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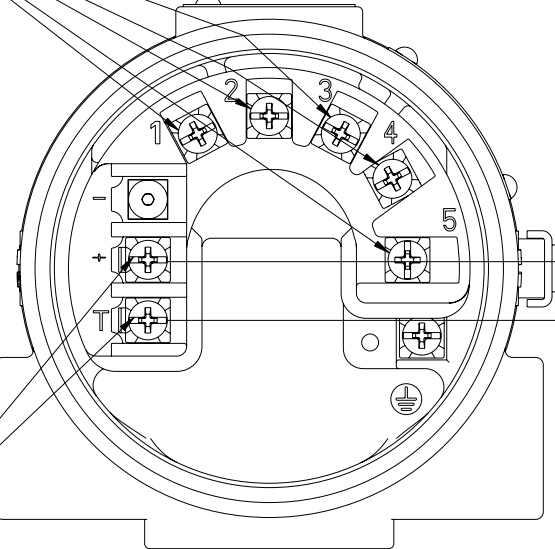
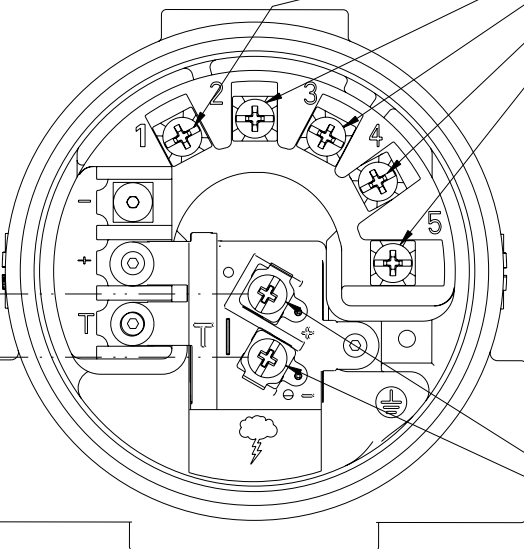
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TABULATION	
DASH NO.	
I.S.	PAGE 1
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REVISIONS					
ZONE	REV	DESCRIPTION	CHG. NO.	APP'D	DATE
	AA	NEW RELEASE	RTC1016385	D.B.	2/9/04

SENSOR TERMINAL OUTPUT PARAMETER LIMIT
 $V_{oc} = 13.9 \text{ Vdc}$
 $I_{sc} = 23 \text{ mAdc}$
 $C_a = 0.73 \text{ uF}$
 $L_a = 65 \text{ mH}$

POWER / LOOP TERMINAL INPUT PARAMETER LIMITS
 $V_{max} = 30 \text{ Vdc}$
 $I_{max} = 300 \text{ mAdc}$
 $C_i = 2.1 \text{ nF}$
 $L_i = 0 \text{ mH}$



INSTALLATION WITH T1 OPTION

CSA APPROVED
FIELD BUS DEVICE 'n'

CSA APPROVED
FIELD BUS DEVICE 2

CSA APPROVED
ASSOCIATED
APPARATUS

HAZARDOUS
AREA

INTRINSICALLY SAFE FOR CLASS I, DIVISION 1, GROUPS A, B, C, D

NOTES:

- 1.1 NO REVISION TO DRAWING WITHOUT PRIOR CSA APPROVAL.
- 1.2 ONLY EQUIPMENT CLASSIFIED AS SIMPLE APPARATUS, SUCH AS THERMOCOUPLES AND RTD'S, MAY BE CONNECTED TO SENSOR TERMINALS.
- 1.3 WARNING -TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.
- 1.4 AMBIENT TEMPERATURE LIMITS:
I.S./FISCO: T4 (-50°C ≤ Ta ≤ 60°C)
- 1.5 ASSOCIATED APPARATUS MANUFACTURER'S INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT.
- 1.6 THE ENTITY CONCEPT ALLOWS INTERCONNECTION OF INTRINSICALLY SAFE APPARATUS WITH ASSOCIATED APPARATUS WHEN THE FOLLOWING IS TRUE:

- 1.7 CONTROL EQUIPMENT CONNECTED TO BARRIER MUST NOT USE OR GENERATE MORE THAN 250 Vrms OR Vdc.
- 1.8 INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA-RP12.6 "INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS" AND THE CANADIAN ELECTRICAL CODE
- 1.9 TOTAL CAPACITANCE AND INDUCTANCE APPLIED TO ALL SENSOR TERMINALS COMBINED MAY NOT EXCEED A TOTAL OF C₀ OR L₀ RESPECTIVELY.
- 1.10 WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY OR SUITABILITY FOR DIVISION 2.

