



# IECEX Certificate of Conformity

**INTERNATIONAL ELECTROTECHNICAL COMMISSION**  
**IEC Certification Scheme for Explosive Atmospheres**  
for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:  issue No.:  Certificate history:   
 Issue No.:   
Status:   
Date of Issue: **2015-09-07** Page 1 of 4  
Applicant: **Crystal Engineering Corporation**  
708 Fiero Lane  
San Luis Obispo  
California  
**United States of America**  
Electrical Apparatus: **Digital Pressure Calibrator 30 Series, 90 Series**  
*Optional accessory:*  
Type of Protection: **Intrinsic safety**  
Marking: **Ex ia IIC T4 Gb**  
*Approved for issue on behalf of the IECEx Certification Body:* Dipl. Ing. Lukáš Martinák  
*Position:* Head of the Certification Body

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:





# IECEX Certificate of Conformity

Certificate No.: IECEX FTZU 10.0018X

Date of Issue: 2015-09-07

Issue No.: 1

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Manufacturer: **Crystal Engineering Corporation**  
708 Fiero Lane  
San Luis Obispo  
California  
**United States of America**

Additional Manufacturing location  
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

**IEC 60079-0 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition: 6.0

**IEC 60079-11 : 2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"  
Edition: 6.0

*This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:

[CZ/FTZU/EXTR10.0018/00](#)

[CZ/FTZU/EXTR10.0018/01](#)

Quality Assessment Report:

[CA/CSA/QAR07.0004/03](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx FTZU 10.0018X

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The 30 Series Digital Pressure Calibrators are portable, battery powered instruments designed to measure pressure in hazardous areas. Further the instruments are able to measure loop current signals by means of two jacks placed on the front panel. The apparatus comprises electronics circuits arranged on two printed circuit boards, an LCD module and one or two pressure sensor assemblies, all housed in an aluminium alloy enclosure. The battery which must be of type listed below is housed in a separate compartment.

#### Input/output parameters, front jacks:

$U_i = 30 \text{ V}$ ;  $I_i = 100 \text{ mA}$ ;  $P_i = 0.75 \text{ W}$ ;  $C_i = 0$ ;  $L_i = 0$

$U_o = 9.9 \text{ V}$ ;  $I_o = 2.62 \text{ mA}$ ;  $P_o = 6.5 \text{ mW}$ ;  $C_o = 3.2 \mu\text{F}$ ;  $L_o = 100 \mu\text{H}$

Instruction for use - see documents 4435 30 Series and 4466 TRANSCAT Model 92.

### CONDITIONS OF CERTIFICATION: YES as shown below:

1) Acceptable battery types:

- Varta High Energy 9 V, 4922 E Block, 6LR61, 6AM6, MN 1604
- Duracell Pile Alkaline 9 V, MN 1604, 6L, R61
- Energizer 9 V, Size 522, 6LR31, 6AM6
- Energizer Industrial Lithium 9 V, Format 522FP, 6LR31, 6AM6

2) The battery must not be replaced in hazardous location.

3) RS 232 interface must not be connected to any apparatus when using calibrator in hazardous location.



# IECEX Certificate of Conformity

Certificate No.: IECEX FTZU 10.0018X

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Issue No.: 1

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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue1:

- 1) There are minor changes in electrical schematic diagram without any influence to current level of safety.
- 2) Technical data and construction of apparatus, listed in the basic certificate remain unchanged



(1) **Supplement No. 2 to  
EC-Type Examination Certificate**

(2) **Equipment or Protective Systems Intended for Use  
in Potentially Explosive Atmospheres  
(Directive 94/9/EC)**

(3) EC-Type Examination Certificate Number:

**FTZÚ 06 ATEX 0010X**

(4) Equipment or protective system: **30 Series Digital Pressure Calibrator**

(5) Manufacturer: **Crystal Engineering Corporation**

(6) Address: **708 Fiero Lane, Suite 9, San Luis Obispo, California, 93401, USA**

(7) This supplement of certificate is valid for:

- modification of certified apparatus
- prolongation of certificate validity
- modification of apparatus marking
- application of new standards

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:


**EN 60079-0:2012, EN 60079-11:2012**

(11) Marking of equipment shall contain symbols:

 **II 2G Ex ia IIC T4 Gb**

(12) This type examination certificate is valid till: **30.09.2020**

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 07.09.2015

Page: 1/2

This supplement to certificate is granted subject to the general conditions of the FTZÚ, s.p.  
This supplement to certificate may only be reproduced in its entirety and without any change, schedule included.



