

CERTIFICATE OF CONFORMITY

- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM18US0335X
- Equipment:** Model THZ3, STZ and TDZ3 Temperature Transmitter
(Type Reference and Name)
- Name of Listing Company:** Moore Industries-International, Inc.
- Address of Listing Company:** 16650 Schoenborn Street
North Hills, CA, 91343
USA
- The examination and test results are recorded in confidential report number:

3047170 dated 5th November 2014
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3610:2018, FM Class 3611:2004, FM Class 3810:2005, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-11:2011, ANSI/ISA 60079-15:2009
- 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.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- Equipment Ratings:**

Intrinsically Safe (Entity) for use in Class I, Division 1, Groups A, B, C, D in accordance with Control Drawing No.100-100-80, 100-100-81; 100-100-83 and 100-100-84; Intrinsically safe (Entity) for use in Class I, Zone 0 as AEx ia IIC in accordance with Control Drawing No.100-100-80, 100-100-81; 100-100-83 and 100-100-84; Nonincendive for use in Class I, Division 2, Groups A, B, C, and D; Nonsparking for use in Class I, Zone 2 as AEx nA IIC Hazardous (Classified) Locations.

Certificate issued by:



J. E. Marquedant
VP, Manager - Electrical Systems

11 February 2019

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

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11. The marking of the equipment shall include:

TDZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

IS Class I, Division 1 Groups A, B, C, and D; T4 Ta = -40°C to +85°C -100-100-80; Entity
I Zone 0 AEx ia IIC; T4 Ta = -40°C to +85°C -100-100-80; Entity;

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

IS Class I, Division 1 Groups A, B, C, and D; T4 Ta = -40°C to +85°C -100-100-84; Entity
I Zone 0 AEx ia IIC; T4 Ta = -40°C to +85°C -100-100-84; Entity;

THZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

IS Class I, Division 1 Groups A, B, C, and D; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C -100-100-81; Entity
I Zone 0 AEx ia IIC; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C -100-100-81; Entity;

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

IS Class I, Division 1 Groups A, B, C, and D; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C -100-100-83; Entity
I Zone 0 AEx ia IIC; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C -100-100-83; Entity;

TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

NI Class I Division 2 Groups A, B, C, and D; T4 Ta = -40°C to +85°C
I Zone 2 AEx nA IIC; T4 Ta = -40°C to +85°C

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

NI Class I Division 2 Groups A, B, C, and D; T4 Ta = -40°C to +85°C
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THZ3/a/4-20mA/12-42DC /-b [c]. Temperature Transmitter.

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I Zone 2 AEx nA IIC; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C;

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

NI Class I Division 2 Groups A, B, C, and D; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C
I Zone 2 AEx nA IIC; T5...T4 Ta = -40°C to +85°C; T6 Ta = -40°C to +60°C;

12. **Description of Equipment:**

The electronics of the Model THZ3 Temperature Transmitter and the Model TDZ3 Temperature Transmitter are almost identical and differ mainly on their appearance and housing. The TDZ3 model is equipped with a display screen which is not available on the THZ3 model. The electronics are located on two circuit boards consisting of a main board and a display board. The nominal input voltage is 42V and 4-20mA signal. For Intrinsic Safety the maximum input is 30V, 110mA and 825mW which is delivered from an Intrinsically Safe barrier. The Temperature Transmitters have sensor terminals that receive input signals from simple apparatus.

Both the Model THZ3 Temperature Transmitter and the Model TDZ3 Temperature Transmitter have a communication port for programming by the end user. The programming port is not for use in hazardous locations. The programming port is required to be used in accordance with control drawings 100-100-80

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and 100-100-81.

The electronics for the Model TDZ3 Temperature Transmitter is located inside of an oval aluminium/Stainless Steel housing approximately 3" in diameter with an approximate height of 1.75". Different housing options available include hockey puck housing & spring clips [HP], snap-in mounting for DIN rail [DN], mounting flanges for screw mounting [FL], and mounting flanges for 3-1/2" relay track [FLD]. The housing has exposed power and sensor terminals as well as a window display. The housing is required to be mounted inside of a final enclosure.