I.S. APPARATUS (FIELD DEVICE) INPUT	ASSOCIATED APPARATUS OUTPUT
V_{max}	$\geq V_{oc}$
I_{max}	$\geq I_{sc}$
C_i (SUM ALL DEVICES) + C_{cable}	$\leq C_a$
L_i (SUM ALL DEVICES) + L_{cable}	$\leq L_a$

CSA CERTIFIED PRODUCT
NO MODIFICATIONS PERMITTED WITHOUT THE APPROVAL OF RTC TEMPERATURE DESIGN ENGINEERING

CONFIDENTIAL AND PROPRIETARY INFORMATION IS CONTAINED HEREIN AND MUST BE HANDLED ACCORDINGLY.	UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES (mm). REMOVE ALL BURRS AND SHARP EDGES. MACHINE SURFACE FINISH 125		CONTRACT NO.		 ROSEMOUNT® 8200 Market Boulevard • Chanhassen, MN 55317 USA
	DR.	H. NGUYEN	9-8-03	TITLE	
	CHK'D			CSA INSTALLATION DRAWING, I.S. & FISCO	
	APP'D	D. BAUSCHKE	2/9/04	SIZE	
	APP'D GOVT.			FSCM NO.	
DO NOT SCALE PRINT			DRAWING NO.	03144-5076	
			SCALE	1:1	
			WT.		
			SHEET	1 OF 3	

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Form Rev. AC

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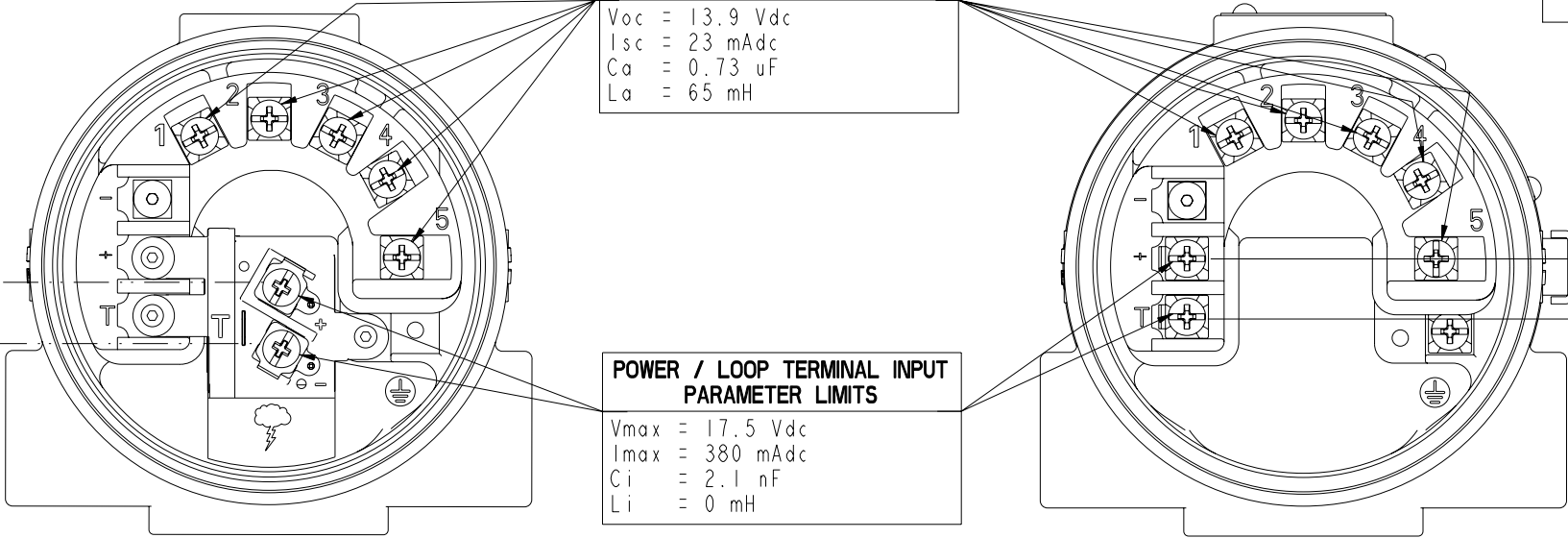
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REVISIONS					
ZONE	REV	DESCRIPTION	CHG. NO.	APP'D	DATE
AA			RTC1016385		

