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**Agency approved drawing. No changes without prior agency approval.**

REV	ECO NO.	DATE
0		3/16/2012
0A	Released	6/11/2012
1	E13028	3/18/13
2	E15079	25-Jun-2015
3	E16022	22-Feb-2016
4	E16052	9-May-2016
5	E16081	11-May-2016
6	E18004	3-Jan-2018
7	E19018	15-Feb-2019
8	E19067	17-Apr-2019

**CSI Model 9420 Rev4/Rev5 Wireless Vibration Transmitter:**

**Power Options:**

**Battery Pack 701PBKKF (Part number MHM-89002) or A0701PBU (Part number MHM-89004)**

**Power Adapter A9000Px - install per control drawing D25790.**

**NOTE: Approved power options may be replaced in approved hazardous locations per this drawing.**

**CSA-c/us 12CA2493476X**

Class I Division 1 Groups C & D

Class I Zone 0 Group IIB

Ex/AEx ia IIB T4 -40°C ≤ Ta ≤ 85°C, -20°C ≤ Ta ≤ 80°C w/LCD

Class I Division 2 Groups A, B, C & D

Class I Zone 2 AEx ic IIC Gc

Ex ic IIC Gc T4 (135°C), -40°C ≤ Ta ≤ 85°C, -20°C ≤ Ta ≤ 80°C w/LCD; Type 4X Enclosure

**SIRA/ATEX 15ATEX4237X**

CE (Ex) II 3 G Ex ic IIC T4 Gc T4 (135°C), -40°C ≤ Ta ≤ 85°C, -20°C ≤ Ta ≤ 80°C w/LCD  
Zone 2 Group IIC

**SIRA/ATEX 16ATEX2148X**

CE 0518 (Ex) II 1 G Ex ia IIB T4 Ga -40°C ≤ Ta ≤ 85°C, -20°C ≤ Ta ≤ 80°C w/LCD  
Zone 0 Group IIB

**IECEX CSA 12.0014X**

Ex ia IIB T4 Ga

Ex ic IIC T4 Gc

Ta: -40°C to +85°C

Ta: -20°C to +80°C w/LCD

**Warnings:**

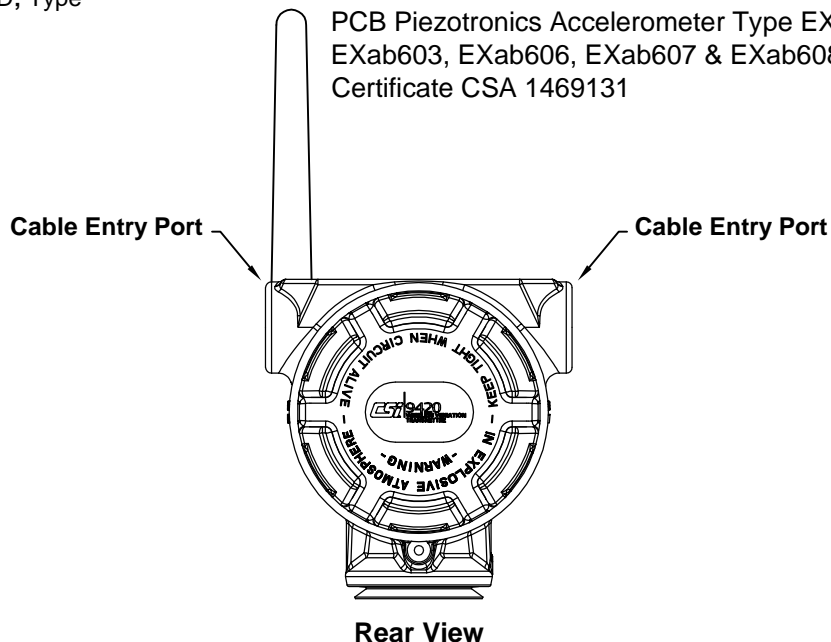
1. The antenna may present a potential electrostatic ignition hazard and must not be rubbed or cleaned with a dry cloth.
2. The enclosure is made of an aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a zone 0 environment.
3. Substitution of components may impair intrinsic safety.
4. The battery pack or power adapter may present a potential electrostatic ignition hazard. Use Caution when replacing battery pack or power adapter.