Physical Technical Testing Institute  
Ostrava – Radvanice

(13)

Schedule

(14)

Supplement No. 2 to  
EC-Type Examination Certificate N° FTZÚ 06 ATEX 0010X

(15) Description of Equipment or Protective System:

There are minor changes in electrical schematic diagram without any influence to current level of safety.

Technical data and construction of apparatus, listed in the basic certificate and Supplements No. 1 remain unchanged.

(16) Report No.: 06/0010/2

(17) Special conditions for safe use: see the basic certificate

(18) Essential Health and Safety Requirements:

Essential health and safety requirement of Directive 94/9/EC are covered by the standards mentioned in clause (10) of this supplement according which the new model was verified and in the manufacturer's Instruction for Using.

(19) List of Documentation:

<i>Document/Drawings:</i>	<i>Part Nr.:</i>	<i>Rev.:</i>	<i>Date:</i>	<i>Nr. of pages:</i>
30 SERIES OPERATION MANUAL	4435	I	08.2015	20
TRANSCAT MODEL 92 INSTRUCTIONS	4466	C	10.2010	5
PANEL TOP ASSEMBLY, 30 SERIES	4337	B	10.11.2010	1
BOM, USB INTERFACE, 30 SERIES	4313-AML	A	29.06.2010	1
PRINTED CIRCUIT ASSEMBLY, MAIN, 30 SERIES	4364-PCA	G	18.12.2012	1
BOM, MAIN, 30 SERIES	4364-AML	G	04.11.2013	2
SCHEMATIC, MIAN PCA, 30 SERIES	4321-SCH	C	07.07.2010	1
LABEL, REAR, IS90 SERIES	4462	C	09.05.2013	2

Responsible person:

Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 07.09.2015

Page: 2/2

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## DECLARATION OF CONFORMITY

In accordance with the ATEX Directive 94/9/EC

**Manufacturer's Name:** Crystal Engineering Corporation  
An AMETEK Inc. company

**Manufacturer's Address:** 708 Fiero Lane, Suite 9  
San Luis Obispo, CA 93401  
USA


**Declares under sole responsibility that the product as originally delivered**

**Product Name:** Digital Pressure Calibrator  
**Model Number:** 30 Series and IS90 Series  
**Product Options:**

**Complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:**

ATEX Directive 94/9/EC

**And conforms with the following product standards:**

**Marking**  II 2G Ex ia IIC T4 Gb, Ta = 0C to 50C  
Duracell Alkaline 9V, MN 1604  
Energizer Alkaline 9V, 522  
Energizer Lithium 9V, L522  
Varta High Energy Alkaline 9V, 4922

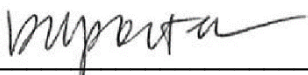
**Standard** **EHSR**  
EN 60079-0: 2012 Harmonized

EN 60079-11: 2012 Harmonized

**EC-Type Examination Certificate** FTZU 06 ATEX 0010X  
FTZU, Notified Body 1026  
Pikartská 7, 716 07 Ostrava Radvanice  
Czech Republic

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives

USA Signatory:



Division VP, T&CI NA Operations and Engineering  
David K Porter, P.E.

European Signatory:



Division Vice President & Business Unit Manager  
Joel Frie

Crystal Engineering Corporation, an AMETEK Inc. company  
708 Fiero Lane, Suite 9, San Luis Obispo, CA 93401, USA  
+1 805 595 5477

AMETEK Denmark A/S  
Gydevang 32-34, 3450 Allerød, Denmark  
+45 4816 8000

4 September 2015



## DECLARATION OF CONFORMITY

According to ISO/IEC 17050-1:2010

**Manufacturer's Name:** Crystal Engineering Corporation  
An AMETEK Inc. company

**Manufacturer's Address:** 708 Fiero Lane, Suite 9  
San Luis Obispo, CA 93401  
USA

**Declares under sole responsibility that the product as originally delivered**

**Product Name:** Digital Pressure Calibrator  
**Model Number:** 30 Series and IS90 Series

**Complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:**

EMC Directive 2004/108/EC

**Standard**

EN 55011: 2007

EN 61326: 2006

**EHSR**

The EN 55011:2009/A1:2010 harmonized standard has been compared to the standard used for certification purposes and no changes in the "state of the art" apply to the equipment.

