

Rosemount™ 565/765/566/614 Temperature and Water Level Sensors



1 Product certifications

Rev 1.12

1.1 European directive information

The most recent revision of the EU Declaration of Conformity can be found at [Emerson.com/Rosemount](https://www.emerson.com/Rosemount).

1.2 Ordinary location certification

As standard, the transmitter has been examined and tested to determine that the design meets the basic electrical, mechanical, and fire protection requirements by a nationally recognized test laboratory (NRTL) as accredited by the Federal Occupational Safety and Health Administration (OSHA).

1.3 Installing equipment in North America

The US National Electrical Code® (NEC) and the Canadian Electrical Code (CEC) permit the use of Division marked equipment in Zones and Zone marked equipment in Divisions. The markings must be suitable for the area classification, gas, and temperature class. This information is clearly defined in the respective codes.

1.4 North America

1.4.1 I5 USA Intrinsic Safety

| | |
|--------------------------------|---|
| Certificate 565/566/765 | FM-US FM20US0002X |
| Certificate 614 | FM-US FM19US0068X |
| Standards 565/566/765 | FM Class 3600:2018, FM Class 3610:2010, FM Class 3810:2005, ANSI/ISA 60079-26:2008 |
| Standards 614 | FM Class 3600:2011, FM Class 3610:2010, FM Class 3810:2005, ANSI/IEC 60529:2004, ANSI/UL 61010:2004 |
| Markings 565 | IS / I / 1 / ABCD T4 - 800-9020-FM I / 0 / AEx ia / IIC T4 - 800-9020-FM -50 °C < Ta < +130 °C below the mounting flange; -50 °C < Ta < +70 °C above the mounting flange |
| Markings 565 | IS / I / 1 / ABCD T2 – 800-9020-FM I / 0 / AEx ia / IIC T2 – 800-9020-FM -50 °C < Ta < +250 °C below the mounting flange; |

- 50 °C < Ta < +70 °C above the mounting flange
- Markings 566** IS / I / 1 / ABCD T5 - 800-9020-FM
 I / 0 / AEx ia / IIC T5 - 800-9020-FM
 -200 °C < Ta < +95 °C below the mounting flange;
 -50 °C < Ta < +70 °C above the mounting flange
- Markings 765** IS / I / 1 / ABCD T* - 800-9020-FM
 I / 0 / AEx ia / IIC T* - 800-9020-FM
 * T4 below the mounting flange, -50 °C < Ta < +120 °C;
 * T6 above the mounting flange, -50 °C < Ta < +70 °C
 Operating temperature below flange: 0 °C < To < +120 °C
- Markings 614** IS / I / 1 / ABCD T6 – 800-MNS-EX
 I / 0 / AEx ia IIC T6 – 800-MNS-EX
 -200 °C < Ta < +100 °C below mounting flange (probe tip);
 -50 °C < Ta < +70 °C above the mounting flange

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

(565/566/765) Specific Conditions for Safe Use (X):

1. The 765 and the RTDs are intrinsically safe circuits. At connection facilities the requirements in clause 6.2.1 in ISA 60079-11 for separation between intrinsically safe circuits and possibly non-intrinsically safe circuits shall be strictly followed.

2. The 765 and the RTDs are two separate intrinsically safe circuits. They must not be interconnected and the requirements for separation listed in clause 6.2.1 in ISA 60079-11 shall be followed.
3. Terminating and connecting the 765 cable and the wires from the RTDs, requirements in the local installation codes shall be followed.
4. When connecting either the 765 or the RTDs to the junction box, adequate strain relief shall be provided.

(614) Specific Conditions for Safe Use (X):

1. The 614 has a service temperature range of -200 °C to +100 °C for the probe tip and -50 °C to +70 °C at the mounting flange. To avoid the effects of process temperature and other thermal effects care shall be taken to ensure that the temperature at the mounting flange does not exceed +70 °C.