The electronics for Model THZ3 Temperature Transmitter are located inside of a circular plastic housing approximately 2" in diameter with an approximate height of 1". Different housing options available include encapsulated hockey puck [HPP], HPP adapter for 2HS housing [HPPD], HPP adapter for HAT and G DIN rail mounting [HPPDN] and plastic connector head [CH6]. The housing is completely encapsulated with potting compound allowing the THZ3 to include T5 and T6 temperature codes as shown on control drawing 100-100-81. The housing has exposed power and sensor terminals. The housing is required to be mounted inside of a final enclosure.

The STZ model has the same electronics as the TDZ3 and THZ3 Temperature Transmitter and is offered with the same housing options. The STZ Temperature Transmitter is a "Safety Transmitter with HART" and includes a third party assessment to the IEC 61508 standard. Software related to SIL levels and FMEDA differentiate the STZ model from the TDZ3 and THZ3 model as well as the coloring of the label; yellow instead of grey. A different manual will be provided with the STZ model identifying its compliance with the IEC 61508 standard.

NI Input ratings:

12-42Vdc is the standard power range

IS Input ratings:

U_i = 30V, I_i = 110mA, P_i = 825mW, C_i = 5.17nF, L_i = 0mH. This option is not applicable to DIN housing.

IS Output Ratings:

U _o	I _o	P _o	C _o	L _o	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
			499.9µF	37.38mH	IIB
			999.9µF	74.77mH	IIA

Housing Options:

The electronics are installed with different housing options:

- 1) DN- Snap-in mounting for HP case on TS- 32 DIN-rail
- 2) FL- Mounting flanges on HP for relay track or screw mounting
- 3) FLD- Mounting flanges on HP for 3½" relay track mounting
- 4) HP- Hockey puck housing and spring clips
- 5) BH- Aluminum Flameproof and Dust Ignition Protection Enclosure
- 6) SB- Stainless Steel Flameproof and Dust Ignition Protection Enclosure
- 7) D- Low base, clear cover, IP66 enclosure
- 8) HPP- Hockey-puck housing for mounting in standard connection heads
- 9) LH- Aluminum Flameproof and Dust Ignition Protection Enclosure

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The housing is required to be mounted inside of a final enclosure.

TDZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH.

Sensor Terminals: (1, 2, 3, 4, 5)

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
			499.9µF	37.38mH	IIB
			999.9µF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA and/or blank.

c = Housing: DN, FL, FLD, HP, BH, SB or D.

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH.

Sensor Terminals: (1, 2, 3, 4, 5)

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
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a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: DN, FL, FLD, HP, or BH.

THZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH.

Sensor Terminals: (1, 2, 3, 4)

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
			499.9µF	37.38mH	IIB
			999.9µF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA and/or blank.

c = Housing: HPP, HPPDN, or LH.

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH.

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Sensor Terminals: (1, 2, 3, 4)

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9 μ F	9.35mH	IIC
			499.9 μ F	37.38mH	IIB
			999.9 μ F	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: HPP, HPPDN, or LH.

TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA and/or blank.

c = Housing: DN, FL, FLD, HP, BH, SB or D.

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: DN, FL, FLD, HP or BH.

THZ3/a/4-20mA/12-42DC /-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA and/or blank.

c = Housing: HPP, HPPDN, or LH.

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: HPP, HPPDN, or LH.

13. Specific Conditions of Use:

TDZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. The Model TDZ3 Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of ANSI/ISA 61010-1.
2. The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-80.

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. The Model STZ Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of ANSI/ISA 61010-1.
2. The communications port shall be programmed through a certified associated intrinsically safe

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apparatus as described on control drawing 100-100-84.

THZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

- 1. The Model THZ3 Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of ANSI/ISA 61010-1.*
- 2. The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-81.*

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

- 1. The Model STZ Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of ANSI/ISA 61010-1.*
- 2. The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-83.*

TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

- 1. When installed as Zone 2 equipment, the Model TDZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 60079-0 and ANSI/ISA 60079-15 and be capable of accepting the applicable wiring methods per the NEC. The enclosure shall, at a minimum, meet the requirements of IP54.*
- 2. When installed as Division 2 equipment, the Model TDZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and be capable of accepting the applicable wiring methods per the NEC .*
- 3. On installation of Zone 2 equipment, the Model TDZ3 Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model TDZ3 Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

- 1. When installed as Zone 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 60079-0 and ANSI/ISA 60079-15 and be capable of accepting the applicable wiring methods per the NEC. The enclosure shall, at a minimum, meet the requirements of IP54.*
- 2. When installed as Division 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and be capable of accepting the applicable wiring methods per the NEC .*
- 3. On installation of Zone 2 equipment, the Model STZ Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model STZ Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

THZ3/a/4-20mA/12-42DC /-b [c]. Temperature Transmitter.

