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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

**CSI Model 9420 Rev4/Rev5 Wireless Vibration Transmitter:**  
Battery Operated (7.8Vdc Max)

**CSA-c/us**

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**

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

**Battery Packs 701PBKKF (Part number MHM-89002) or A0701PBU (Part number MHM-89004)**  
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 for version w/LCD

**Warnings:**

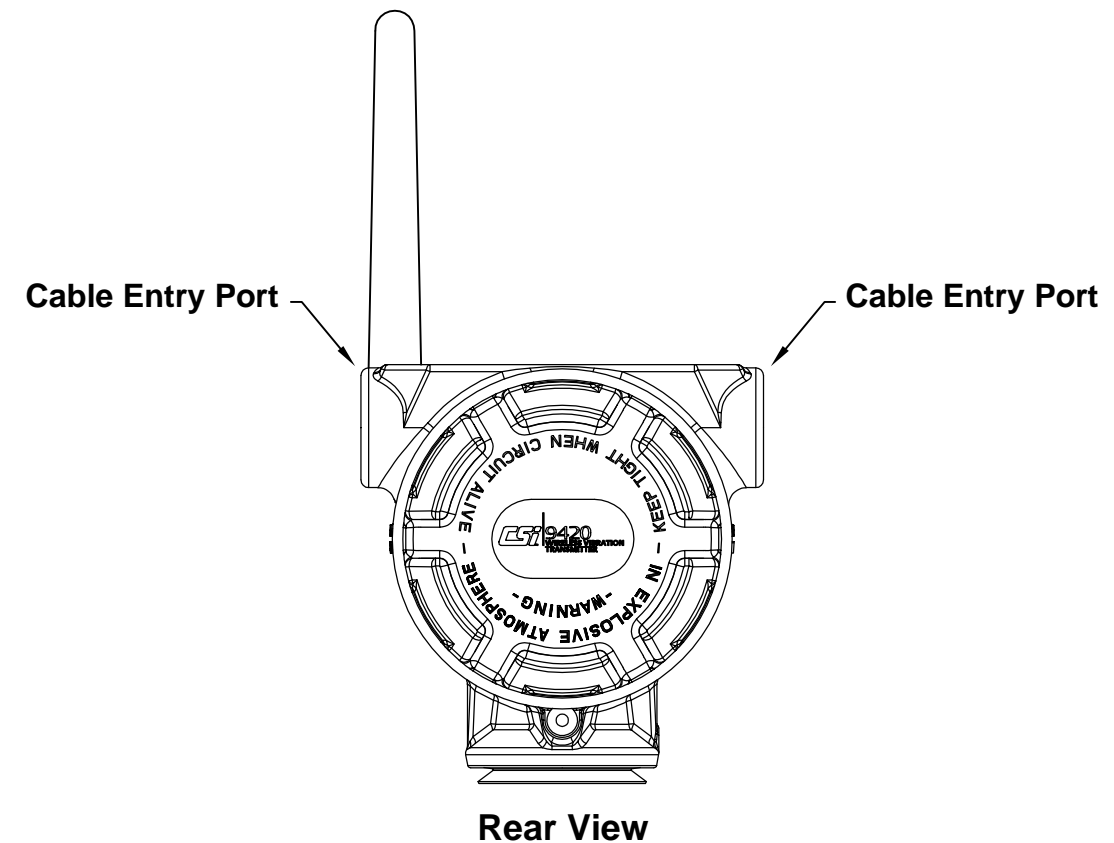
1. The antenna may present a potential electrostatic ignition hazard and must not be rubbed or cleaned with a dry cloth.
2. The enclosure is made of an aluminum alloy and given a protective polyurethane paint finish; however, care should be taken to protect it from impact or abrasion if located in a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

**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	APPROVALS		Computational Systems Incorporated Knoxville, TN.	
	DIMENSIONS ARE IN INCHES	DESIGNED BY: D. Beeler	DATE 3/16/2012		
FINISH:	TOLERANCES	DRAWN BY: D. Beeler	DATE 3/16/2012	TITLE <b>9420 Rev4/Rev5 Installation Detail</b>	
	DECIMALS: .X ± .030 .XX ± .020 .XXX ± .010	LAST REVISED BY: J. Clemons	DATE 11-May-2016		
ARTWORK FILENAME/REVISION LEVEL:	FRACTIONS: ± 1/32	RESP. ENGINEER B. Duncan	DATE	CAD FILENAME D25418 sheet 1	DRAWING NO./PART NO.
	ANGULAR: ± 0°-30'	MANUFACTURING ENG. W. Hardin	DATE	FIRST USED MODEL NO. 9420 Z0	D25418
	FINISH: 32	DOCUMENT CONTROL	DATE	SCALE	SIZE
	DO NOT SCALE THIS DRAWING			1 of 3	C

## 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 or A0701PBU.
3. Use only Emerson/Rosemount Hart Communicator Model 375 or 475.
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 Battery Pack Model 701PBKKF or A0701PBU and with the following entity parameters and when installed per Control Drawing D25418.

