

# 1 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 No: FM12ATEX0029X

4 Equipment or protective system: ST700 and ST800 Pressure Transmitters  
(Type Reference and Name) *STD.. Differential Pressure Transmitter*  
*STG.. Gauge Pressure Transmitter*  
*STA.. Absolute Pressure Transmitter*  
*STR.. Remote Seal Pressure Transmitter*  
*STF.. Flange Mounted Liquid Level Transmitter*

5 Name of Applicant: Honeywell International – Honeywell Field Solutions

6 Address of Applicant: 512 Virginia Avenue  
Fort Washington, PA 19034  
USA

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

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 confidential report number:

3042224EC dated 08<sup>th</sup> June 2012

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2009, EN 60079-1:2007, EN 60079-26:2007, EN 60079-31:2009 & EN 60529:1991 + A1:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment 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, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 1/2 G Ex d IIC T4 Ta= -50°C to 85°C, or when fitted with display, Ta= -20°C to 70°C; IP66 / IP67  
II 2 D Ex tb IIIC T95°C Ta= -50°C to 85°C, or when fitted with display, Ta= -20°C to 70°C

**Mick Gower**  
Certification Manager, FM Approvals Ltd.

Issue date: 16<sup>th</sup> August 2013

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# SCHEDULE



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## 13 Description of Equipment or Protective System:

The ST700 and ST800 Pressure Transmitters are electronic industrial process pressure measurement instruments used to convert pressure to an electrical signal.

The ST700 and ST800 Pressure Transmitter enclosure is a two compartment enclosure separated by a dividing wall comprising a terminal compartment, intended for field wiring purposes, and an electronics compartment, containing the electronic circuit boards. The ST700 and ST800 process pressure sensors are of a totally welded construction in various metals to meet the requirements of the intended application.

Electrical Rating: 11 to 42 Volts DC, with 4 – 20 mA output.

### Model Codes:

#### ***STDa-bcdefgh-i-A-jkl-mno-p-qrs-t-v. ST700 and ST800 Differential Pressure Transmitter***

a = Span: 810, 820, 825, 830, 870, 720, 730, 770

b = Materials of Construction: A, B, C, D, 1, 2, 3, E, F, G, H, 4, 5, 6, J, K, 7, 8, L, X, 9

c = Fill Fluid: 1, 2, 3, 4

d = Adapter Flange and Bolt Kit: A, H, B

e = Bolt Materials: C, S, N, K, M, D, B

f = Vent/ Drain Type/ Location: 1, 2, 3, 4, 5, 6, 7

g = Static Pressure: S, H

h = Gasket Material: A, B, C

i = Head/ Connect Orientation: 1, 2, 3

j = Electronic Housing Material and Entry Type: A, B, C, D, E, F, G, H

k = Output/ Protocol: H, D, F, P

l = Customer Interface Selections: 0, A, B, C, D, E, F, G, H, J

m = Application Software: 1, 2, 3, 4

n = Output Limit, Failsafe & Write Protect Settings: 1, 2, 3, 4, 5, 6

o = General Configuration: S, C

p = Accuracy and Calibration: A, B, C, D, E, F, G, H

q = Mounting Bracket: 0, 1, 2, 3, 4, 5, 6, 7

r = Customer Tag: 0, 1, 2

s = Conduit Plugs & Adapters: A0, A2, A6, A7, A8, A9

t = General Options: Any two digit numeric code, separated by comma

v = Factory Identification: AAAA to 9999 (Any four digit alphanumeric code) for internal factory use

#### ***STGa-bcdefg-h-A-jkl-mno-p-qrs-t-v. ST700 and ST800 Gauge Pressure Transmitter***

a = Span: 830, 840, 870, 83L, 84L, 87L, 88L, 89L, 730, 740, 770, 73L, 74L, 77L, 78L, 79L

b = Materials of Construction: A, B, C, D, 1, 2, 3, E, F, G, H, 4, 5, 6, J, K, 7, 8, L