1.4.2 I6 Canada Intrinsically Safe

| | |
|--------------------------------|--|
| Certificate 565/566/765 | FM-C FM20CA0001X |
| Certificate 614 | FM-C FM19CA0040X |
| Standards 565/566/765 | CSA 60079-0:2007, CSA 60079-11:2002, CSA C22.2 No. 1010-1:2002, CSA C22.2 No. 157:1992 (R2016) |
| Standards 614 | CAN/CSA-C22.2 No. 157-92, 1992, CSA C22.2 No. 213-1987, CAN/CSA-C22.2 No. 1010-1:2004, CAN/CSA C22.2. 60529:2005 |
| Markings 565 | IS / I / 1 / ABCD / T4 – 800-9020-FM I / 0 / Ex ia / IIC T4 – 800-9020-FM -50 °C < Ta < +130 °C below the mounting flange; -50 °C < Ta < +70 °C above the mounting flange |
| Markings 565 | IS / I / 1 / ABCD / T2 – 800-9020-FM I / 0 / Ex ia / IIC T2 – 800-9020-FM -50 °C < Ta < + 250 °C below the mounting flange; -50 °C < Ta < + 70 °C above the mounting flange |
| Markings 566 | IS / I / 1 / ABCD / T5 - 800-9020-FM I / 0 / Ex ia / IIC T5 - 800-9020-FM -200 °C < Ta < +95 °C below the mounting flange; -50 °C < Ta < +70 °C above the mounting flange |
| Markings 765 | IS / I / 1 / ABCD / T* - 800-9020-FM |

I / 0 / Ex ia / IIC T* - 800-9020-FM

* T4 below the mounting flange, $-50\text{ °C} < T_a < +120\text{ °C}$;

* T6 above the mounting flange, $-50\text{ °C} < T_a < +70\text{ °C}$

Operating temperature below flange: $0\text{ °C} < T_o < +120\text{ °C}$

Markings 614

IS / I / 1 / ABCD / T6 - 800-MNS-EX

I / 0 / Ex ia IIC T6 - 800-MNS-EX

$-200\text{ °C} < T_a < +100\text{ °C}$ below mounting flange (probe tip);

$-50\text{ °C} < T_a < +70\text{ °C}$ above the mounting flange

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

(565/566/765) Specific Conditions for Safe Use (X):

1. The 765 and the RTDs are intrinsically safe circuits. At connection facilities the requirements in clause 6.2.1 in ISA 60079-11 for separation between intrinsically safe circuits and possibly non-intrinsically safe circuits shall be strictly followed.
2. The 765 and the RTDs are two separate intrinsically safe circuits. They must not be interconnected and the requirements for separation listed in clause 6.2.1 in ISA 60079-11 shall be followed.
3. Terminating and connecting the 765 cable and the wires from the RTDs, requirements in the local installation codes shall be followed.






4. When connecting either the 765 or the RTDs to the junction box, adequate strain relief shall be provided.

(614) Specific Conditions for Safe Use (X):

1. The 614 has a service temperature range of -200 °C to +100 °C for the probe tip and -50 °C to +70 °C at the mounting flange. To avoid the effects of process temperature and other thermal effects care shall be taken to ensure that the temperature at the mounting flange does not exceed +70 °C.

1.5 Europe

1.5.1 I1 ATEX Intrinsic Safety

| | |
|--------------------------------|---|
| Certificate 565/566/765 | FM08ATEX0060X |
| Certificate 614 | FM13ATEX0019X |
| Standards 565/566/765 | EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-26:2015 |
| Standards 614 | EN 60079-0:2012+A11:2013 and EN 60079-11:2012 |
| Markings 565 |  II 1G Ex ia IIC T4 -50 °C < Ta < + 130 °C below the mounting flange; -50 °C < Ta < + 70 °C above the mounting flange |
| Markings 565 |  II 1G Ex ia IIC T2 -50 °C < Ta < + 250 °C below the mounting flange; -50 °C < Ta < + 70 °C above the mounting flange |
| Markings 566 |  II 1G Ex ia IIC T5 -200 °C < Ta < +95 °C below the mounting flange; -50 °C < Ta < +70 °C above the mounting flange |
| Markings 765 |  II 1G Ex ia IIC T4/T6 T4 below the mounting flange, -50 °C < Ta < +120 °C T6 above the mounting flange, -50 °C < Ta < +70 °C Operating temperature below flange: 0 °C < Ta < +120 °C |
| Markings 614 |  II 1 G Ex ia IIC T6 Ga Ta = -50 °C to +70 °C -200 °C < Ta < +100 °C below mounting flange (probe tip); -50 °C < Ta < +70 °C above the mounting flange |

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

(565/566/765) Specific Conditions for Safe Use (X):

1. The 765 and the RTDs are intrinsically safe circuits. At connection facilities the requirements in clause 6.2.1 in ISA 60079-11 for separation between intrinsically safe circuits and possibly non-intrinsically safe circuits shall be strictly followed.
2. The 765 and the RTDs are two separate intrinsically safe circuits. They must not be interconnected and the requirements for separation listed in clause 6.2.1 in ISA 60079-11 shall be followed.
3. Terminating and connecting the 765 cable and the wires from the RTDs, requirements in the local installation codes shall be followed.
4. When connecting either the 765 or the RTDs to the junction box, adequate strain relief shall be provided.