SENSOR TERMINAL OUTPUT PARAMETER LIMITS
 $V_{oc} = 13.9 \text{ Vdc}$
 $I_{sc} = 23 \text{ mAdc}$
 $C_a = 0.73 \text{ uF}$
 $L_a = 65 \text{ mH}$

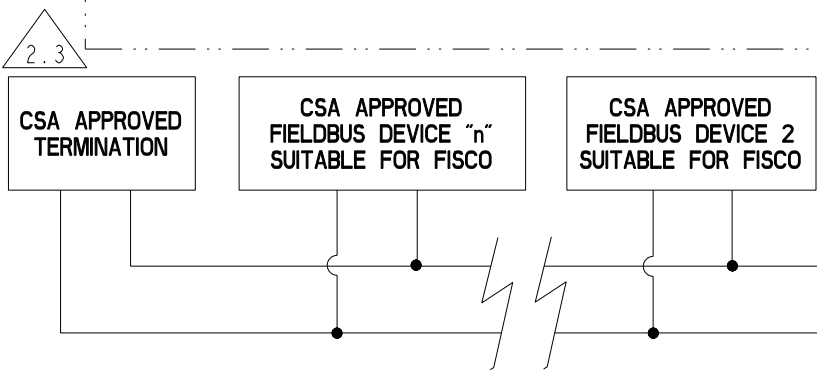
POWER / LOOP TERMINAL INPUT PARAMETER LIMITS
 $V_{max} = 17.5 \text{ Vdc}$
 $I_{max} = 380 \text{ mAdc}$
 $C_i = 2.1 \text{ nF}$
 $L_i = 0 \text{ mH}$



CSA APPROVED ASSOCIATED APPARATUS SUITABLE FOR FISCO

NON-HAZARDOUS AREA

INSTALLATION WITH T1 OPTION



HAZARDOUS AREA

FISCO FOR CLASS I, DIVISION 1, GROUPS A, B, C, D

NOTES:

2.1. FISCO IS A SUBSET OF STANDARD INTRINSICALLY SAFE INSTALLATION (SEE PAGE 1) EXCEPT AS SPECIFICALLY NOTED HERE.

WHAT IS FISCO?

FIELD BUS INTRINSICALLY SAFE CONCEPT IS A PARTICULAR, YET SUFFICIENTLY FLEXIBLE, AGREED UPON INSTALLATION CONFIGURATION. THIS ALLOWS FOR A CONTROLLED DISTRIBUTION OF THE ELECTRICAL CHARACTERISTICS AROUND THE SEGMENT.

WHAT ARE THE BENEFITS TO INSTALLING WITHIN THE BOUNDS OF THIS CONFIGURATION?

- A. MORE DEVICES ARE ALLOWED ON THE FIELD BUS SINCE MORE POWER CAN BE APPLIED.
- B. THE R, L, AND C CHARACTERISTICS OF THE FIELD BUS CABLE NEED NOT BE CALCULATED.

WIRING CONFIGURATION:

- LENGTH**
- TRUNK CABLE $\leq 1000 \text{ m}$
 - SPUR CABLE $\leq 30 \text{ m}$
 - SPLICE $\leq 1 \text{ m}$
- CABLE PROPERTIES:**
- LOOP RESISTANCE, R 15 TO 150 Ohms/Km
 - INDUCTANCE, L 0.4 TO 1 mH/Km
 - CAPACITANCE, C 80 TO 200 nF/Km

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RTC TEMPERATURE DESIGN ENGINEERING

APPARATUS CRITERIA:

2.2. $C_i \leq 5 \text{ nF}$ AND $L_i \leq 10 \text{ uH}$ FOR EACH APPARATUS, OTHER THAN THE TERMINATOR, CONNECTED TO THE FIELD BUS.



$R = 90 \text{ TO } 100 \text{ Ohms}$ AND $C = 0 \text{ TO } 2.2 \text{ nF}$ FOR THE LINE TERMINATION. THIS TERMINATOR MAY BE INTEGRATED INTO AN APPARATUS.

2.4. EACH APPARATUS, OTHER THAN THE ASSOCIATED APPARATUS, MUST BE PASSIVE. (NOT ALLOWED TO PROVIDE ENERGY TO THE SYSTEM.)

