FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

27HU-ab. Two-Wire Universal Temperature Transmitter
IS/I/1/ABCD/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity
IS/I/0/AEx ia IIC/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity

Entity Parameters (Power Supply, + and -):
V_{Max} = 30V, I_{Max} = 96mA, P_{Max} = 720mW, C_i = 1nF, L_i = 0mH.

Entity Parameters (Sensor Circuit, 1 to 4):
V_{OC} = 30V, I_{SC} = 24mA, P_o = 180mW, C_o = 50nF, L_o = 40mH.

a = Approvals: 1 = FM Approved, Intrinsically Safe.
b = Options not affecting safety, any code referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.: None = Standard Specification; L = Ultra-low temperature drift; X = Special Specification.

Special Conditions of Use:
1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including access only by use of a tool.
2. For Zone 0 Installations, the enclosure shall provide a degree of ingress protection of at least IP20, in accordance to EN 60529, or NEMA 3, in accordance to NEMA-250.

27U-ab. Two-Wire Universal Temperature Transmitter
IS/I/1/ABCD/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity
IS/I/0/AEx ia IIC/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity

Entity Parameters (Power Supply, + and -):
V_{Max} = 30V, I_{Max} = 96mA, P_{Max} = 720mW, C_i = 1nF, L_i = 0mH.

Entity Parameters (Sensor Circuit, 1 to 4):
V_{OC} = 30V, I_{SC} = 24mA, P_o = 180mW, C_o = 50nF, L_o = 40mH.

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27R-ab. Two-Wire Universal Temperature Transmitter
IS/I/1/ABCD/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity
IS/I/0/AEx ia IIC/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity

Entity Parameters (Power Supply, + and -):
V_{Max} = 30V, I_{Max} = 96mA, P_{Max} = 720mW, C_i = 1nF, L_i = 0mH.

Entity Parameters (Sensor Circuit, 1 to 4):
V_{OC} = 30V, I_{SC} = 24mA, P_o = 180mW, C_o = 50nF, L_o = 40mH.

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27RS-ab. Two-Wire Universal Temperature Transmitter
IS/I/1/ABCD/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity
IS/I/0/AEx ia IIC/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity

Entity Parameters (Power Supply, + and -):
V_{Max} = 30V, I_{Max} = 96mA, P_{Max} = 720mW, C_i = 1nF, L_i = 0mH.

Entity Parameters (Sensor Circuit, 1 to 4):
V_{OC} = 30V, I_{SC} = 24mA, P_o = 180mW, C_o = 50nF, L_o = 40mH.

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27TS-ab. Two-Wire Universal Temperature Transmitter
IS/I/1/ABCD/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity
IS/I/0/AEx ia IIC/T4 @ Ta = 80ºC; T5 @ Ta = 60ºC; T6 @ Ta = 45ºC – 20059-21-N6, Page 5; Entity

Entity Parameters (Power Supply, + and -):
V_{Max} = 30V, I_{Max} = 96mA, P_{Max} = 720mW, C_i = 1nF, L_i = 0mH.

Entity Parameters (Sensor Circuit, 1 to 4):
V_{OC} = 30V, I_{SC} = 24mA, P_o = 180mW, C_o = 50nF, L_o = 40mH.

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Special Conditions of Use:
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Equipment Ratings:

Intrinsically Safe for use in Class 1, Division 1, Groups A, B, C, & D and Intrinsically Safe AEx ia for use in Class 1, Zone 0, Group IIC Hazardous (Classified) Locations.

FM Approved for:

M-System Co Ltd
5-25-55 Minamitsumori, Nishinari-Ku
Osaka, Japan, 557-0063

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This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

3600	1998
3610	2007
3810	2005
ANSI/ISA 60079-0	2005
ANSI/ISA 60079-11	2002

Original Project ID: 3024723 Approval Granted: June 22, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3035504	June 23, 2009		

FM Approvals LLC

J. E. Marquedant
Group Manager, Electrical

23 June 2009
Date