Harmonized

**And conforms with the following product standards:**

<b>Standard</b>	<b>Description</b>	<b>Class</b>	<b>Status</b>	<b>EHSR</b>
EN 55011: 2007, +A1: 2010	Radiated Emissions	Class B	Pass	Harmonized
EN 61326-1:2006 (EN 61000-4-2: 2009)	Electrostatic Discharge	Criteria A	Pass	Harmonized
EN 61326-1:2006 (EN 61000-4-3: 2006)	Radiated Immunity		Pass	Harmonized

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all essential requirements of the Directives.

USA Signatory:



Division Vice President & Crystal Business Manager  
David K Porter, P.E.

European Signatory:



Division Vice President & Business Unit Manager  
Joel Frie

Crystal Engineering Corporation, an AMETEK Inc. company  
708 Fiero Lane, Suite 9, San Luis Obispo, CA 93401, USA  
+1 805 595 5477

AMETEK Denmark A/S  
Gydevang 32-34, 3450 Allerød, Denmark  
+45 4816 8000

11 March 2014





# Certificado de Conformidade Ex

*Ex Certificate of Conformity*

## Modelo com Avaliação do Sistema de Gestão da Qualidade do Processo de Produção e Ensaios no Produto

*Model with Assessment of Quality Management System of Production Process and Test on Product*

**Certificado emitido conforme requisitos da avaliação da conformidade de equipamentos elétricos para atmosferas explosivas anexo à Portaria Inmetro nº. 179 de 18 de maio de 2010**

*Certificate issued in according to Brazilian requirements attached to INMETRO's Rule n°. 179 issued on 18 May 2010*

Certificado N°:  
*Certificate N°:*

NCC 12.1049 X

Revisão:  
*Issued:*

0

Data de emissão:  
*Issued date:*

11/09/2012

Data de validade:  
*Validity date:*

11/09/2015

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*Page 1 of 3*

Solicitante:  
*Applicant:*

Crystal Engineering Corporation  
708 Fiero Lane, Suite 9 – San Luis Obispo/CA – Estados Unidos da América

Fabricante:  
*Manufacturer:*

Crystal Engineering Corporation  
708 Fiero Lane, Suite 9 – San Luis Obispo/CA – Estados Unidos da América

Produto:  
*Product:*

Calibrador Digital de Pressão

Modelo / Série:  
*Type / Serie:*

Série 30 e Série 90

Marcação:  
*Marking:*

Ex ia IIC T4 Gb  
 $0\text{ }^{\circ}\text{C} \leq T_a \leq +50\text{ }^{\circ}\text{C}$

- A. Este certificado somente pode ser reproduzido com todas as folhas.  
*This certificate may only be reproduced in full.*
- B. A situação e autenticidade deste certificado podem ser verificados no *website* oficial do INMETRO.  
*The Status and authenticity of this certificate may be verified by visiting the website of the INMETRO.*
- C. Este certificado de conformidade é válido somente no Brasil.  
*This conformity certificate is valid only in Brazil.*

Concedo esta certificação como Organismo de Certificação de Produtos, acreditado pela CGCRE  
*We grant this certificate as a Certification Body, accredited by CGCRE.*  
CGCRE – Coordenação Geral de Acreditação

\_\_\_\_\_  
André Luiz Rocha Carletti  
Gerente Técnico  
*Technical Manager*



# Certificado de Conformidade Ex

Ex Certificate of Conformity

## Modelo com Avaliação do Sistema de Gestão da Qualidade do Processo de Produção e Ensaios no Produto

Model with Assessment of Quality Management System of Production Process and Test on Product

Certificado Nº:  
Certificate Nº:

NCC 12.1049 X

Revisão:  
Issued:

0

Data de validade:  
Validity date:

11/09/2015

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### 1. NORMAS

O produto e suas variações foram avaliados conforme as seguintes normas:

ABNT NBR IEC 60079-0:2008 (versão corrigida 2010);

ABNT NBR IEC 60079-11:2009.