(614) Specific Conditions for Safe Use (X):

1. The 614 has a service temperature range of -200 °C to +100 °C for the probe tip and -50 °C to +70 °C at the mounting flange. To avoid the effects of process temperature and other thermal effects care shall be taken to ensure that the temperature at the mounting flange does not exceed +70 °C.

1.6 International

1.6.1 I7 IECEx Intrinsic Safety

**Certificate
565/566/765**

IECEx FME 08.0007X

- Certificate 614** IECEx FME 13.0002X
- Standards 565/566/765** IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-26:2014-10
- Standards 614** IEC 60079-0:2011 IEC 60079-11:2011
- Markings 565** Ex ia IIC T4
 -50°C < Ta < +130°C below the mounting flange;
 -50°C < Ta < +70°C above the mounting flange
- Markings 565** Ex ia IIC T2
 -50°C < Ta < +250°C below the mounting flange;
 -50°C < Ta < +70°C above the mounting flange
- Markings 566** Ex ia IIC T5
 -200°C < Ta < +95°C below the mounting flange;
 -50°C < Ta < +70°C above the mounting flange
- Markings 765** Ex ia IIC T4/T6
 T4 below the mounting flange, -50 °C < Ta < +120 °C;
 T6 above the mounting flange, -50 °C < Ta < +70 °C
 Operating temperature below flange: 0 °C < Ta < +120 °C
- Markings 614** Ex ia IIC T6 Ga Ta = -50°C to +70°C
 -200°C < Ta < +100°C below mounting flange (probe tip);
 -50°C < Ta < +70°C above the mounting flange

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

(565/566/765) Specific Conditions for Safe Use (X):

1. The 765 and the RTDs are two separate intrinsically safe circuits. They must not be interconnected and the requirements for separation listed in clause 6.2.1 in IEC 60079-11 shall be followed.
2. Terminating and connecting the 765 cable and the wires from the RTDs, requirements in the local installation code shall be followed.
3. When connecting either the 765 or the RTDs to the junction box, adequate strain relief for the wiring shall be provided.
4. At connection facilities of the 565/566 sensors the requirements in clause 6.2.1 in IEC 60079-11 for separation between intrinsically safe circuits and possibly non-intrinsically safe circuits shall be strictly followed.
5. In the 565/566 sensors, terminating and connecting the wires from the RTDs, requirements in the local installation codes shall be followed.

(614) Specific Conditions for Safe Use (X):

1. The 614 has a service temperature range of -200 °C to +100 °C for the probe tip and -50 °C to +70 °C at the mounting flange. To avoid the effects of process temperature and other thermal effects care shall be taken to ensure that the temperature at the mounting flange does not exceed +70 °C.

1.7 Brazil

1.7.1 I2 INMETRO Intrinsic Safety

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|--|---|
| Certificate 565/566/765 | UL-BR 18.0266X |
| Standards 565/566/765 | ABNT NBR IEC 60079-0:2020; ABNT NBR IEC 60079-11:2017; ABNT NBR IEC 60079-26:2016 |
| Markings 765 | Ex ia IIC T4/T6 |
| Markings 565/566 | Ex ia IIC T* * see I7 above for temp rating |

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|---------------|----------------|----------------|----------------|----------------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|-------------------------------|---------------|----------------|----------------|----------------|----------------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|----------------------|---------------|----------------|----------------|----------------|----------------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

Specific Conditions for Safe Use (X):

1. The 765 and the RTDs are two separate intrinsically safe circuits. They must not be interconnected and the requirements for separation listed in ABNT NBR IEC 6007911 shall be followed.
2. Terminating and connecting the 765 cable and the wires from the RTDs, requirements in the local installation code shall be followed.
3. When connecting 765 or the RTDs to the junction box, adequate strain relief for the wiring shall be provided.
4. At connection facilities of the 565/566 sensors the requirements in ABNT NBR IEC 60079-11 for separation between intrinsically safe circuits and possibly non-intrinsically safe circuits shall be strictly followed.
5. In the 565/566 sensors, terminating and connecting the wires from the RTDs, requirements in the local installation codes shall be followed.