- 1. When installed as Zone 2 equipment, the Model THZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 60079-0 and ANSI/ISA 60079-15 and be capable of accepting the applicable wiring methods per the NEC. The enclosure shall, at a minimum, meet the requirements of IP54*
- 2. When installed as Division 2 equipment, the Model THZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and*

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be capable of accepting the applicable wiring methods per the NEC.

3. *On installation of Zone 2 equipment, the Model THZ3 Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model THZ3 Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

1. *When installed as Zone 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 60079-0 and ANSI/ISA 60079-15 and be capable of accepting the applicable wiring methods per the NEC. The enclosure shall, at a minimum, meet the requirements of IP54*
2. *When installed as Division 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of ANSI/ISA 61010-1 and be capable of accepting the applicable wiring methods per the NEC.*
3. *On installation of Zone 2 equipment, the Model STZ Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model STZ Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
5 th November 2018	Original Issue.
11 th February 2019	<u>Supplement 2:</u> Report Reference: – RR216572 dated 11 th February 2019 Description of the Change: <ol style="list-style-type: none">1. Updated Documents2. Updated Description3. Added Stainless Steel Enclosure Housing option “SB”, changed Input option “TPRG” to “PRG” and removed Options “IS” and “D” from certain model codes that are no longer being used.

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CERTIFICATE OF CONFORMITY

- HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
- Certificate No:** FM18CA0162X
- Equipment:** Model THZ3, STZ and TDZ3 Temperature Transmitter
(Type Reference and Name)
- Name of Listing Company:** Moore Industries-International, Inc.
- Address of Listing Company:** 16650 Schoenborn Street
North Hills, CA, 91343
USA
- The examination and test results are recorded in confidential report number:

3047170 dated 5th November 2014
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

CSA-C22.2 No. 157-92:2012, CSA-C22.2 No. 213:2008,
CAN/CSA-C22.2 No. 60079-0:2011, CAN/CSA-C22.2 No. 60079-11:2011,
CAN/CSA-C22.2 No. 60079-15:2012, CAN/CSA-C22.2 No. 61010-1:2004
- 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.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- Equipment Ratings:**

Intrinsically Safe (Entity) for use in Class I, Division 1, Groups A, B, C, D in accordance with Control Drawing No.100-100-80, 100-100-81; 100-100-83 and 100-100-84; Intrinsically safe (Entity) for use in Class I, Zone 0 as Ex ia IIC in accordance with Control Drawing No.100-100-80, 100-100-81; 100-100-83 and 100-100-84; Nonincendive for use in Class I, Division 2, Groups A, B, C, and D; Nonsparking for use in Class I, Zone 2 as Ex nA IIC

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

11 February 2019

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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Hazardous (Classified) Locations.

11. The marking of the equipment shall include:

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TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

NI Class I Division 2 Groups A, B, C, and D; T4 Ta = -40°C to +85°C I Zone 2 Ex nA IIC; T4 Ta = -40°C to +85°C

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12. **Description of Equipment:**

The electronics of the Model THZ3 Temperature Transmitter and the Model TDZ3 Temperature Transmitter are almost identical and differ mainly on their appearance and housing. The TDZ3 model is equipped with a display screen which is not available on the THZ3 model. The electronics are located on two circuit boards consisting of a main board and a display board. The nominal input voltage is 42V and 4-20mA signal. For Intrinsic Safety the maximum input is 30V, 110mA and 825mW which is delivered from an Intrinsically Safe barrier. The Temperature Transmitters have sensor terminals that receive input signals from simple apparatus.

