IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx FMG 24.0032X** Page 1 of 3 Certificate history:

Status: **Current** Issue No: 0

Date of Issue: 2025-09-23

Applicant: **United Electric Controls**
180 Dexter Ave, Watertown, MA 02472
United States of America

Equipment: **79, 83, and 84 RTD / Thermocouple Assemblies**

Optional accessory:

Type of Protection: **Flameproof protection "d", Dust ignition protection by enclosure "t"**

Marking: Ex db IIC T6...T1 Gb

T5...T1 (-20°C to +85°C)

T6 (-20°C to +80°C)

Ex tb IIIC T90 °C...T125 °C Db

Ta = -40°C to +85°C

IECEx FMG 24.0032X

Approved for issue on behalf of the IECEx Certification Body: **J. E. Marquedant**

Position: **VP, Manager - Electrical Systems**

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.

Certificate issued by:

FM Approvals LLC
One Technology Way
Norwood MA 02062
United States of America

FM Approvals

IECEx Certificate of Conformity

Certificate No.: **IECEx FMG 24.0032X**

Date of issue: 2025-09-23

Issue No: 0

Manufacturer: **United Electric Controls**
180 Dexter Ave
Watertown, MA 02472
United States of America

Manufacturing locations: **United Electric Controls**
180 Dexter Ave
Watertown, MA 02472
United States of America

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 equipment 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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

This Certificate **does not** indicate compliance with 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:

US/FMG/ExTR24.0036/00

Quality Assessment Report:

US/UL/QAR07.0002/15

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

See Equipment and Systems Covered Document, IECEx FMG 24.0032X Issue 0

SPECIFIC CONDITIONS OF USE: YES as shown below:
See Specific Conditions of Use document, IECEx FMG 24.0032X Issue 0

Annexes:

Equipment and Systems Covered Document IECEx FMG 24.0032X_1.pdf
Specific Conditions of Use document.pdf

a-b79cde Remote RTD Sensors

a = Customer Specification Number (Optional): Any Four to Eight Digit Numeric Code beginning with "T…". If no Customer Specification Number selected, Part number would start with code (b) Sensor Type
b = Sensor Type (RTD, 100ohm @ 0°C): RTP1 (3 wire), RTP7 (4 wire)
c = Sheath Length (in feet): L# - up to 6 digit numeric value
d = HD82 (1/2 inch NPT Process Connection x ¾ inch NPT Conduit Connection enclosure), None (standard ½ inch NPT x ½ inch NPT connection enclosure)
e = Options Not Affecting Certifications: Any Four Digit Alpha Numeric Code

a-b83cdefghij Mineral Insulated Thermocouples

a = Customer Specification Number (Optional): Any Four to Eight Digit Numeric Code beginning with "T…". If no Customer Specification Number selected, Part number would start with code (b) Sensor Type
b = Sensor Type: MI
c = Connection Type: N, NU, NUN, NUNS
d = Sheath Diameter (in inches): 6 (3/16 inch), 7 (1/4 inch)
e = Sheath Material: 3 (316 Stainless Steel), 5 (Inconel 600)
f = Calibration: J, K, T, E, JJ, KK, TT, EE
g = Hot Junction: G (Grounded), U (Ungrounded)
h = Sheath Length (in inches): L# - up to 6 digit numeric value
i = HD82 (1/2 inch NPT Process Connection x ¾ inch NPT Conduit Connection enclosure), None (standard ½ inch NPT x ½ inch NPT connection enclosure)
j = Options Not Affecting Certifications: Any Four Digit Alpha Numeric Code

a-b83cdefghi RTD Sensors

a = Customer Specification Number (Optional): Any Four to Eight Digit Numeric Code beginning with "T…". If no Customer Specification Number selected, Part number would start with code (b) Sensor Type
b = Sensor Type (RTD, 100ohm @ 0°C): RTP1, RTP6, RTP7, RTP1A, RTP1AA, RTP7A, RTP7AA, DRTP1, DRTP6, DRTP7, DRTP1A, DRTP1AA, DRTP7A, DRTP7AA
c = Connection Type: N, NU, NUN, NUNS
d = Sheath Diameter (in inches): 6 (3/16 inch), 7 (1/4 inch)
e = Sheath Material: 3 (316 Stainless Steel)
f = Temperature Range – (Min./Max.): 2 (-45 °C to 482 °C (-50 °F to 900 °F), 3 (-45 °C to 788 °C (-50 °F to 1450 °F), 4 (-196 °C to 260 °C (-321 °F to 500 °F), 5 (-45 °C to 260 °C (-50 °F to 500 °F)
g = Sheath Length (in inches): L# - up to 6 digit numeric value
h = HD82 (1/2 inch NPT Process Connection x ¾ inch NPT Conduit Connection enclosure), None (standard ½ inch NPT x ½ inch NPT connection enclosure)
i = Options Not Affecting Certifications: Any Four Digit Alpha Numeric Code

