



# Certificate of Compliance

Certificate: 80092609

Master Contract: 200600

Project: 80092609

Date Issued: 2021-12-14

Issued To: Endress+Hauser Wetzler GmbH Co. KG  
Obere Wank 1  
Nesselwang, Bavaria, 87484  
Germany

Attention: Michael Pfanzelt

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*

Issued by: *Amandeep Singh Khatra*  
Amandeep Singh Khatra



## PRODUCTS

**CLASS 2258 04** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity – For Hazardous Locations

[Ex ia Ga] IIC

[Ex ia Da] IIIC

Associated Apparatus for connection to Class I, Division 1, Groups A, B, C, D

Associated Apparatus for connection to Class I, Groups A, B, C & D; Class II, Groups E, F & G; Class III

• Associated Apparatus Active barrier. Type RN22. Rated 24 Vdc, Power consumption max. 2.5 W. Ambient temperature range -40°C up to +60°C. Provides Intrinsically Safe outputs (Channel 1 & 2) having entity parameters as per installation Control Drawing 10000011794.

Supply RN22 (Non I.S):  
terminal 1.1 (+), 1.2 (-)

U = 24V<sub>DC</sub> (-20%/+25%)  
Um = 250V



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**Output circuit (connection to control unit- Non I.S.):**

terminal 3.1 (+), 3.2 (-)       $U = 30V_{DC}$   
terminal 2.1 (+), 2.2 (-)       $I = 0/4 - 20mA$   
    $U_m = 30V_{DC}$

**Input circuit (connection to I.S. field device):**

Connection 2-wire (active)

terminal 4.1 (+), 4.2 (-)       $U_o/V_{oc} \leq 27.3V_{DC}$   
    $I_o/I_{sc} \leq 87.6 mA$   
terminal 6.1 (+), 6.2 (-)       $P_o = 597mW$   
    $C_i = \text{negligibly small}; L_i = \text{negligibly small}$

**Max connection values (single appearance):**

Ex ia IIC       $L_a = 4.6 mH$        $C_a = 0.088 \mu F$   
Ex ia IIB       $L_a = 18.5 mH$        $C_a = 0.683 \mu F$   
Ex ia IIA       $L_a = 37 mH$        $C_a = 2.28 \mu F$

**Connection 4-wire (to passive I.S device)**

terminal 4.2 (+), 5.1 (-)       $U_o/V_{oc} \leq 27.3V_{DC}$   
    $I_o/I_{sc} \leq 10 mA$   
terminal 6.2 (+), 5.2 (-)       $P_o = 68 mW$   
    $C_i = \text{negligibly small}; L_i = \text{negligibly small}$

**Max connection values (single appearance):**

Ex ia IIC       $L_a = 100 mH$        $C_a = 0.088 \mu F$   
Ex ia IIB       $L_a = 100 mH$        $C_a = 0.683 \mu F$   
Ex ia IIA       $L_a = 100 mH$        $C_a = 2.28 \mu F$

**Connection 4-wire (to passive I.S device)**

$U_i \leq 30 V_{DC}$   
terminal 4.2 (+), 5.1 (-)       $I_i \leq \text{not applicable when keeping } U_i$   
terminal 6.2 (+), 5.2 (-)       $P_i = \text{not applicable when keeping } U_i$   
    $C_i = \text{negligibly small}; L_i = \text{negligibly small}$

**Series No**      **Suffix Code**  
RN22-      abcdddeffgg

| Designation | Explanation           | Value | Details                |
|-------------|-----------------------|-------|------------------------|
| aa          | Approval              | CB    | CSA C/US AIS, 1/2/ABCD |
| b           | Power supply          | 1     | 1 -channel             |
|             |                       | 2     | 2 - channel            |
|             |                       | 3     | Signal doubler         |
| c           | Electrical connection | A     | Screw terminals        |
|             |                       | B     | Push in terminal       |



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|    |                     |     |                                       |
|----|---------------------|-----|---------------------------------------|
| dd | Additional approval | ns* | Not relevant for Explosion safety     |
| ee | Additional option   | ns* | Not relevant for Explosion safety     |
| ff | Accessory Enclosed  | PA  | Power rail connector DIN rail 12.5 mm |
| gg | Marking             | ns* | Not relevant for Explosion safety     |

\*ns = value not related to Explosion protection

• Associated Apparatus: Active barrier. Type RN42. Rated 24 to 230 V AC/DC, Power consumption max 2.4 W. Ambient temperature range -40°C up to +60°C. Provides Intrinsically Safe output having entity parameters as per installation Control Drawing 10000011794.

