

1 EU-TYPE EXAMINATION CERTIFICATE



2 **Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No:** FM12ATEX0029X

4 **Equipment or protective system:
(Type Reference and Name)** ST700 and ST800 Pressure Transmitters
STD.. Differential Pressure Transmitter
STG.. Gauge Pressure Transmitter
STA.. Absolute Pressure Transmitter
STF.. Flange Mounted Liquid Level Transmitter
STR.. Remote Seal Pressure Transmitter
50075472-a Retrofit Kits

5 **Name of Applicant:** Honeywell International – Honeywell Field Solutions

6 **Address of Applicant:** 512 Virginia Dr
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 17 of Directive 2014/34/EU of 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 confidential report number:

3042224EC dated 08th 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 60079-0:2012 +A11:2013, EN 60079-1:2014, EN 60079-26:2015,
EN 60079-31:2014, EN 60529:1991 + A1:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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.



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Mick Gower
Certification Manager, FM Approvals Ltd.

Issue date: 20th October 2017

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F ATEX 020 (Apr/16)

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



II 1/2 G Ex db IIC T5 Ta= -50°C to 85°C, T6 Ta=-50°C to 65°C Ga/Gb;
II 2 D Ex tb IIIC T95°C Ta= -50°C to 85°C Db
IP66 / IP67

13 **Description of Equipment or Protective System:**

General - 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 The ST700LE (Line Extension) is a variant of the ST700 Pressure Transmitter that uses different electronics than ST700.

Construction - The enclosure is comprised of a Main Housing and two End Caps. The Main Housing is a cylindrical "T" shape with the cylindrical part of the Main Housing being approximately 60mm in diameter by 80mm in length. The approximate overall dimensions are 133mm (across the covers) by 110mm (across the conduit entries) by 124mm high. The Main Housing is provided with both an internal and an external ground screw. End Caps are fitted to the Main Housing using an M70 x 1.5-6g thread. The free internal volume of the Main Housing with two solid End Caps is approximately 280 cm³. When one solid End Cap and one windowed End Caps are installed, the free internal volume is approximately 288 cm³. The conduit entries are machined into the Main Housing with either a 1/2" NPT or M20 thread. The enclosure can alternatively be provided with a 3/4" NPT by the use of a 1/2" NPT to 3/4" NPT stainless steel adapter. Unused openings are filled with a plug. The entrance of dust and water is prevented by silicone O-rings. Each End Cap uses an O-ring with a 66.4mm inside diameter. The Adapter opening uses an O-ring with a 40.94 mm inside diameter. The non-metallic parts of the enclosure include the O-rings and a fully tempered, 10mm thick clear glass window that is 60mm in diameter. There are five different Meter Body styles. The absolute Pressure, Differential Pressure, Gauge Pressure, Flange Mount and Remote seals.

Ratings - The Model ST700 and ST800 Pressure Transmitters operate at 11 to 42 Volts DC, with 4 – 20 mA output.

Model Codes:

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

a = Span: 810, 820, 825, 830, 870, 720, 730, 770, 725**, 735**, 775**

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, S**, T**

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

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

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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*

No Asterisk = for use in ST700 and ST800 Only

* = for use in all Models

** = for use in ST700LE only

STGa-bcdefg-h-C-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, 735**, 745**, 775**, 73S**, 74S**, 77S**, 78S**, 79S**

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, 4

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

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, S**, T**

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*

No Asterisk = for use in ST700 and ST800 Only

* = for use in all Models

** = for use in ST700LE only

STAA-bcdefg-h-C-jkl-mno-p-qrS-t-v. ST700 and ST800 Absolute Pressure Transmitter

a = Span: 822, 840, 82L, 84L, 722, 740, 72L, 74L, 77L, 725**, 745**, 72S**, 74S**, 77S**

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*, B**

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, S**, T**

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*

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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*

No Asterisk = for use in ST700 and ST800 Only

* = for use in all Models

** = for use in ST700LE only

STFa-bcdefg-hjk-C-lmn-opq-s-tvw-x-y. ST700 and ST800 Flange Mounted Liquid Level Transmitter

a = Span: 828, 840, 82F, 83F, 722, 740, 72F, 74F, 725**, 735**, 72P**, 73P**
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, 4
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*, Z**, S, T, P, R
j = Gasket Ring: 0*, F, C, D, E, 1**, 2**, 5**
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, S**, T**
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*