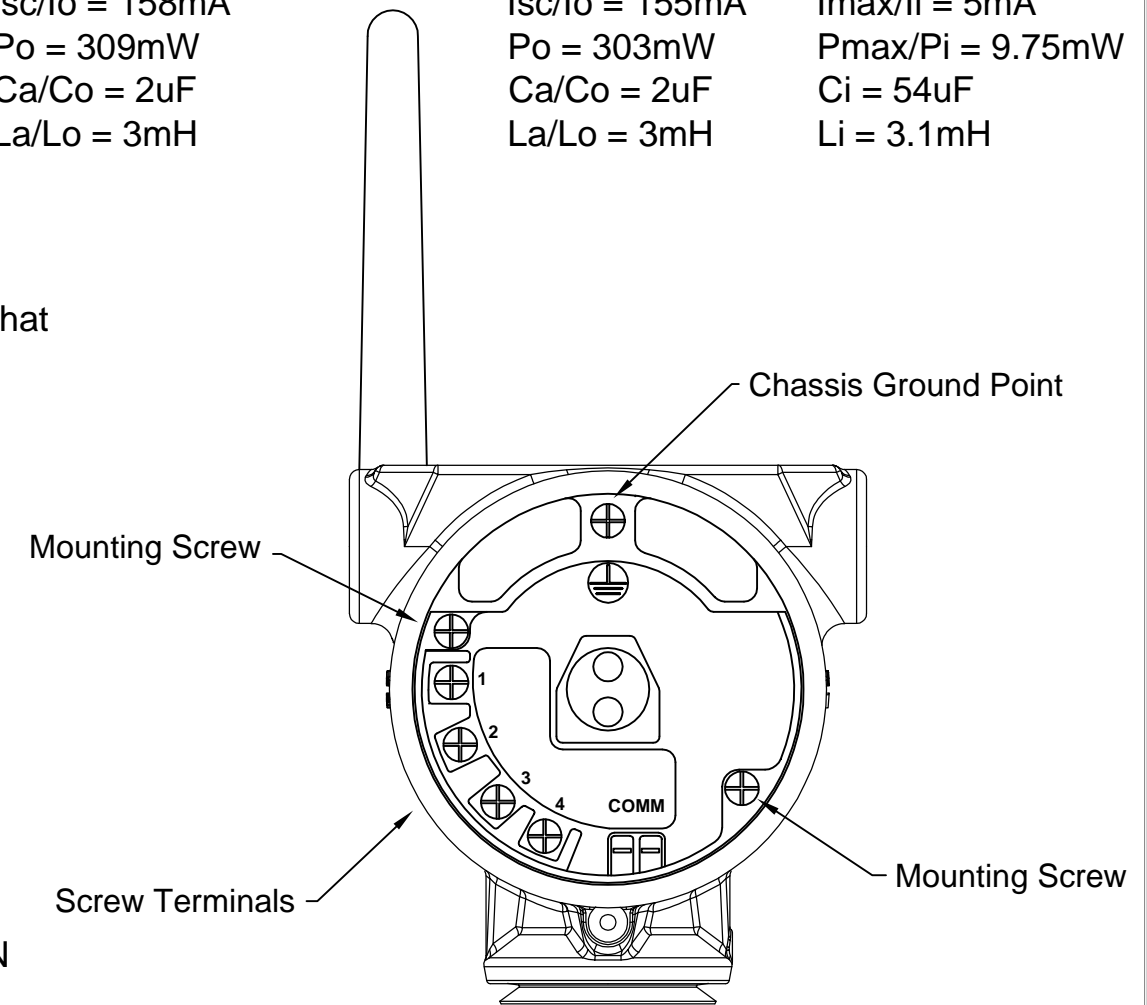
**Agency approved drawing. No changes without prior agency approval.**

### 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

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



**Rear View  
 Battery Powered Option**

<b>CSI</b> Computational Systems Incorporated Knoxville, TN.		SCALE	SIZE
CAD FILENAME D25418 sheet 2	DRAWING NO./PART NO.	SHEET 2 OF 3	C
REVISION LEVEL 5	D25418		

## 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 or A0701PBU.
3. Use only Emerson/Rosemount Hart Communicator Model 375 or 475.
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 Battery Pack Model 701PBKKF or A0701PBU and with the following entity parameters and when installed per Control Drawing D25418.

