




# DET NORSKE VERITAS

## EC-TYPE EXAMINATION CERTIFICATE

- [2] **EQUIPMENT OR PROTECTED SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 94/9/EC**
- [3] EC-Type Examination Certificate Number: **DNV-2007-OSL-ATEX-3697X**
- [4] Equipment or Protective System: **Pressure Transducers, Model 311.I..... and Model 370.I.....**
- [5] Applicant – Manufacturer or Authorized representative: **GP:50**
- [6] Address: **2770 Long Road, Grand Island, NY  
14072 USA**
- [7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- [8] DNV, notified body number 0575 in accordance with Article 9 of Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential report no. : **2007-3242**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:  
**EN 60079-0: 2004 & EN 60079-11: 1999**
- [10] If the sign “X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protected system. If applicable, further requirements of this Directive apply to the manufacturer and supply of this equipment or protective system.
- [12] The marking of the equipment or protective system shall include the following :

 II 1 G EEx ia IIC T5, -40 °C ≤ T<sub>a</sub> ≤ +85 °C

Høvik, 2007-06-26  
for Det Norske Veritas Certification AS

  
Marianne Spæren  
Certification Manager



  
for Håkon S. Håkonsen  
Technical Reviewer

Notice: This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



[13]

### Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE No.: DNV-2007-OSL-ATEX-3697X

[15] **Description of Equipment or Protective System**

The Model 311 and 370 are pressure transmitters that output a continuous 4-20mA loop signal correspondent to a measured pressure. Both models utilize the same electronics, and differ only in the mechanical construction

**Type Identification**

**Model 311a1bcdefgh, where:**

a = Approvals:

- A, ATEX, IEC
- G, ATEX, IEC, FM, CSA

b = Accuracy:

- B - ± 0.5% FSO
- C - ± 0.2% FSO
- D - ± 0.1% FSO

c = Non-standard range (where applicable, range other than std. sensors or psi):

SZ

d = Standard sensor ranges (psi):

PJ	0-5	PO	0-25	RE	0-250	RR	0-2000	SD	0-20000
PL	0-7.5	PT	0-30	RF	0-300	RS	0-2500	SF	0-30000
PN	0-10	PV	0-50	RH	0-500	RT	0-3000	SH	0-50000
PP	0-15	PX	0-75	RJ	0-600	RV	0-5000	SK	0-75000
PQ	3-15	PZ	0-100	RK	0-750	RX	0-7500		
PR	0-20	RB	0-150	RM	0-1000	RZ	0-10000		
PS	3-27	RD	0-200	RO	0-1500	SB	0-15000		

e = Pressure reference:

- 2 - Gauge
- 3 - Absolute
- 4 - Vacuum
- 6 - Sealed Gauge
- 8 - Elevated Zero
- 9 - Other
- 10 - Compound

f = Alternate Connectors (approved per satisfactory dielectric test):

- Bx (where x = A - Z)
- Cx (where x = A - Z)
- Dx (where x = A - Z)



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g = Alternate Pressure Ports:

Fx (where x = A – Z)

Ix (where x = A - Z)

Lx (where x = A – Z)

h = Options:

GC - Special calibration run

GD - 10X overpressure (or 22,500 whichever is less)

GE - Improved temp. compensation

GG - Alternate calibration signal (NC std. shunt)

GH - 100% of FSPR shunt calibration (NC std. shunt)

GJ - Zero and Span adjustments

GK - Inconel wetted parts

GL - Cleaned for oxygen service

GP - Hastelloy C-276 wetted parts

GR - Rangeability via zero and span adjusts

GY - 316 SST wetted parts

HE - Improved zero balance

HX - Hastelloy diaphragm only

JP - Type 316L wetted parts

JS - Internal damping

JY - Zero balance  $\geq 4.0$  mA

ME - 80% of FSPR shunt calibration (NC std. shunt)

NB - Powered isolated shunt calibration

NC - Non-powered isolated shunt calibration

An – Customer modification, where “n” represents a sequential number starting with 1 (e.g. A1, A2, A3,...An). Controlled document that combines multiple option codes to minimize extended part number or for specific customer requirements that do not affect approved design as reviewed by Authorized Person.