**Suggested Accelerometers:**

PCB Piezotronics Accelerometer Type EX602, EX603, EX606, EX607 & EX608 according to Certificate LCIE 10ATEX1005X

PCB Piezotronics Accelerometer Type EX602, EX603, EX606, EX607 & EX608 according to Certificate CSA 1469131

PCB Piezotronics Accelerometer Type EXab602, EXab603, EXab606, EXab607 & EXab608 according to Certificate CSA 1469131



MATERIAL:	UNLESS OTHERWISE SPECIFIED	For Reference Only		EMERSON. Knoxville, TN.	
FINISH:	DIMENSIONS ARE IN INCHES	DESIGNED BY:	DATE	TITLE	
	TOLERANCES	D. Beeler	3/16/2012		
ARTWORK FILENAME/REVISION LEVEL:	DECIMALS: .X ± .030	DRAWN BY:	DATE	9420 Rev4/Rev5 Installation Detail	
	.XX ± .020	D. Beeler	3/16/2012		
	.XXX ± .010	LAST REVISED BY:	DATE		
	FRACTIONS: ± 1/32	J. Clemons	17-Apr-2019	CAD FILENAME	
	ANGULAR: ± 0°-30'	RESP. ENGINEER	DATE	DRAWING NO./PART NO.	
	FINISH: 32	B. Duncan	DATE	D25418 sheet 1	
	DO NOT SCALE THIS DRAWING	MANUFACTURING ENG.	DATE	FIRST USED MODEL NO.	
		T. Rogers	DATE	9420 Z0	
		DOCUMENT CONTROL	DATE	SCALE	
				1 OF 3	

## Sensor Connections

### 1 Sensor

Terminal 1 = Red Wire  
 Terminal 2 = White Wire  
 Terminal 3 = No Connection  
 Terminal 4 = Black Wire  
 Chassis Ground Point = Cable Shield

### 2 Sensors

Terminal 1 = Both Red Wires  
 Terminal 2 = 1 White Wire  
 Terminal 3 = 1 White Wire  
 Terminal 4 = Both Black Wires  
 Chassis Ground Point = Both Cable Shields

### 1 Sensor with Temperature

Terminal 1 = Red Wire  
 Terminal 2 = White Wire  
 Terminal 3 = Green Wire  
 Terminal 4 = Black Wire  
 Chassis Ground Point = Cable Shield

#### Notes:

1. Installation should be in accordance with the National Electrical Code (NEC), Canadian Electrical Code (CEC) or local codes as applicable.
2. Use only Emerson/Rosemount Power Module Model 701PBKKF, A0701PBU or Emerson Power Adapter A9000Px.
3. Use only Emerson/Rosemount Hart Communicator Model 375, 475 or TREX.
4. The enclosure may be opened to operate the push buttons, rotate the display or change the power module despite the following warning which appears on the cover, "IN EXPLOSIVE ATMOSPHERE KEEP TIGHT WHEN CIRCUIT ALIVE". This warning is present as it is required for other products which use the same enclosure.
5. The "Ex ia" marking on the nameplate indicates that the transmitter is Intrinsically Safe.

# CSI 9420 Zone 0

Intrinsically safe when powered by Emerson Battery Pack Models 701PBKKF, A0701PBU or Emerson Power Adapter A9000Px and with the following entity parameters and when installed per Control Drawing D25418.

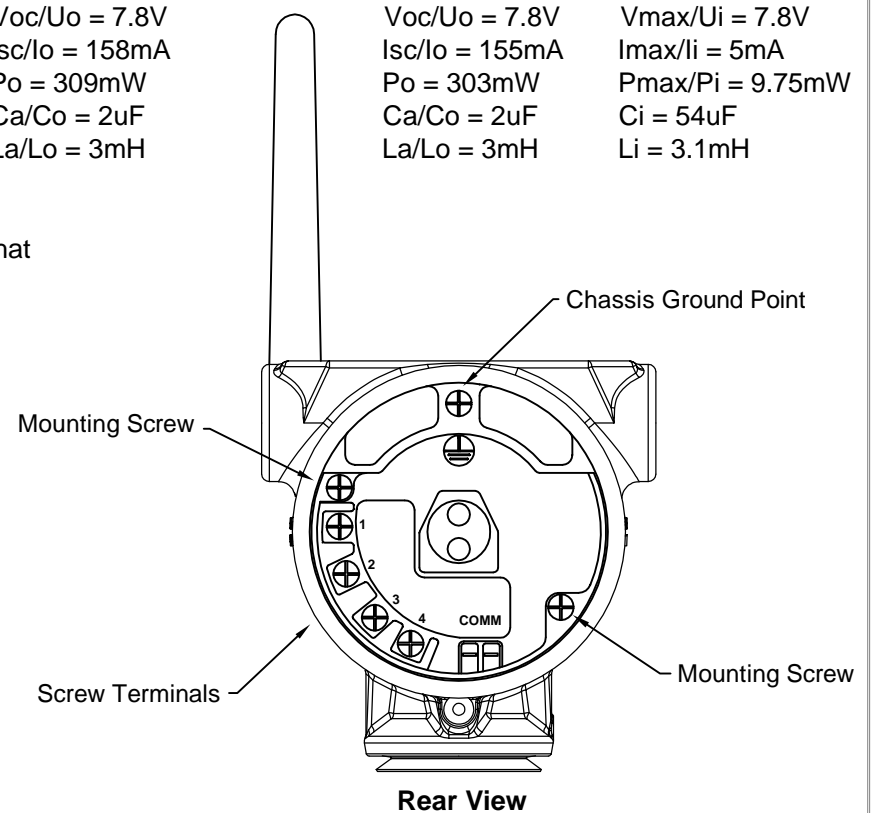
Agency approved drawing. No changes without prior agency approval.