c = Fill Fluid: 1, 2, 3

d = Process Connection: A, G, H, D

e = Bolt Materials: 0, C, S, N, K, M, D, B

f = Vent/ Drain Type/ Location: 1, 2, 3, 4, 5, 6, 7

g = Gasket Material: 0, A, B, C

h = Head/ Connect Orientation: 1, 2, 3

j = Electronic Housing Material and Entry Type: A, B, C, D, E, F, G, H

k = Output/ Protocol: H, D, F, P

l = Customer Interface Selections: 0, A, B, C, D, E, F, G, H, J

m = Application Software: 1, 2, 3, 4

n = Output Limit, Failsafe & Write Protect Settings: 1, 2, 3, 4, 5, 6

o = General Configuration: S, C

p = Accuracy and Calibration: A, B, C, D, E, F, G, H

q = Mounting Bracket: 0, 1, 2, 3, 4, 5, 6, 7

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r = Customer Tag: 0, 1, 2  
s = Conduit Plugs & Adapters: A0, A2, A6, A7, A8, A9  
t = General Options: Any two digit numeric code, separated by comma  
v = Factory Identification: AAAA to 9999 (Any four digit alphanumeric code) for internal factory use

## **STAA-bcdefg-h-A-jkl-mno-p-qrs-t-v. ST700 and ST800 Absolute Pressure Transmitter**

a = Span: 822, 840, 82L, 84L, 722, 740, 72L, 74L, 77L  
b = Materials of Construction: A, B, C, D, 1, 2, 3, E, F, G, H, 4, 5, 6, J, K, 7, 8, L  
c = Fill Fluid: 1, 2, 3  
d = Process Connection: A, G, H, D  
e = Bolt Materials: 0, C, S, N, K, M, D, B  
f = Vent/ Drain Type/ Location: 0, 1, 2, 3, 4, 5, 6, 7  
g = Gasket Material: 0, A, B, C  
h = Head/ Connect Orientation: 1, 2, 3  
j = Electronic Housing Material and Entry Type: A, B, C, D, E, F, G, H  
k = Output/ Protocol: H, D, F, P  
l = Customer Interface Selections: 0, A, B, C, D, E, F, G, H, J  
m = Application Software: 1, 2, 3, 4  
n = Output Limit, Failsafe & Write Protect Settings: 1, 2, 3, 4, 5, 6  
o = General Configuration: S, C  
p = Accuracy and Calibration: A, B, C, D, E, F, G, H  
q = Mounting Bracket: 0, 1, 2, 3, 4, 5, 6, 7  
r = Customer Tag: 0, 1, 2  
s = Conduit Plugs & Adapters: A0, A2, A6, A7, A8, A9  
t = General Options: Any two digit numeric code, separated by comma  
v = Factory Identification: AAAA to 9999 (Any four digit alphanumeric code) for internal factory use

## **STFa-bcdefg-hijk-A-lmn-opq-s-tvw-x-yyyy. ST700 and ST800 Flange Mounted Liquid Level Transmitter**

a = Span: 828, 840, 82F, 83F, 722, 740, 72F, 74F  
b = Material of Construction: A, W, B, C, E, X, F, G, J, L, M, N, R, S, 1, 2, 3, 4, 5, 6  
c = Fill Fluid: 1, 2, 3  
d = Process Connection: A, C, H, K  
e = Bolt Materials: C, S, N, B  
f = Vent/ Drain Type/ Location: 1, 2, 3, 4, 5, 6  
g = Gasket Material: A, B  
h = Head/ Connect Orientation: 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, Q, U, V, H, J, K, L, M, N, W, X, Y, S, T, P, R  
j = Gasket Ring: 0, F, C, D, E  
k = Extension: 0, F, C, D, E  
l = Electronic housing Material and Entry type: A, B, C, D, E, F, G, H  
m = Output/ Protocol: H, D, F, P  
n = Customer Interface Selections: 0, A, B, C, D, E, F, G, H, J  
o = Application Software: 1, 2, 3, 4  
p = Output limit, failsafe & Write Protect: 1, 2, 3, 4, 5, 6  
q = General Configuration: S, C  
s = Accuracy and Calibration: A, B, C, D, E, F, G, H  
t = Mounting Bracket: 0, 1, 2, 3, 4, 5, 6, 7  
v = Customer tag: 0, 1, 2  
w = Conduit Plugs & Adapters: A0, A2, A6, A7, A8, A9,  
x = General Options: Any two digit numeric code, separated by comma  
y = Factory Identification: AAAA to 9999 (Any four digit alphanumeric code) for internal factory use