a-b84cdefghi Mineral Insulated Thermocouples

a = Customer Specification Number (Optional): Any Four to Eight Digit Numeric Code beginning with "T…". If no Customer Specification Number selected, Part number would start with code (b) Sensor Type
b = Sensor Type: MI
c = Sheath Diameter (in inches): 6 (3/16 inch), 7 (1/4 inch)
d = Sheath Material: 3 (316 Stainless Steel), 5 (Inconel 600)
e = Calibration: J, K, T, E, JJ, KK, TT, EE
f = Hot Junction: G (Grounded), U (Ungrounded)
g = Sheath Length (in inches): L# - up to 6 digit numeric value
h = HD82 (1/2 inch NPT Process Connection x ¾ inch NPT Conduit Connection enclosure), None (standard ½ inch NPT x ½ inch NPT connection enclosure)
i = Options Not Affecting Certifications: Any Four Digit Alpha Numeric Code

a-b84cdefgh RTD Sensors

a = Customer Specification Number (Optional): Any Four to Eight Digit Numeric Code beginning with "T…". If no Customer Specification Number selected, Part number would start with code (b) Sensor Type
b = Sensor Type (RTD, 100ohm @ 0°C): RTP1, RTP6, RTP7, RTP1A, RTP1AA, RTP7A, RTP7AA, DRTP1, DRTP6, DRTP7, DRTP1A, DRTP1AA, DRTP7A, DRTP7AA
c = Sheath Diameter (in inches): 6 (3/16 inch), 7 (1/4 inch)
d = Sheath Material: 3 (316 Stainless Steel)
e = Temperature Range – (Min./Max.): 2 (-45 °C to 482 °C (-50 °F to 900 °F), 3 (-45 °C to 788 °C (-50 °F to 1450 °F), 4 (-196 °C to 260 °C (-321 °F to 500 °F), 5 (-45 °C to 260 °C (-50 °F to 500 °F)
f = Sheath Length (in inches): L# - up to 6 digit numeric value
g = HD82 (1/2 inch NPT Process Connection x ¾ inch NPT Conduit Connection enclosure), None (standard ½ inch NPT x ½ inch NPT connection enclosure)
h = Options Not Affecting Certifications: Any Four Digit Alpha Numeric Code

Style 79 and Style 84 Types:

1. Flameproof joints are not intended for repair.
2. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5°C greater than the maximum specified ambient temperature for location where installed.
3. Potential Electrostatic Charging Hazard. Avoid Installation that could cause electrostatic build-up and only clean with a damp cloth.
4. Refer to Table 1 and Table 2 for the applicable Temperature Class / Maximum Surface Temperatures rating assigned according to assigned allowed ambient and process temperature ranges.

Table 1

Temp. Class (T-Code) Ex db	Ambient Temperature Range (°C)	Process Temperature Range (°C)
T6	-20 to +80	-20 to +85
T5	-20 to +85	-20 to +100
T4	-20 to +85	-20 to +135
T3	-20 to +85	-20 to +200
T2	-20 to +85	-20 to +300
T1	-20 to +85	-20 to +450

Table 2

Maximum Surface Temp. DUST	Ambient Temperature Range (°C)	Process Temperature Range (°C)
T90C	-40 to +85	-20 to +85
T100C	-40 to +85	-20 to +100
T125C	-40 to +85	-20 to +125

5. The RTD/Thermocouple sensor assemblies require the use of a suitably rated thermowell installed for the end use application if the process pressure rating is higher than 7.25psig.

Style 83 Type:

1. Flameproof joints are not intended for repair.
2. Appropriate cable, glands, and conduit seals need to be suitable for a temperature of 5°C greater than the maximum specified ambient temperature for location where installed.

3. Potential Electrostatic Charging Hazard. Avoid Installation that could cause electrostatic build-up and only clean with a damp cloth.
4. Refer to Table 1 and Table 2 for the applicable Temperature Class / Maximum Surface Temperatures rating
assigned according to assigned allowed ambient and process temperature ranges.

Table 1

Temp. Class (T-Code) Ex db	Ambient Temperature Range (℃)	Process Temperature Range (℃)
T6	-20 to +80	-20 to +85
T5	-20 to +85	-20 to +100
T4	-20 to +85	-20 to +135
T3	-20 to +85	-20 to +200
T2	-20 to +85	-20 to +300
T1	-20 to +85	-20 to +450

Table 2

Maximum Surface Temp. DUST	Ambient Temperature Range (℃)	Process Temperature Range (℃)
T90C	-40 to +85	-20 to +85
T100C	-40 to +85	-20 to +100
T125C	-40 to +85	-20 to +125

5. The RTD/Thermocouple sensor assemblies require the use of a suitably rated thermowell installed for the end use application.