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

Certificate No.: IECEx SIR 14.0020X

Issue No: 4

Status: **Current**

Page 1 of 4

Date of Issue: **2018-07-03**

Certificate history:
Issue No. 4 (2018-07-03)
Issue No. 3 (2016-09-05)
Issue No. 2 (2016-01-22)
Issue No. 1 (2015-08-05)
Issue No. 0 (2014-03-27)

Applicant: **Honeywell, Inc.**
512 Virginia Drive
Fort Washington
Pennsylvania 19034
United States of America

Equipment: **Models STT750 and STT850 Series Temperature Transmitters**

Optional accessory:

Type of Protection: **Intrinsically Safe, Flameproof, Type ic, Type ec and Dust Protection by Enclosure**

Marking:

Ex ia IIC T4 Ga Ex ia IIIC T95°C Da FISCO Field Device Ex ia IIC T4 Ga Ta: = -50°C to + 70°C for Ex ia Ta: = -50°C to + 45°C for Ex ia FISCO	Ex db IIC T6...T5 Gb Ex tb IIIC T95°C Db Ta: -50 °C to + 65 °C for Ex db T6 Ta: -50 °C to + 85 °C for Ex db T5 Ta: -50 °C to + 85 °C for Ex tb	Ex ec IIC T4 Gc Ex ic IIC T4 Gc FISCO Field Device: Ex ic IIC T4 Gc Ta: -50 °C to + 85 °C for Ex ec & Ex ic Ta: -50 °C to + 45 °C for Ex ic FISCO
IP66/IP67	IP66/IP67	IP66/IP67

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature:
(for printed version)

Date: 2018-07-03

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.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No:	IECEx SIR 14.0020X	Issue No: 4
Date of Issue:	**2018-07-03**	Page 2 of 4
Manufacturer:	**Honeywell, Inc.** 512 Virginia Drive Fort Washington Pennsylvania 19034 **United States of America**	

Additional Manufacturing location(s):

Honeywell (Tianjin) Ltd
Building 21 JinBin Development
No 156 Nan Hai Rd
TEDA, Tianjin 300457
China

Honeywell Process Solution
Avenida Miguel De La Madrid #8102
Colonia Lote Bravo
Ciudad Juárez, Chihuahua C.P. 32695
Mexico

Honeywell Automation India Limited
Plot No. 3, Gat No. 181
Village Fulgaon
Tai-Haveli, Pune: 412216
Maharashtra
India

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 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 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*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:

GB/SIR/ExTR14.0075/00	GB/SIR/ExTR15.0211/00	GB/SIR/ExTR16.0015/00
GB/SIR/ExTR16.0224/00	GB/SIR/ExTR18.0109/00	

Quality Assessment Report:

NL/DEK/QAR11.0062/02	NL/DEK/QAR12.0078/00	NL/DEK/QAR13.0025/01
NL/KEM/QAR07.0010/03	NL/KEM/QAR10.0017/01	

IECEx Certificate of Conformity

Certificate No:	IECEx SIR 14.0020X	Issue No: 4
Date of Issue:	**2018-07-03**	Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The STT750 and STT850 Temperature Transmitter are assessed for (a) intrinsic safety "i", (b) flameproof "d", (c) dust ignition "t" and (d) type "e" enclosure, Model STT850 is available with two distinct communication options which affect the device ratings as follows. The supply to the STT850 is intended to be fully floating, and is not expected to be connected to an earth return.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to the Annexe

IECEx Certificate of Conformity

Certificate No:	IECEx SIR 14.0020X	Issue No: 4
Date of Issue:	**2018-07-03**	Page 4 of 4

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

This issue, issue 4, recognises the following changes; refer to the certificate annexe to view a comprehensive history:

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-1 Ed. 6 was replaced by IEC 60079-1 Ed. 7; Ex d marking was updated from "d" to "db".
2. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-31:Ed.1 was replaced by IEC 60079-31 Ed. 2.
3. The addition of standard IEC 60079-7; for the introduction of protection method "ec", the marking was amended accordingly.
4. Removal of standards IEC 60079-26 and IEC 60079-15; Ex nA marking has been removed.
5. For Flameproof Ex db version: the T4 Temp Code was changed to T5 and a T6 Temp Code was introduced with reduced maximum ambient temperature; the marking was amended accordingly.
6. Introduction of protection method "ic"; including FISCO, the marking was amended accordingly.
7. Equipment Description was amended to reflect: Changing Type n to Type e in first paragraph, add Ex ic IIC to table, change Ex d to Ex db in table, change Ex nA to Ex ec in table and update the product model designations.
8. Conditions of Manufacture were introduced referencing Ex ic.
9. Condition of Manufacture referencing IEC 60079-15 was amended to call out IEC 60079-7.