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## **STRa-bcd-ef0ghijkl-A-mnp-qrs-t-vwx-y-z. ST700 and ST800 Remote Seal Pressure Transmitter**

a = Span: 82D, 83D, 840, 84G, 87G, 73D, 74G

b = Number of Seals: 1, 2, 3, 5

c = Fill Fluid: 1, 2

d = Construction: A, D, C

e = Secondary Fill: 0, 1, 2, 3, 4, 5

f = Connection of Remote Seal to Meter Body: 0, A, B, C, D, E, F, G, H, J, K, L, M, 2

g = Flush Flanged Seal: AFA, AFC, AFM, BCA, BCC, BGA, BGC, BDA, BDC, BFA, BFC, CAA, CCA, CCC, CGA, CGC, CDA, CDC, DAA, DCA, DCC, DGA, DGC, DDA, DDC, DFA, DFC, EFA, EFC, EFM, FGA, FGC, FGP, GFA, HMO, JJG, JKG, JLG, KJG, KKG, KLG, LJG, LKG, LLG, MD0, NE0, PF0, QG0, RFK, RGK, RPK, RQK

h = Wetted Material: AA, AB, AC, AE, AF, BA, BB, BC, BE, BF, BG, BH, EA, EB, EC, GA, GB, GC, GE, GG, HA, HB, HC, JA, JB, JC, JC, JD, JE, JF, JG, NA, RA, RB, RC, RD, SB, SC

i = Non-Wetted Material: 0, 1, 2, 4, 5, 7, 8, A, B, C

j = Bolts/ Capillary Connection: 0, 1, 2, C, D

k = Styles: 0, 2, 4, 6, 8, A, B, C, D, H, J, M, N, P, Q, R, S

l = Gasket Material: 0, G, H, J, K, L, M, N, P, Q, R, S, T

m = Electronic Housing Material and Entry Type: A, B, C, D, E, F, G, H

n = Output/ Protocol: H, D, F, P

p = Customer Interface Selections: 0, A, B, C, D, E, F, G, H, J

q = Application Software: 1, 2, 3, 4

r = Output Limit, Failsafe & Write Protect Settings: 1, 2, 3, 4, 5, 6

s = General Configurations: S, C

t = Accuracy and Calibration: A, B, C, D, E, F, G, H

v = Mounting Bracket: 0, 1, 2, 3, 4, 5, 6, 7

w = Customer Tag: 0, 1, 2

x = Conduit Plugs & Adapters: A0, A2, A6, A7, A8, A9

y = General Options: Any two digit numeric code, separated by comma

z = Factory Identification: AAAA to 9999 (Any four digit alphanumeric code) for internal factory use.

### 14 **Special Conditions for Safe Use:**

1. The painted surface of the equipment may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the painted surface is relatively free of surface contamination such as dirt, dust, or oil. Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32 (in preparation). Cleaning of the painted surface should only be done with a damp cloth.
2. The ambient temperature range, maximum process temperature and applicable temperature class of the equipment is as follows;  
T4 for  $-50^{\circ}\text{C} < T_a < 85^{\circ}\text{C}$   
T4 for  $-20^{\circ}\text{C} < T_a < 70^{\circ}\text{C}$  with display  
Maximum process temperature =  $125^{\circ}\text{C}$
3. Consult the manufacturer for dimensional information on the flameproof joints for repair.
4. The Transmitter can be installed in the boundary wall between an area of Category 1 and the less hazardous area, Category 2. In this configuration, the process connection is installed in Category 1 while the transmitter housing is installed in Category 2.

### 15 **Essential Health and Safety Requirements:**

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

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## 16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

## 17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

## 18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
11 <sup>th</sup> June 2012	Original Issue.
16 <sup>th</sup> August 2013	<u>Supplement 1:</u> Report References: 3042224rev120920 dated 25 <sup>th</sup> June 2013, 3042224rev121106 dated 26 <sup>th</sup> June 2013, and 3042224rev130211 dated 2 <sup>nd</sup> July 2013. Description of the Change: Update Documentation, update documentation for the addition of Foundation Fieldbus/Profibus Electronics and update of documentation for the addition of ST800 Flange Mount, and also the addition of the ST700 Series.