1.8 China

1.8.1 I3 NEPSI Intrinsic Safety

| | |
|---------------------|------------------------------------|
| Certificate | NEPSI GYJ20.1368X (CCC) |
| Standards | GB/T 3836.1-2021, GB/T 3836.4-2021 |
| Markings 765 | Ex ia IIC/IIB T6/T4 Ga |
| Markings 565 | Ex ia IIC T4/T2 Ga |
| Markings 566 | Ex ia IIC T5 Ga |

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |
| WLS main supply | 28 | 125 | 700 | 2500 | 20 |

Specific Conditions for Safe Use (X):

1. See certificate.

1.9 Technical Regulations Customs Union (EAC)

1.9.1 EAC

TR CU 020/2011 “Electromagnetic Compatibility of Technical Products”

1.9.2 Ex

TR CU 012/2011 “On safety of equipment intended for use in explosive atmospheres”

1.9.3 IM Technical Regulations Customs Union (EAC) Intrinsic safety

Certificate EAЭC KZ 7500525.01.01.00621

Standards GOST 31610.0-2019 (IEC 60079-0: 2017), GOST 31610.11-2014 (IEC 60079-11:2011)

Markings 765 0Ex ia IIC T4/T6 Ga X

Markings 565 0Ex ia IIC T4 Ga X, 0Ex ia IIC T2 Ga X

Markings 566 0Ex ia IIC T5 Ga X

Markings 614 0Ex ia IIC T4/T6 Ga X

T4 below mounting flange and T6 above mounting flange

See I7 above for temp rating

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 614 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 9.6 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

Specific Conditions of Use (X):

1. See I7 above for specific conditions of use.

1.10 Japan

1.10.1 I4 Intrinsic safety

Certificate 565 TC20821

Certificate 566 TC20822

Certificate 765 TC20823

Markings 565/765 Ex ia IIB T4

Markings 566 Ex ia IIB T5

Process temperature: -25 °C... +80 °C

Ambient temperature: -20 °C... +60 °C

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (μH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 6.0 | 400 | 700 | 40 | 500 |

Specific Conditions for Safe Use (X):

1. See certificate.

1.11 India

1.11.1 Intrinsic Safety

| | |
|------------------------------------|-----------------|
| Certificate 565/566/765 | PESO P522716 |
| Markings | Ex ia IIC T4/T6 |

Specific Conditions for Safe Use (X):

1. See certificate.

1.12 Republic of Korea

1.12.1 IP Intrinsic Safety

| | |
|------------------------|--------------------|
| Certificate 765 | KTL 13-KB4BO-0028X |
| Certificate 565 | 11-KB4BO-0185X |
| Certificate 566 | 19-KB4BO-0912X |
| Markings 765 | Ex ia IIC T4/T6 |
| Markings 565 | Ex ia IIC T4/T2 |
| Markings 566 | Ex ia IIC T5 |

| 565/566 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|----------------------|--------|---------|---------|---------|---------|
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

| 765 | Ui (V) | Ii (mA) | Pi (mW) | Li (µH) | Ci (nF) |
|-------------------------------|--------|---------|---------|---------|---------|
| main supply and communication | 7.2 | 250 | 700 | 130 | 0 |
| temperature elements | 7.2 | 400 | 700 | 40 | 500 |

Specific Conditions for Safe Use (X):

1. See certificate.

1.13 United Arab Emirates

1.13.1 Intrinsic Safety

| | |
|--|----------------------------------|
| Certificate 565/566/765/614 | 23-11-22716/Q23-12-048846/NB0002 |
| Markings | Same as IECEx (I7) |

1.14 Custody Transfer Certifications (565/566/765)

Australia Custody Transfer

| | |
|--------------------|--|
| Certificate | No 5/1/7 |
| Standards | Regulation 60: National Measurement Regulations 1999 |

Belarus Custody Transfer

| | |
|----------------|---------------------|
| BelGIM: | No RV 03 07 0875 20 |
| BelGIM: | MP. MN 711-99 |

Bulgaria Custody Transfer

| | |
|---|--------------|
| Bulgaria Institute of Metrology: | 18.10.5106.1 |
|---|--------------|

Germany Custody Transfer

| | |
|-------------|----------------|
| PTB: | Nr. 7.31-16/98 |
|-------------|----------------|

Indonesia Custody Transfer

| | |
|--------------------|-------------------------------------|
| Certificate | DITJEN MIGAS CT approval 26.10.2010 |
|--------------------|-------------------------------------|

Kazakhstan Metrology Approval

| | |
|--------------------|---------------------|
| Certificate | KZ.02.01.02355-2023 |
|--------------------|---------------------|



Product Certifications
00880-0100-5565, Rev. AA
April 2024

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