Annex:

IECEx SIR 14.0020X Issue 4 Annexe.pdf

Annexe to:	**IECEx SIR 14.0020X Issue 4 Annexe**
Applicant:	**Honeywell, Inc.**
Apparatus:	**Model STT850/STT750 Series Temperature Transmitter**

Equipment:

The STT750 and STT850 Temperature Transmitter are assessed for (a) intrinsic safety "i", (b) flameproof "d", (c) dust ignition "t" and (d) type "e" enclosure, Model STT850 is available with two distinct communication options which affect the device ratings as follows. The supply to the STT850 is intended to be fully floating, and is not expected to be connected to an earth return.

Communication Protocol	Ex ia IIC and Ex ic IIC	Ex db IIC and Ex tb IIIC
HART/DE (No Digital Output Option, Models STT850/STT750)	Ui = 30 Vdc, Ii = 225 mA, Pi = 900 mW, Ci = 4 nF, Li = 0 µH	11 to 42 Vdc, 4 to 20 mA
HART/DE (Digital Output Option, Model STT850 only) Terminals 1 & 2	Ui = 30 Vdc, Ii = 225 mA, Pi = 900 mW, Ci =4 nF, Li = 0 µH	11 to 42 Vdc, 4 to 20 mA
HART/DE (Digital Output Option, Model STT850 only) Terminals 4 & 5	Ui = 27 Vdc, Ii = 30 mA, Pi = 500 mW, Ci =85 nF, Li = 24 µH	11 to 42 Vdc, 4 to 20 mA
Foundation Fieldbus/Profibus (Models STT850/STT750)	Ui = 30 Vdc, Ii = 225 mA, Pi = 1.0 W, Ci = 0 nF, Li = 0 µH	9 to 32 Vdc, 25 mA max.
Foundation Fieldbus/Profibus (FISCO, Models STT850/STT750)	Ui = 17.5 Vdc, Ii = 380 mA, Pi = 5.32 W, Ci = 0 nF, Li = 0 µH	N/A

Communication Protocol	Ex ec IIC
HART/DE (No Digital Output Option, Models STT850/STT750)	11 to 42 Vdc, 4 to 20 mA
HART/DE (Digital Output Option, Model STT850)	11 to 42 Vdc, 4 to 20 mA
Foundation Fieldbus/Profibus	9 to 32 Vdc, 25 mA max.

Models STT750 and STT850 are permanently connected devices intended for remote temperature measurements by means of single or dual external thermocouples and/or RTDs in hazardous environments. The STT850 relays measurements by one of the above communication options, and is available with an Advanced Display option which includes an LCD display visible through a window cover. The Top Nameplate conceals three magnetic push buttons for configuration purposes. There are no external connectors or process connections.

The overall physical dimensions of the STT750 and STT850 devices are 110 mm x 133 mm x 152 mm (L x W x H). The mass is approximately 1.27 kg.

The equipment has been separately tested against the requirements of IEC 60529 and meets IP66/67.

The model designation is as follows:

STTa-bb-B-c-def-ghi-j-klm-n-pp-rrrr

Where:
a = 750
bb = S4 (No of Inputs: S-single, No of Terminals: 4)
c = 0 (No Digital Output)
B = C, D (Agency Approvals: C – ATEX, D – IECEx)
d = A, B, C, D, E, F, G or H (Electronic Housing Material and Entry Type)
e = H (Analog Output/Digital Protocol: H-HART)
f = 0, A, B, or C (Customer Interface Selection)

Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

g = 1 (Application Software)
h = 1, 2, 3, or 4 (Output Limit, Failsafe & Write Protect Settings)
i = S, C (General Configuration)
j = A, or B (Accuracy and Calibration)
k = 1, 2, 3, 4, 5, or 6 (Mounting Bracket)
l = 0, 1 or 2 (Customer Tag)
m = A0, A2, A6, A7, A8 or A9 (Conduit Plugs & Adapters)
p = Two digit alphanumeric code (General options that do not impact certification)
rrrr = Four digit alphanumeric code (Factory identification)

Where:
a = 850
bb = S4, T5 (No of Inputs: S-single, T-dual; No of Terminals: 4, 5)
c = 0, 1 (Digital Output)
B = C, D (Agency Approvals: C – ATEX, D – IECEx)
d = A, B, C, D, E, F, G or H (Electronic Housing Material and Entry Type)
e = H, D, F or P (Analog Output/Digital Protocol: H-HART, D-DE, F-Foundation Fieldbus, P-Profibus)
f = 0, A, B, C, D or E (Customer Interface Selection)
g = 1 or 2 (Application Software)
h = 1, 2, 3, 4, 5 or 6 (Output Limit, Failsafe & Write Protect Settings)
i = S, C (General Configuration)
j = A, B, C, D, E, F, G or H (Accuracy and Calibration)
k = 1, 2, 3, 4, 5, 6 or 7 (Mounting Bracket)
l = 0, 1 or 2 (Customer Tag)
m = A0, A2, A6, A7, A8 or A9 (Conduit Plugs & Adapters)
p = Two digit alphanumeric code (General options that do not impact certification)
rrrr = Four digit alphanumeric code (Factory identification)

Specific Conditions of Use:

Specific Conditions of Use for Intrinsic Safety "ia" Versions:

1. The enclosure is manufactured from low copper, aluminum alloy. In rare cases, ignition sources due to impact and friction sparks could occur. This shall be considered during installation, particularly if the equipment is installed in a zone 0 location.
2. If a charge-generating mechanism is present, the exposed metallic part on the enclosure is capable of storing a level of electrostatic charge that could become incendive for IIC gases. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. earthing the metallic part. This is particularly important if the equipment is installed in a zone 0 location.