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Both the Model THZ3 Temperature Transmitter and the Model TDZ3 Temperature Transmitter have a communication port for programming by the end user. The programming port is not for use in hazardous locations. The programming port is required to be used in accordance with control drawings 100-100-80 and 100-100-81.

The electronics for the Model TDZ3 Temperature Transmitter is located inside of an oval aluminium/Stainless Steel housing approximately 3" in diameter with an approximate height of 1.75". Different housing options available include hockey puck housing & spring clips [HP], snap-in mounting for DIN rail [DN], mounting flanges for screw mounting [FL], and mounting flanges for 3-1/2" relay track [FLD]. The housing has exposed power and sensor terminals as well as a window display. The housing is required to be mounted inside of a final enclosure.

The electronics for Model THZ3 Temperature Transmitter are located inside of a circular plastic housing approximately 2" in diameter with an approximate height of 1". Different housing options available include encapsulated hockey puck [HPP], HPP adapter for 2HS housing [HPPD], HPP adapter for HAT and G DIN rail mounting [HPPDN] and plastic connector head [CH6]. The housing is completely encapsulated with potting compound allowing the THZ3 to include T5 and T6 temperature codes as shown on control drawing 100-100-81. The housing has exposed power and sensor terminals. The housing is required to be mounted inside of a final enclosure.

The STZ model has the same electronics as the TDZ3 and THZ3 Temperature Transmitter and is offered with the same housing options. The STZ Temperature Transmitter is a "Safety Transmitter with HART" and includes a third party assessment to the IEC 61508 standard. Software related to SIL levels and FMEDA differentiate the STZ model from the TDZ3 and THZ3 model as well as the coloring of the label; yellow instead of grey. A different manual will be provided with the STZ model identifying its compliance with the IEC 61508 standard.

NI Input ratings:

12-42Vdc is the standard power range

IS Input ratings:

Ui= 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH. This option is not applicable to DIN housing.

IS Output Ratings:

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
			499.9µF	37.38mH	IIB
			999.9µF	74.77mH	IIA

Housing Options:

The electronics are installed with different housing options:

- 1) DN- Snap-in mounting for HP case on TS- 32 DIN-rail
- 2) FL- Mounting flanges on HP for relay track or screw mounting
- 3) FLD- Mounting flanges on HP for 3 1/2" relay track mounting
- 4) HP- Hockey puck housing and spring clips
- 5) BH- Aluminum Flameproof and Dust Ignition Protection Enclosure
- 6) SB- Stainless Steel Flameproof and Dust Ignition Protection Enclosure

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FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmaprovals.com www.fmaprovals.com

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- 7) D- Low base, clear cover, IP66 enclosure
- 8) HPP- Hockey-puck housing for mounting in standard connection heads
- 9) LH- Aluminum Flameproof and Dust Ignition Protection Enclosure

The housing is required to be mounted inside of a final enclosure.

TDZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

U_i = 30V, I_i = 110mA, P_i = 825mW, C_i = 5.17nF, L_i = 0mH.

Sensor Terminals: (1, 2, 3, 4, 5)

U _o	I _o	P _o	Co	Lo	Group
6.51V	61.7mA	100mW	21.9μF	9.35mH	IIC
			499.9μF	37.38mH	IIB
			999.9μF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA and/or blank.

c = Housing: DN, FL, FLD, HP, BH, SB or D.

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

U_i = 30V, I_i = 110mA, P_i = 825mW, C_i = 5.17nF, L_i = 0mH.

Sensor Terminals: (1, 2, 3, 4, 5)

U _o	I _o	P _o	Co	Lo	Group
6.51V	61.7mA	100mW	21.9μF	9.35mH	IIC
			499.9μF	37.38mH	IIB
			999.9μF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: DN, FL, FLD, HP or BH.

THZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

U_i = 30V, I_i = 110mA, P_i = 825mW, C_i = 5.17nF, L_i = 0mH.

Sensor Terminals: (1, 2, 3, 4)

U _o	I _o	P _o	Co	Lo	Group
6.51V	61.7mA	100mW	21.9μF	9.35mH	IIC
			499.9μF	37.38mH	IIB
			999.9μF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA and/or blank.

c = Housing: HPP, HPPDN, or LH.