**Model 370albcdef, where:**

a = Approvals:

A, ATEX, IEC

G, ATEX, IEC, FM and CSA

b = Sensors:

A - 1502 WECO, Inconel X750

B - 2002 WECO, Inconel X750

C - 2202 WECO with Inconel 718, NACE MR0175 compliant

D - 1502 WECO with Inconel 718, NACE MR0175 compliant

E - 1502 Compatible, Inconel X750

F - 1502 Compatible, Inconel 718, NACE MR0175 compliant

c = Nonstandard range (where applicable, range other than std. sensors or psi):

SZ





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d = Standard sensor ranges:

RV – 5000 psi  
RW – 6000 psi  
RX – 7500 psi  
RZ – 10,000 psi  
SB – 15,000 psi  
SD – 20,000 psi

e = Alternate Connectors (approved per satisfactory dielectric test):

Bx (where x = A – Z)  
Cx (where x = A – Z)  
Dx (where x = A – Z)

f = Options:

GB – Alternate Electronic output  
GC – Special calibration run  
GE – Improved temperature compensation  
GG – Nonstandard shunt cal value  
GJ - Zero and span adjustments (Z & S)  
HE – Improved zero balance  
JS – Internal damping  
ME – 80% shunt cal  
MR – Alternate wiring  
NC – Comparator shunt cal (100% standard)  
NG - Removable carry handle  
NH - Non-removable welded carry handle  
QX – Extended operating temperature (-45F to 400F process, -45F to 185F electronics)  
QY – Remove shunt cal  
A(1-X) – Customer modification, begin with A1 and up, X can be a multi-digit number. Controlled document that combines multiple option codes to minimize extended part number or for specific customer requirements that do not affect approved design as reviewed by Authorized Person.

**Electrical Data**

Pi=0.7W, Ui=28V, Ii=100mA, Ci=27.2nF, Li=0

**Degrees of protection (IP Code)**

IP20

[16] **Report No.:** 2007-3242

**Project No.:** PRJC-05231-2007-PRC-NOR





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### Descriptive Documents

Number	Title	Rev.	Date
A8AD-311AI.A	Approval Summary Document, Model 311AI/GI (11 pages)	Orig.	2007-03-06
8C1-55.01-2	ATEX/IEC Intrinsic Safety Models 311 AI/GI	-	2007-03-12
A8AD-370AI.A	Approval Summary Document, Model 370AI/GI (10 pages)	Orig.	2007-03-06
8C1-55.00-2	ATEX/IEC Intrinsic Safety Models 370 AI/GI	-	2007-03-12
A3MG-33.10	Stencil Format Requirements for Model 370AI Transducers (3 pages)	Orig.	2007-06-07
A3MG-33.11	Stencil Format Requirements for Model 370AI Transducers (3 pages)	Orig.	2007-06-07
A3MG-39.10	Stencil Format Requirements for Model 311AI Transducers (3 pages)	Orig.	2007-06-07
A3MG-39.11	Stencil Format Requirements for Model 311AI Transducers (3 pages)	Orig.	2007-06-07
8W9-52.00-2	PC Board, Signal Conditioning Board	A1	2007-03-12
8W9-57.00-2	PC Board, 2 Layer, Intrinsic Safety Barrier	1	2007-03-12
8W9-53.00-2	PC Board, 2 Layer, Bridge Amp Board	1	2007-03-12
8W9-59.00-2	Printed Circuit Board, Compensation	A1	2007-03-12

[17] **Special Conditions for Safe Use**  
Equipment does not provide 500V isolation to the housing.

[18] **Essential Health and Safety Requirements**  
See part 9 of this certificate

END OF CERTIFICATE