Specific Conditions of Use for Flameproof "d" and dust ignition "t" enclosure Versions:

None

Specific Conditions of Use for Increased Safety "ec" and Intrinsic Safety "ic" Versions:

1. If a charge-generating mechanism is present, the exposed metallic part on the enclosure is capable of storing a level of electrostatic charge that could become incendive for IIC gases. Therefore, the user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. earthing the metallic part.

Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

Conditions of Manufacture:

Conditions of Manufacture for Intrinsic Safety "ia" Versions:

1. In accordance with clause 10.3 of IEC 60079-11:2011, at the end of manufacture each model STT850 shall be subjected to an electric strength test using a test voltage of 500 Vrms applied between all input terminals and the enclosure for a minimum of 60 seconds. Alternatively, a 20% higher voltage may be applied for 1 second. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.
2. Signal transformer T1 shall be constructed with a minimum winding diameter of 0.1 mm.

Conditions of Manufacture for Flameproof "d" and dust ignition "t" enclosure Versions:

None

Conditions of Manufacture for Protection "ic" Versions:

1. In accordance with clause 10.3 of IEC 60079-11:2011, at the end of manufacture each model STT850 shall be subjected to an electric strength test using a test voltage of 500 Vrms applied between all input terminals and the enclosure for a minimum of 60 seconds. Alternatively, a 20% higher voltage may be applied for 1 second. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.
2. Signal transformer T1 shall be constructed with a minimum winding diameter of 0.1 mm.

Conditions of Manufacture for Protection "ec" Versions:

1. In accordance with the relevant clause of IEC 60079-7, at the end of manufacture each model STT850 shall be subjected to an electric strength test using a test voltage of 500 Vrms applied between all input terminals and the enclosure for a minimum of 60 seconds. Alternatively, a voltage of 700 Vrms may be applied for 0.1 second. The maximum current flowing shall not exceed 5 mA

Full Certificate change history

Issue 1 – this Issue introduced the following changes:

1. The addition of Model STT750, which is the same as existing model STT850 with the exception of the firmware, the equipment title and description was amended accordingly.
2. The addition of two new enclosures, which replace the existing ones. The enclosures are made of stainless steel Type 316 or Aluminum Type ASTM B85 A03600.
3. The Manufacturer's Documents were updated to recognise the new model and enclosures and also include the addition of notes and clarification of the models.
4. The addition of the intrinsically safe protection method for Group IIIC Da areas was endorsed, the marking was amended accordingly
5. The manufacturer's address in India was changed from 56 & 57 Hadapsar Industrial Estate, Pune, 411013 to Plot No. 3, Gat No. 181, Village Fulgaon, Tai-Haveli, Pune: 412216, Maharashtra.

Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

Issue 2 – this Issue introduced the following changes:

1. The addition of an alternative construction, Model STT850 that includes a digital output option, the description was amended to reflect the model designation and the new entity parameters.
2. The Manufacturing location in India has changed address from 56 & 57 Hadapsar Industrial Estate, Pune, 411013 to Plot No. 3, Gat No. 181, Village Fulgaon, Tal-Haveli, Pune 412216, Maharashtra.

Issue 3 – this Issue introduced the following changes:

1. The address of the alternative manufacturing location was corrected from Chile to PR China.

Issue 4 – this Issue introduced the following changes:

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-1 Ed. 6 was replaced by IEC 60079-1 Ed. 7; Ex d marking was updated from "d" to "db".
2. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-31:Ed.1 was replaced by IEC 60079-31 Ed. 2.
3. The addition of standard IEC 60079-7; for the introduction of protection method "ec", the marking was amended accordingly.
4. Removal of standards IEC 60079-26 and IEC 60079-15; Ex nA marking has been removed.
5. For Flameproof Ex db version: the T4 Temp Code was changed to T5 and a T6 Temp Code was introduced with reduced maximum ambient temperature; the marking was amended accordingly.
6. Introduction of protection method "ic"; including FISCO, the marking was amended accordingly.
7. Equipment Description was amended to reflect: Changing Type n to Type e in first paragraph, add Ex ic IIC to table, change Ex d to Ex db in table, change Ex nA to Ex ec in table and update the product model designations.
8. Conditions of Manufacture were introduced referencing Ex ic.
9. Condition of Manufacture referencing IEC 60079-15 was amended to call out IEC 60079-7.

Sira Certification Service
Unit 6 Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org