### Accelerometer Connector

$V_{oc}/U_o = 7.8V$   
 $I_{sc}/I_o = 158mA$   
 $P_o = 309mW$   
 $C_a/C_o = 2\mu F$   
 $L_a/L_o = 3mH$

### Hart Connector

$V_{oc}/U_o = 7.8V$        $V_{max}/U_i = 7.8V$   
 $I_{sc}/I_o = 155mA$        $I_{max}/I_i = 5mA$   
 $P_o = 303mW$            $P_{max}/P_i = 9.75mW$   
 $C_a/C_o = 2\mu F$            $C_i = 54\mu F$   
 $L_a/L_o = 3mH$            $L_i = 3.1mH$



Choose certified accelerometers such that the following conditions are met:

$$U_o/V_{oc} \leq U_i/V_{max}$$

$$I_o/I_{sc} \leq I_i/I_{max}$$

$$P_o < P_i$$

$$C_o/C_a \geq C_i + \text{Cable}$$

$$L_o/L_a \geq L_i + \text{Cable}$$

## Sensor Connections

### 1 Sensor

Terminal 1 = Red Wire  
Terminal 2 = White Wire  
Terminal 3 = No Connection  
Terminal 4 = Black Wire  
Chassis Ground Point = Cable Shield

### 2 Sensors

Terminal 1 = Both Red Wires  
Terminal 2 = 1 White Wire  
Terminal 3 = 1 White Wire  
Terminal 4 = Both Black Wires  
Chassis Ground Point = Both Cable Shields

### 1 Sensor with Temperature

Terminal 1 = Red Wire  
Terminal 2 = White Wire  
Terminal 3 = Green Wire  
Terminal 4 = Black Wire  
Chassis Ground Point = Cable Shield

#### Notes:

1. Installation should be in accordance with the National Electrical Code (NEC), Canadian Electrical Code (CEC) or local codes as applicable.
2. Use only Emerson/Rosemount Power Module Model 701PBKKF, A0701PBU or Emerson Power Adapter A9000Px.
3. Use only Emerson/Rosemount Hart Communicator Model 375, 475 or TRES.
4. The enclosure may be opened to operate the push buttons, rotate the display or change the power module despite the following warning which appears on the cover, "IN EXPLOSIVE ATMOSPHERE KEEP TIGHT WHEN CIRCUIT ALIVE". This warning is present as it is required for other products which use the same enclosure.
5. The "Ex ia" marking on the nameplate indicates that the transmitter is Intrinsically Safe.

# CSI 9420 Zone 2

Intrinsically safe when powered by Emerson Battery Pack Models 701PBKKF, A0701PBU or Emerson Power Adapter A9000Px and with the following entity parameters and when installed per Control Drawing D25418.

Agency approved drawing. No changes without prior agency approval.

### Accelerometer Connector

$V_{oc}/U_o = 7.8V$   
 $I_{sc}/I_o = 158mA$   
 $P_o = 309mW$   
 $C_a/C_o = 2\mu F$   
 $L_a/L_o = 3mH$

### Hart Connector

$V_{oc}/U_o = 7.8V$        $V_{max}/U_i = 7.8V$   
 $I_{sc}/I_o = 155mA$        $I_{max}/I_i = 5mA$   
 $P_o = 303mW$        $P_{max}/P_i = 9.75mW$   
 $C_a/C_o = 2\mu F$        $C_i = 54\mu F$   
 $L_a/L_o = 3mH$        $L_i = 3.1mH$

Choose certified accelerometers such that the following conditions are met:

$U_o/V_{oc} < U_i/V_{max}$   
 $I_o/I_{sc} < I_i/I_{max}$   
 $P_o < P_i$   
 $C_o/C_a > C_i + \text{Cable}$   
 $L_o/L_a > L_i + \text{Cable}$