### 2. RELATÓRIO(S) DE ENSAIO(S)

Amostras do equipamento listado passaram com sucesso nos ensaios e avaliações conforme os seguintes registros:

Laboratório	Relatório de ensaio	Data de emissão
Physical Technical Testing Institute	CZ/FTZU/ExTR10	09/2006
	CZ/FTZU/ExTR10	11/2007

### 3. RELATÓRIO DE AVALIAÇÃO DA CONFORMIDADE TÉCNICA

Este relatório apresenta a verificação dos documentos utilizados para análise e as conclusões para a recomendação da certificação:

RACT 17220/12.3

### 4. DESCRIÇÃO E ESPECIFICAÇÕES

O calibrador de pressão portátil série 30 e série 90 são instrumentos designados para medir pressões em áreas classificadas. Os instrumentos ainda são capazes de medir loop de sinais de corrente que é medido por dois terminais que estão localizados na face frontal do painel. Os medidores possuem um circuito eletrônico organizado em duas placas de circuito impresso, um módulo de LCD e um ou dois módulos de sensores de pressão, todas estas placas são instaladas dentro de um invólucro de alumínio. As baterias utilizadas para alimentar o produto são instaladas em um compartimento separado das placas, e as baterias que podem ser utilizadas com o produto estão listadas neste certificado.

Parâmetros do equipamento:

Entrada	Saída
$U_i = 30 V_{cc}$	$U_o = 9,9 V_{cc}$
$I_i = 100 mA$	$I_o = 2,62 mA$
$P_i = 0,75 W$	$P_o = 6,5 mW$
$C_i = 0$	$C_o = 3,2 uF$
$L_i = 0$	$L_o = 100 uH$

### 5. CONDIÇÕES PARA A CERTIFICAÇÃO

- Este certificado é válido apenas para o equipamento de modelo idêntico ao equipamento efetivamente ensaiado. Quaisquer modificações no projeto, bem como a utilização de componentes e/ou materiais diferentes daqueles definidos pela documentação descritiva do equipamento, sem a prévia autorização da NCC, invalidarão este certificado.
- Ensaio de tipo, avaliação e aprovação do Sistema de Gestão da Qualidade do fabricante, seguido de um acompanhamento a cada 18 meses, por meio de auditorias, do controle da qualidade da fábrica.
- O usuário tem responsabilidade de assegurar que o produto será instalado/utilizado em atendimento às instruções do fabricante e às normas pertinentes em instalações elétricas em atmosferas explosivas.
- As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos equipamentos são de responsabilidade dos usuários e devem ser executadas de acordo com os requisitos das normas técnicas vigentes e com recomendações do fabricante.

Certificado emitido por:  
Certificate issued by:

Associação NCC Certificações do Brasil  
Acreditação CGCRE n° 0034 (16/10/2003)  
[www.ncc.org.br](http://www.ncc.org.br)  
Brasil





# Certificado de Conformidade Ex

Ex Certificate of Conformity

## Modelo com Avaliação do Sistema de Gestão da Qualidade do Processo de Produção e Ensaios no Produto

Model with Assessment of Quality Management System of Production Process and Test on Product

Certificado Nº:

NCC 12.1049 X

Certificate Nº:

Revisão:

0

Issued:

Data de validade:

11/09/2015

Validity date:

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E. O equipamento listado deverá passar pelo(s) seguinte(s) ensaio(s) de rotina:

N/A

F. O equipamento listado deverá apresentar a(s) seguinte(s) marcação(ões) de advertência:

Não troque a bateria e não utilize a USB em áreas classificadas

G. A letra X no número do certificado indica a(s) seguinte(s) condição(ões) especial(is) para uso seguro:

O produto somente pode operar com as baterias descritas abaixo:

- Varta High Energy; 9V; 4922 E Block; 6LR61; 6AM6; MN 1604
- Duracell Pile Alkaline; 9V; MN 1604; 6L, R61
- Energizer 9V; Size 522, 6LR31.6AM6
- Energizer Industrial Lithium 9V; Format 522FP; 6LR31.6AM6

### 6. DOCUMENTAÇÃO DESCRITIVA DO EQUIPAMENTO (CONFIDENCIAL)

Documento	Rev.	Documento	Rev.
30 SERIES-ASY	A	4364-BOM	B
1655-ASY	A	4364-PCA	B
2643	D	4436	B
4312-SCH	A	4437-ASY	A
4313-BOM	A	4463-ASY	A
4313-PCA	A	IS90 Series - BOM	A
4321-SCH	B	SCD 25213	D
4347	A	SCD 22156	J

### 7. DETALHAMENTO DAS REVISÕES

Revisão	Nº do processo	Certificado	Data da emissão	Descrição
0	17220/12.3	NCC 12.1049 X	11/09/2012	Emissão Inicial

### FIM DO CERTIFICADO

End of the certificate

Certificado emitido por:

Certificate issued by:

Associação NCC Certificações do Brasil  
Acreditação CGCRE nº 0034 (16/10/2003)

[www.ncc.org.br](http://www.ncc.org.br)

Brasil





# Certificate of Compliance

**Certificate:** 1097923

**Master Contract:** 187869

**Project:** 2578467

**Date Issued:** May 16, 2013

**Issued to:** Crystal Engineering Corp.

708 Fiero Lane, Suite 9  
San Luis Obispo, CA 93401  
USA  
Attention: Janine White

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



*John Yam*

Issued by: John Yam

## **PRODUCTS**

**CLASS 2258 04** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

**CLASS 2258 84** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - - For Hazardous Locations - Certified to US Standards

## **Class I, Division 1, Groups A, B, C and D**

### **Part A:**

Model 3x, IS3x, PC3xis, IS9x, and PCL3x, Pressure Calibrator; Intrinsically Safe; Battery Powered (Eveready P/N 216 & Duracell P/N 1604); Temperature Code T4; Maximum pressure 36 PSI (low) & 3000 PSI (High). The mA connectors have the following Entity Parameters:

V <sub>max</sub> = 30V	V <sub>oc</sub> = 5V
I <sub>max</sub> = 100mA	I <sub>sc</sub> = 400mA
C <sub>i</sub> = 2.3uF	C <sub>a</sub> = 0.135uF
L <sub>i</sub> = 0mH	L <sub>a</sub> = 100uH



**Certificate:** 1097923

**Master Contract:** 187869

**Project:** 2578467

**Date Issued:** May 16, 2013

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Note: The x in the Model number designates changes in the internal pressure sensors, membrane keypad, mA connector option, and different pressure sensors.

**Part B:**

30 Series, 90 Series Digital Pressure Calibrator, Intrinsically Safe; Temperature Code T4/T3C, Ta= +50°C max.; Maximum pressure: 36 PSI (low) & 5000 PSI (High).

Battery Powered by:

Varta High Energy Alkaline; 9V; 4922 – Temperature Code T3C

Duracell Pile Alkaline; 9V; MN 1604 – Temperature Code T4

Energizer/Eveready Alkaline 9V; 522 – Temperature Code T4

Energizer/Eveready Industrial Lithium 9V; 522FP – Temperature Code T4

The mA connectors have the following Entity Parameters:

$U_i = 30V$

$U_o = 9.9V$

$I_i = 100mA$

$I_o = 2.62mA$

$P_i = 0.75W$

$P_o = 6.5mW$

$C_i = 0\mu F$

$C_a = 3.2\mu F$

$L_i = 0mH$

$L_a = 100\mu H$

Note: The series family can be customized through the use of disable, enable software, or modify a variety of features that has either 1 or 2 pressure ports, and changes in the internal pressure sensors, membrane keypad, and different pressure sensors.

**APPLICABLE REQUIREMENTS**

CSA Standard C22.2 No. 0-10 - General Requirements  Canadian Electrical Code Part II.

CSA Standard C22.2 No. 157-M1992 - Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.

UL 913, Seventh Edition - Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, III, Division 1, Hazardous (Classified) Locations.