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## Blueprint Report

### Honeywell International - Honeywell Field Solutions (100000921)

Class No 3615

Original Project I.D. 3042224

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
30752785	22	"O" Ring (TAB 146 and TAB 130)	3042224	Yes (pdf)
30756916	2	Cup terminal, Wire Keeper	3042224	Yes (pdf)
50028178	B	Ground Clamp Transmitter	3042224	Yes (pdf)
50049827	B	Cap Machining	09/20/12	Yes (pdf)
50049829	B	Meter Cap Machining	09/20/12	Yes (pdf)
50049830	A	Tempered Glass	09/20/12	Yes (pdf)
50049831	A6	Retainer, Glass	3042224	Yes (pdf)
50049835	C	Adapter Machining	09/20/12	Yes (pdf)
50049903	A	Transmitter Housing Machining	09/20/12	Yes (pdf)
50049916	C	Serial Number Nameplate	09/20/12	Yes (pdf)
50059984	A	Cement, DOW Corning RTV- 734	3042224	Yes (pdf)
51196688	E	Pan Head Phillips/ Slotted	3042224	Yes (pdf)
51309673	D	Sensor Header Assembly	3042224	Yes (pdf)
51404837	F	Restrictor, S100, S900	3042224	Yes (pdf)
30353122	27	Plastic Caplug	3042224	Yes (pdf)
34-ST-25-35	1	ST 800 Pressure Transmitter User Manual	3042224	Yes (pdf)
50000682	C	Adapter 1/2 NPT Male to 3/4 NPT Female	3042224	Yes (pdf)
50021832	D	Plug, Pipe Headless Socket	3042224	Yes (pdf)
50049712	A	MOA, Meter Body AP, DP, GP, MUX & SMV	3042224	Yes (pdf)
50049713	C	Meter Body Assembly AP, DP, GP & SMV CFF	09/20/12	Yes (pdf)
50049716	A	Meter Body Assembly, LGP/LAP	3042224	Yes (pdf)
50049717	A3	50049717_A3.pdf	02/11/13	Yes (pdf)
50049719	A3	50049719_A3.pdf	02/11/13	Yes (pdf)
50049826	A	Short Cap Die Casting	09/20/12	Yes (pdf)
50049828	A	Meter Cap Die Casting	09/20/12	Yes (pdf)
50049840	A	Terminal Block Molding Pressure Hart / DE	3042224	Yes (pdf)
50049881	A3	Short Cap Stainless Steel Casting	3042224	Yes (pdf)
50049882	A3	End Cap Machining, Stn Stl, Solid	3042224	Yes (pdf)
50049883	A3	End Cap Casting Stainless Steel, Meter	3042224	Yes (pdf)
50049884	A3	End cap Machining Stn Stl, Meter	3042224	Yes (pdf)
50049888	A	Agency Nameplate FM and CSA	09/20/12	Yes (pdf)
50049889	A	Agency Nameplate ATEX	09/20/12	Yes (pdf)
50049902	A	Transmitter Housing Aluminum Die Casting	09/20/12	Yes (pdf)
50049916	C	Top Nameplate Blank	09/20/12	Yes (pdf)
50049918	A1	Transmitter Housing Casting, Stn Stl, Pressure	3042224	Yes (pdf)
50049919	A1	Transmitter Housing Machining, Stn Stl, Pressure	3042224	Yes (pdf)
50064345	C	ST800 Series Pressure Transmitter for Explosion-proof/ Flameproof Certification for FM, ATEX and IECEx	02/11/13	Yes (pdf)
50064346	B	ST 6000 Agency Drawing	11/06/12	Yes (pdf)
50071726	A2	Top Nameplate Blank	3042224	Yes (pdf)
50077401	A1	50077401_A1.pdf	02/11/13	Yes (pdf)
50077521	A3	50077521_A3.pdf	02/11/13	Yes (pdf)
50077544	A2	50077544_A2.pdf	02/11/13	Yes (pdf)
Addendum 34-ST-25-35	1 June 2012	Addendum (to User's Manual 34-ST-25-35)	3042224	Yes (pdf)
S-12927-C	33	Date Coding & Serialization	3042224	Yes (pdf)