .XX ± .02 (0.51) .XXX ± .010 (0.25)	TITLE FM I/S NONINCENDIVE FIELD CIRCUIT CONFIGURATIONS FOR MODEL 3144P				
FRACTIONS ± 1/32	ANGLES ± 2°	DR. NGA DOAN 06/09/01	DRAWING NO. 03144-0321		
DO NOT SCALE PRINT	CAD MAINTAINED, (PRO/E)	PRODUCT CODE	DOC TYPE	SHEET 2 OF 3	

## ROSEMOUNT INC. INTRINSICALLY SAFE DIV. 1 INSTALLATION (MULTI-DROP CONFIGURATION)



### PARAMETERS

SUPPLY		DEVICE	
$V_{oc}$	$\leq$	Minimum of	$(V_{max_1}, V_{max_2}, \dots, V_{max_N})$
$I_{sc}$	$\leq$	Minimum of	$(I_{max_1}, I_{max_2}, \dots, I_{max_N})$
$C_a$	$\geq$		$C_{i_1} + C_{i_2} + \dots + C_{i_N} + C_{cable}$
$L_a$	$\geq$		$L_{i_1} + L_{i_2} + \dots + L_{i_N} + L_{cable}$

NOTE: [1] REFER TO PAGE 1 FOR I.S. ENTITY PARAMETERS FOR THE 3144P.

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.	SURFACE FINISH UNLESS OTHERWISE SPECIFIED <input checked="" type="checkbox"/>	3RD ANGLE	SIZE D	SCALE N/A	REV AD
UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES.	<b style="font-size: 12px;">ROSEMOUNT®</b> 8200 Market Boulevard, Chanhassen, MN 55371 USA				
-DEC TOLERANCES- .X ± .1 (2.5) .XX ± .02 (0.51) .XXX ± .010 (0.25)	TITLE <b>FM I/S NONINCENDIVE FIELD CIRCUIT CONFIGURATIONS FOR MODEL 3144P</b>				
FRACTIONS ± 1/32	ANGLES ± 2°	DR. NGA DOAN 06/09/01 DRAWING NO.		<b>03144-0321</b>	
DO NOT SCALE PRINT	CAD MAINTAINED (PRO/E)	PRODUCT CODE	DOC TYPE	SHEET 3 OF 3	

DRAWING NO. 03144-0321