2.5. INTERCONNECTION IS ALLOWED WHEN THE FOLLOWING IS TRUE:

I.S APPARATUS (FIELD DEVICE) INPUT		ASSOCIATED APPARATUS OUTPUT
V_{max}	\geq	V_{oc}
I_{max}	\geq	I_{sc}

C = C LINE-TO-LINE + 1/2 C LINE-TO-SHIELD (FOR BOTH LINES FLOATING WITH RESPECT TO SHIELD)
 C = C LINE-TO-LINE + C LINE-TO-SHIELD (FOR ONE LINE TIED TO SHIELD)

Rosemount Inc. 8200 Market Boulevard Chanhassen, MN 55317 USA		CAD Maintained. (Pro/E)	
DR. H. NGUYEN	9/8/03	SIZE C	FSCM NO. DRAWING NO. 03144-5076
SCALE: 1:1		WT.	SHEET 2 OF 3

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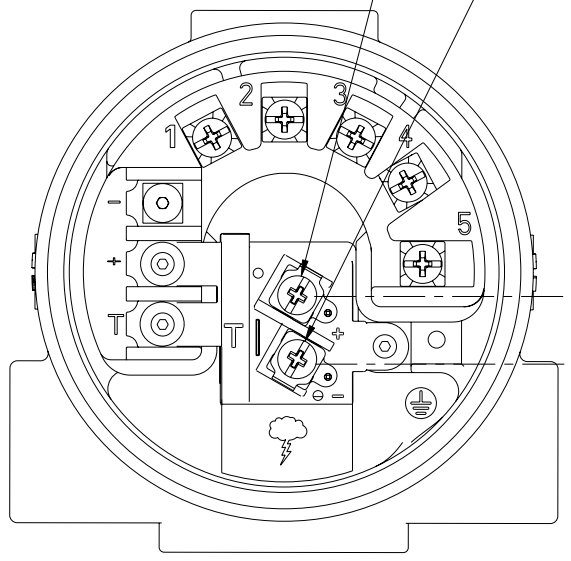
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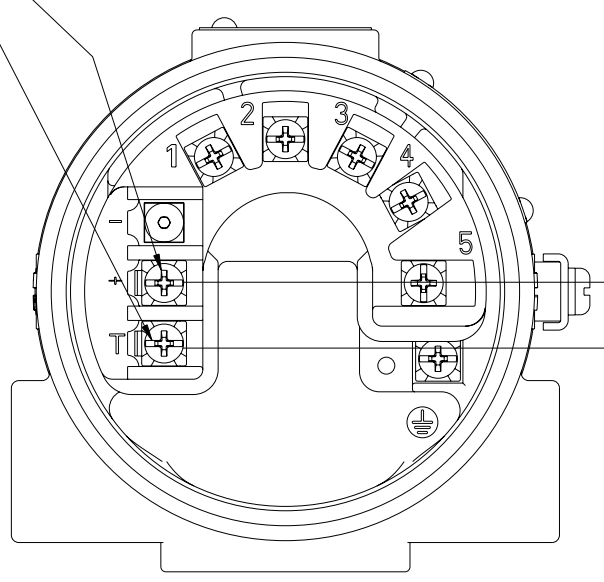
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	AA		RTC1016385		

**POWER / LOOP TERMINAL INPUT
PARAMETER LIMITS**
 $V_{max} = 32.0 \text{ Vdc}$
 $I_{max} = 11 \text{ mAdc}$



INSTALLATION WITH T1 OPTION



FIELDBUS LOOP

**CSA APPROVED
FIELDBUS DEVICE "n"**

**CSA APPROVED
FIELDBUS DEVICE 2**

SUITABLE FOR CLASS I, DIVISION 2, GROUPS A, B, C, D

NOTES:

- 1.1 ONLY EQUIPMENT CLASSIFIED AS SIMPLE APPARATUS, SUCH AS THERMOCOUPLES AND RTD'S, MAY BE CONNECTED TO SENSOR TERMINALS.
- 1.2 WARNING - TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, DISCONNECT POWER BEFORE SERVICING.
- 1.3 AMBIENT TEMPERATURE LIMITS:
DIVISION 2: T6 (-60°C ≤ T_a ≤ 60°C); T5 (-60°C ≤ T_a ≤ 85°C)
- 1.4 INSTALLATION SHOULD BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (ANSI / NFPA 70)
- 1.5 WARNING - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR DIVISION 2.

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PRODUCT
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WITHOUT THE APPROVAL OF
RTC TEMPERATURE
DESIGN ENGINEERING**

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SIZE C FSCM NO. DRAWING NO. 03144-5076
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