1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 16ATEX2148X** Issue: **1**

4 Equipment: **Model CSI 9420 Vibration Monitor**

5 Applicant: **Computational Systems, Incorporated**
A Wholly Owned Subsidiary of Emerson Process Management

6 Address: 835 Innovation Drive
Knoxville
TN 37932
USA

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/A11:2013 EN 60079-11:2012

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 1G
Ex ia IIB T4 Ga
40°C to +85°C without LCD or -20°C to +80°C with LCD

Project Number 70082099

C Ellaby
Deputy Certification Manager

Sira Certification Service
Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom

Tel: +44 (0) 1244 670 900
Fax: +44 (0) 1244 539 301
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 16ATEX2148X**
Issue 1

13 **DESCRIPTION OF EQUIPMENT**

The CSI 9420 Vibration Monitor is used to monitor the vibration of equipment in explosive atmospheres.

It consists of various circuit board assemblies mounted in an enclosure that is made from either stainless-steel or aluminium alloy that has a protective, polyurethane paint finish. Field mounted accelerometers (certified) connect to the CSI 9420 via a cable. A certified Hart Communicator may also be connected for configuration etc.. The Monitor is powered by a user-replaceable, primary battery pack, either Model 701PBKKF (Part number MHM-89002) or Model A0701PBU (Part number MHM-89004), and communicates data via an RF link; note: both battery packs have the same entity parameters

The equipment has the following entity parameters:

Hart Connector:		**Accelerometer Connector:**
Uo = 7.8 V	Ui = 7.8 V	Uo = 7.8 V
Io = 155 mA	Ii = 5 mA	Io = 158 mA
Po = 303 mW	Pi = 9.75 mW	Po = 309 mW
Co = 2 µF	Ci = 54 µF	Co = 2 µF
Lo = 3 mH	Li = 3.1 mH	Lo = 3 mH

Variation 1 - This variation introduced the following changes:

i. It was confirmed that the following, alternative materials can used to make the extended life battery pack cover:
   - cast aluminium
   - cast stainless steel
   - machined stainless steel

ii. Additional manufacturing notes for threaded entries and alternative paint were accepted.

iii. Manufacturing notes were changed to recognise an alternative, antenna construction.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report no.	Comment
0	11 May 2016	R70041106A	The release of the prime certificate.
1	15 July 2016	R70082099A	The introduction of Variation 1.

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Issue 1

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 The antenna may present a potential electrostatic ignition hazard and shall not be rubbed or cleaned with a dry cloth.

15.2 The apparatus may be equipped with an aluminium alloy enclosure, therefore, care should be taken to protect it from impact or abrasion, particularly if it is located in a Zone 0 environment.

15.3 Intrinsically Safe when installed per drawing D25418.

15.4 The battery pack may present a potential electrostatic ignition hazard. Use caution when replacing battery pack.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 When an epoxy-polyester or polyurethane top coat is applied to external surfaces, it must be in accordance with FED. STD. 595. MANUFACTURER: SHERWIN WILLIAMS DESCRIPTION: Polane HS Series (V66V29 Catalyst) or Polane S Plus Series (V66V55 Catalyst) THICKNESS: 1.2-2.2 Mils.

17.4 Only antenna option numbers 00735-2035-0051 and 00735-2035-0054, as defined on drawing number 00735-2035, shall be used in the construction of these devices.