Agency approved drawing. No changes without prior agency approval.

### Accelerometer Connector

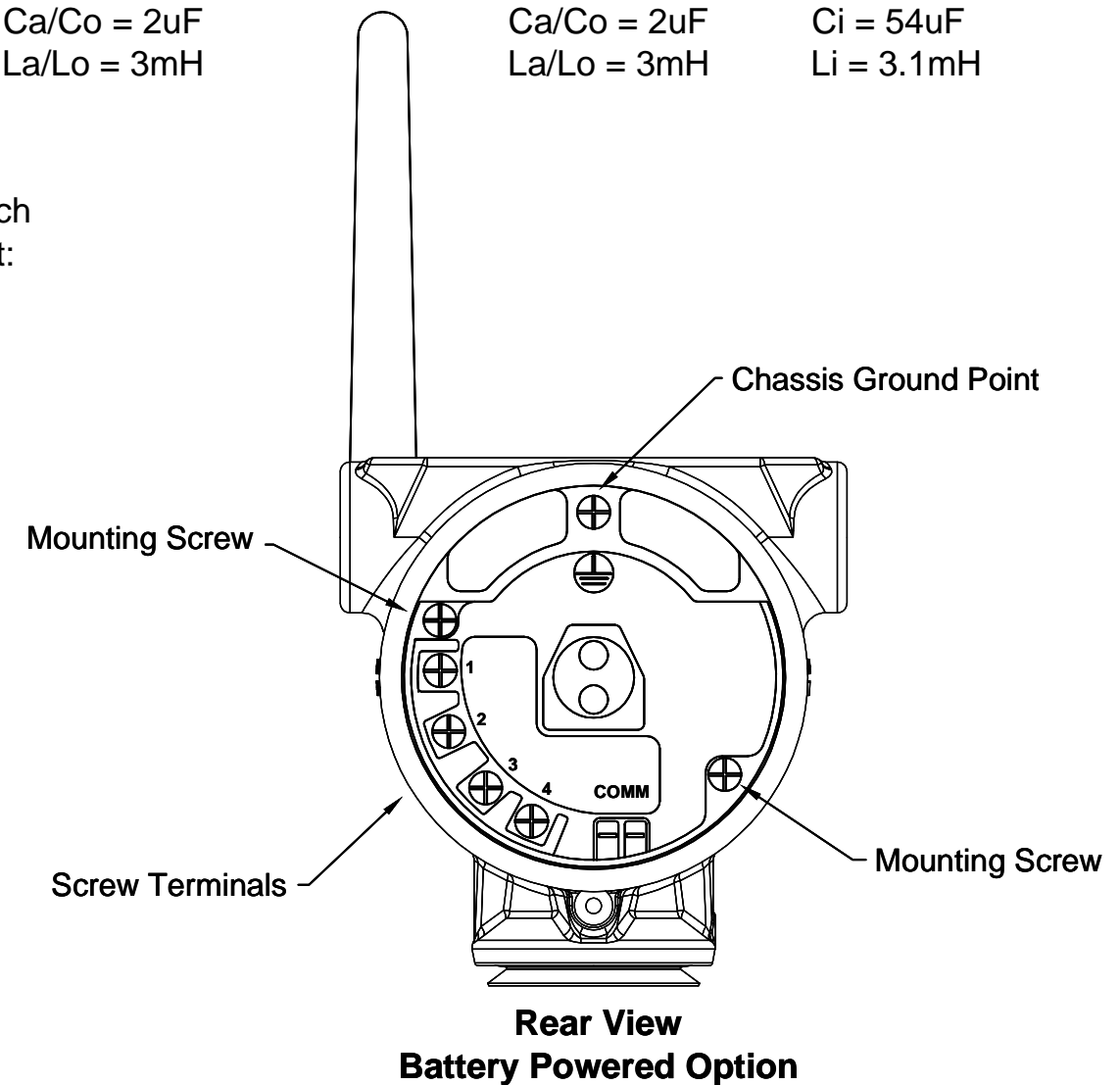
$V_{oc}/U_o = 7.8V$   
 $I_{sc}/I_o = 158mA$   
 $P_o = 309mW$   
 $C_a/C_o = 2\mu F$   
 $L_a/L_o = 3mH$

### Hart Connector

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

Choose certified accelerometers such that the following conditions are met:

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



<b>CSI</b> Computational Systems Incorporated Knoxville, TN.		SCALE	SIZE
CAD FILENAME D25418 sheet 3	DRAWING NO./PART NO.	.	.
REVISION LEVEL 5	D25418	SHEET 3 OF 3	C