No Asterisk = for use in ST700 and ST800 Only

* = for use in all Models

** = for use in ST700LE only

STRa-bcd-ef0ghijkl-C-mnp-qrs-t-vwx-yy-aa-ab. ST700 and ST800 Remote Seal Pressure Transmitter

a = Span: 82D, 83D, 840, 84G, 87G, 73D, 74G, 75D**, 84G**
b = Number of Seals: 1*, 2*, 3*, 5
c = Primary Fill Fluid: 1*, 2*, 3, 4
d = Construction: A*, D*, C*, D**, E**
e = Bolts and nuts for Transmitter Heads: 0**, C**, S**, N**
f = Secondary Fill: 0*, 1*, 2*, 3*, 4*, 5*
g = Connection of Remote Seal to Meter Body: 0*, A*, B*, C*, D*, E*, F*, G*, H*, J*, K*, L*, M*, 2*
h = Seal Option: 0**, 1**, 4**
i = 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*,

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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*

j = 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*, 8**

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

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

m = Styles-Flush Connections and Plugs: 0*, 2, 4, 6, 8, A, B, C, D, H*, J*, M*, N*, P*, Q*, R*, S*

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

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

q = Output/ Protocol: H*, D, F, P

r = Customer Interface Selections: 0*, A*, B, C, D, E, F, G, H, J, S**, T**

s = Application Software: 1*, 2, 3, 4

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

v = General Configurations: S*, C*

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

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

y = Customer Tag: 0*, 1*, 2

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

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

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

No Asterisk = for use in ST700 and ST800 Only

* = for use in all Models

** = for use in ST700LE only

50075472-a Retrofit Kits, ST700 and ST800 Transmitter Retrofit Kits

a = Kit (Indicator, Protocol or Terminal) 501 through 537

14 **Specific Conditions of 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 applicable temperature class, ambient temperature range and maximum process temperature of the equipment is as follows;
T5 for -50°C < Ta < 85°C
T6 for -50°C < Ta < 65°C
Maximum process temperature = 125°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.
5. The retrofit kit shall be installed in accordance with Instructions 34-ST-33-64, 34-ST-33-65, 34-ST-33-69.
6. The Transmitter maintains the environmental ratings that existed prior to the installation of the retrofit kit.
7. The separation element is the diaphragm of the Meterbody. This is defined by the Model selection as shown in section 1.3 of this manual by the first digit of the "TABLE 1" field. Selection of the diaphragm shall be suitable for the environment and application of the equipment is to be used.

Note: Conditions 1 through 4 above not applicable for 50075472-a Retrofit Kits.

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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.

16 Test and Assessment Procedure and Conditions:

This EU-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 th June 2017	Original Issue.
16 th August 2013	Supplement 1: Report References: 3042224rev120920 dated 25 th June 2013, 3042224rev121106 dated 26 th June 2013, and 3042224rev130211 dated 2 nd 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.
12 th March 2014	Supplement 2: Report References: 3042224rev131118 dated 3 rd March 2014. Description of the Change: Update documentation and addition of the Honeywell System Sensor de Mexico facility in Juarez, Mexico (QAN # DEKRA 13ATEXQ0161) as another manufacturing facility.
13 th April 2015	Supplement 3: Report References: 3042224rev141119 dated 8 th April 2015. Description of the Change: Update documentation and addition of Fill Fluid options.
6 th July 2015	Supplement 4: Report References: RR200561 dated 26 th June 2015. Description of the Change: Adjust T code, correct model code structure, updated 'Specific Conditions of Use', updated EN 60079-0 to 2012 edition and updated associated documents.
10 th March 2016	Supplement 5: Report References: RR203935 dated 29 th February 2016. Description of the Change: Drawing update to include optional 'Simple Display' for ST700.

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Date	Description
28 th April 2017	Supplement 6: Report References: 3059027 dated 17 th April 2017 Description of the Change: Add Retrofit Kit and fix typing error in Specific Conditions of Use. Updated standards used for certification.
6 th July 2017	Supplement 7: Report References: 3058767 dated 28 th June 2017 Description of the Change: Evaluation of alternative O-rings. Updated standards used for certification 'Updated Specific Conditions of Use.
16 th August 2017	Supplement 8: Report References: RR210448 dated 15 th August 2017 Description of the Change: Update CDL with Revised drawing.
20 th October 2017	Supplement 9: Report References: 3059904 dated 17 th October 2017 Description of the Change: Addition of the ST700LE (Line Extension) to Model Code. Update drawings. Revised Product Description

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