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Certificate Annexe

Certificate Number: **Sira 16ATEX2148X**

Equipment: **Model CSI 9420 Vibration Monitor**

Applicant: **Computational Systems, Incorporated**

Issue 0

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Description
D25692	1 of 1	0	09 May 16	ATEX Approval Z0 Nameplate
D25693	1 of 1	0	09 May 16	A0701PBU Update Label
D25418	1 to 3	4	09 May 16	CSI 9420 Installation Drawing
D25412	1 to 2	1	09 May 16	CSI 9420 Overall Assembly
D25643	1 to 2	1	09 May 16	Extended life power module cover
00753-2351	1 to 3	AH	09 May 16	Housing Sub-Assembly
00753-2304	1 to 6	AF	09 May 16	Enclosure Main Body Aluminum
03151-2301	1 to 4	AN	09 May 16	Enclosure Standard Cover Aluminum
03151-4501	1 to 3	AN	09 May 16	Enclosure Window Cover Aluminum
00753-2020	1 to 4	AH	09 May 16	Enclosure Battery Compartment Cover Aluminum
00753-2306	1 to 5	AH	09 May 16	Enclosure Main Body SST
03151-2343	1 of 1	AE	09 May 16	Enclosure Standard Cover SST
03151-4521	1 to 2	AE	09 May 16	Enclosure Window Cover SST
00753-2024	1 of 1	AB	09 May 16	Enclosure Battery Compartment Cover SST
00753-2118	1 to 3	AD	09 May 16	Antenna Adapter SST
00753-2108	1 to 3	AG	09 May 16	Antenna Adapter Aluminum
03151-2325	1 to 4	AL	09 May 16	Mounting Bracket Assy
00701-1000	1 to 9	AB	09 May 16	Battery Pack Docs – All
MHM-89004	1 to 4	5	09 May 16	Extended life power module
D25394SC	1 to 2	1A	09 May 16	Battery Terminal Board Schematic
D25394AS	1 of 1	1	09 May 16	Battery Terminal Board Comp Layout
D25394FB	1 to 2	1	09 May 16	Battery Terminal Board Trace Layout
D25394BOM	1 of 1	1A	09 May 16	Battery Terminal Board BOM
03151-2320	1 to 3	AM	09 May 16	Feed-Thru Filter Details
D25393SC	1 to 5	0A	09 May 16	Power-Hart Board Schematic
D25393AS	1 of 1	0A	09 May 16	Power-Hart Board Comp Layout
D25393FB	1 to 2	0000	09 May 16	Power-Hart Board Trace Layout
D25393BOM	1 to 5	0A	09 May 16	Power-Hart Board BOM
D25392SC	1 to 10	2	09 May 16	DSP Board Schematic
D25392SC	1 to 10	2A_ALT	09 May 16	DSP Board Schematic ALT
D25392AS	1 of 1	2A	09 May 16	DSP Board Comp Layout
D25392FB	1 to 2	2	09 May 16	DSP Board Trace Layout
D25392BOM	1 to 3	2	09 May 16	DSP Board BOM
D25392BOM	1 to 4	2A_ALT	09 May 16	DSP Board BOM
00753-3006	1 of 1	AD	09 May 16	Radio PCB Schematic
00753-3008	1 to 1	AM	09 May 16	Radio PCB Comp Layout
00753-3007	1 to 3	AE	09 May 16	Radio PCB Trace Layout & Dimensions
00753-3008-0007	1 of 1	AA	09 May 16	Radio PCB BOM
03151-4515	1 of 1	AU	09 May 16	LCD Overall Assy
00753-3025	1 of 1	AC	09 May 16	LCD PCB Schematic
00753-3027	1 of 1	AD	09 May 16	LCD Comp Layout
00753-3026	1 to 3	AC	09 May 16	LCD PCB Trace Layout & Dimensions
00753-3027-0001	1 of 1	0	09 May 16	LCD PCB BOM
00753-2035	1 of 11	BC	09 May 16	Antenna Details

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Certificate Annexe

Certificate Number: **Sira 16ATEX2148X**

Equipment: **Model CSI 9420 Vibration Monitor**

Applicant: **Computational Systems, Incorporated**

Issue 1

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Description
D25418	1 to 3	5	07 Jun 16	CSI 9420 Installation Drawing
00753-2304	1 to 6	AG	07 Jun 16	Enclosure Main Body Aluminum
03151-2301	1 to 4	AP	07 Jun 16	Enclosure Standard Cover Aluminum
03151-4501	1 to 3	AP	07 Jun 16	Enclosure Window Cover Aluminum
00753-2306	1 to 5	AJ	07 Jun 16	Enclosure Main Body SST
D25393FB	1 to 2	0A	07 Jun 16	Power-Hart Board Trace Layout
00753-2035	1 to 12	BF	07 Jun 16	Antenna Details
D25644	1 to 2	3	07 Jun 16	Cover, 9420 Extended Life Pwr. Module, SST, Machined
D25641	1 to 3	1	07 Jun 16	Cover, 9420 Extended Life Pwr. Module, SST, Cast
D25640	1 to 2	1	07 Jun 16	Cover, 9420 Extended Life Pwr. Module, Alum, Cast
00753-2108	1 to 3	AG	07 Jun 16	Antenna Adapter Aluminum

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