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STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

Entity Parameters:

Power Terminals (+PS, -PS):

Ui = 30V, Ii = 110mA, Pi = 825mW, Ci = 5.17nF, Li = 0mH.

Sensor Terminals: (1, 2, 3, 4)

Uo	Io	Po	Co	Lo	Group
6.51V	61.7mA	100mW	21.9µF	9.35mH	IIC
			499.9µF	37.38mH	IIB
			999.9µF	74.77mH	IIA

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: HPP, HPPDN, or LH.

TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA and/or blank.

c = Housing: DN, FL, FLD, HP, BH, SB or D.

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: TROP, VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: DN, FL, FLD, HP or BH.

THZ3/a/4-20mA/12-42DC /-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA and/or blank.

c = Housing: HPP, HPPDN, or LH.

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

a = Input: PRG, J, K, E, T, R, S, N, B, C, MV, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, RO, or POT.

b = Options: VTB, VTD, FMEDA, EMP and/or blank.

c = Housing: HPP, HPPDN, or LH.

13. **Specific Conditions of Use:**

TDZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. The Model TDZ3 Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of CAN/CSA-C22.2 61010-1.
2. The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-80.

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STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. *The Model STZ Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of CAN/CSA-C22.2 61010-1.*
2. *The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-84.*

THZ3/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. *The Model THZ3 Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of CAN/CSA-C22.2 61010-1.*
2. *The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-81.*

STZ/a/4-20mA/12-30DC/-b [c]. Temperature Transmitter.

1. *The Model STZ Temperature Transmitter shall be installed in an enclosure which maintains an ingress protection rating of at least IP20 and also meets the requirements of CAN/CSA-C22.2 61010-1.*
2. *The communications port shall be programmed through a certified associated intrinsically safe apparatus as described on control drawing 100-100-83.*

TDZ3/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

1. *When installed as Zone 2 equipment, the Model TDZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 No. 60079-0 and CAN/CSA-C22.2 No. 60079-15 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1. The enclosure shall, at a minimum, meet the requirements of IP54.*
2. *When installed as Division 2 equipment, the Model TDZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 61010-1 and be capable of accepting the applicable wiring methods C22.1 Canadian Electrical Code, Part 1.*
3. *On installation of Zone 2 equipment, the Model TDZ3 Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model TDZ3 Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

1. *When installed as Zone 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 60079-0 and CAN/CSA-C22.2 60079-15 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1. The enclosure shall, at a minimum, meet the requirements of IP54.*
2. *When installed as Division 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 61010-1 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1.*
3. *On installation of Zone 2 equipment, the Model STZ Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model STZ Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.*

THZ3/a/4-20mA/12-42DC /-b [c]. Temperature Transmitter.

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1. When installed as Zone 2 equipment, the Model THZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 60079-0 and CAN/CSA-C22.2 60079-15 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1. The enclosure shall, at a minimum, meet the requirements of IP54
2. When installed as Division 2 equipment, the Model THZ3 Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 61010-1 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1.
3. On installation of Zone 2 equipment, the Model THZ3 Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model THZ3 Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.

STZ/a/4-20mA/12-42DC/-b [c]. Temperature Transmitter.

1. When installed as Zone 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 60079-0 and CAN/CSA-C22.2 60079-15 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1. The enclosure shall, at a minimum, meet the requirements of IP54
2. When installed as Division 2 equipment, the Model STZ Temperature Transmitter shall be mounted within a tool-secured enclosure which meets the requirements of CAN/CSA-C22.2 61010-1 and be capable of accepting the applicable wiring methods per the C22.1 Canadian Electrical Code, Part 1.
3. On installation of Zone 2 equipment, the Model STZ Temperature Transmitter shall be provided with supply transient protection external to the apparatus such that the voltage at the supply terminals of the Model STZ Temperature Transmitter does not exceed 58.8V peak or 58.8Vdc.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
5 th November 2018	Original Issue.
11 th February 2019	<u>Supplement 2:</u> Report Reference: – RR216572 dated 11 th February 2019 Description of the Change: 1. Updated Documents 2. Updated Description

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	3. Added Stainless Steel Enclosure Housing option "SB", changed Input option "TPRG" to "PRG" and removed Options "IS" and "D" from certain model codes that are no longer being used.
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