**Supply RN42:**

|                               |    |   |  |             |          |
|-------------------------------|----|---|--|-------------|----------|
| terminal 1.1 (L/+), 1.2 (N/-) | U  | = | 24V <sub>DC</sub> to 230 V <sub>AC</sub> | (-20%/+25%) | 50/60 Hz |
|                               | Um | = | 250V                                     |             |          |

**Output circuit (connection to control unit – Non I.S.):**

|                           |      |                    |
|---------------------------|------|--------------------|
| terminal 3.1 (+), 3.2 (-) | U =  | 30V <sub>DC</sub>  |
|                           | I =  | 0/4 – 20mA         |
|                           | Um = | 30 V <sub>DC</sub> |

**Input circuit(connection to I.S. field device):**

Connection 2-wire (active)

**RN42:**

|                           |                                   |                     |
|---------------------------|-----------------------------------|---------------------|
| terminal 4.1 (+), 4.2 (-) | U <sub>o</sub> /V <sub>oc</sub> ≤ | 27.3V <sub>DC</sub> |
|                           | I <sub>o</sub> /I <sub>sc</sub> ≤ | 87.6 mA             |
|                           | P <sub>o</sub> =                  | 597mW               |
|                           | C <sub>i</sub> =                  | negligibly small    |
|                           | L <sub>i</sub> =                  | negligibly small    |

**Max connection values (single appearance):**

|           |              |               |
|-----------|--------------|---------------|
| Ex ia IIC | La = 4.6 mH  | Ca = 0.088 μF |
| Ex ia IIB | La = 18.5 mH | Ca = 0.683 μF |
| Ex ia IIA | La = 37 mH   | Ca = 2.28 μF  |

Connection 4-wire (to passive I.S device)

|                           |                                   |                     |
|---------------------------|-----------------------------------|---------------------|
| <b>RN42:</b>              | U <sub>o</sub> /V <sub>oc</sub> ≤ | 27.3V <sub>DC</sub> |
| terminal 4.2 (+), 4.3 (-) | I <sub>o</sub> /I <sub>sc</sub> ≤ | 10 mA               |
|                           | P <sub>o</sub> =                  | 68 mW               |
|                           | C <sub>i</sub> =                  | negligibly small    |
|                           | L <sub>i</sub> =                  | negligibly small    |

**Max connection values (single appearance):**

|           |             |               |
|-----------|-------------|---------------|
| Ex ia IIC | La = 100 mH | Ca = 0.088 μF |
| Ex ia IIB | La = 100 mH | Ca = 0.683 μF |
| Ex ia IIA | La = 100 mH | Ca = 2.28 μF  |



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Connection 4-wire (passive)

RN42: terminal 4.2 (+), 4.3 (-)       $U_i \leq 30 \text{ V}_{DC}$   
 $I_i \leq$  not applicable when keeping  $U_i$   
 $P_i =$  not applicable when keeping  $U_i$   
 $C_i =$  negligibly small  
 $L_i =$  negligibly small

Series No      Suffix Code  
RN42-            abcdeeffgg

| Designation | Explanation           | Value | Details  |
|-------------|-----------------------|-------|--|
| aa          | Approval              | CB    | CSA C/US Associated apparatus (AIS), 1/2/ABCD    |
| b           | Channel               | 1     | 1 -channel                                       |
| c           | Electrical connection | A     | Screw terminals                                  |
|             |                       | B     | Push in terminal                                 |
| d           | Housing Shape         | O     | On top terminal for power supply width 17.5 mm   |
|             |                       | U     | On bottom terminal for power supply width 17.5mm |
| ee          | Additional approval   | ns*   | Not relevant for Explosion safety                |
| ff          | Additional option     | ns*   | Not relevant for Explosion safety                |
| gg          | Marking               | ns*   | Not relevant for Explosion safety                |

\*ns = value not related to Explosion protection

**Conditions of Acceptability:**

1. If several devices are installed side by side, it is important to ensure that the maximum side wall temperature of the individual devices of 80°C (176°F) is not exceeded. If this cannot be guaranteed, mount the devices at a distance from one another or ensure sufficient cooling.
2. For model RN22-CB: the equipment shall only be powered by a power supply unit with a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
3. The control circuit connection shall be sourced a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
4. For model RN42-CB: a disconnecting device shall be part of the end-use installation. This shall be accessible for the operator and marked as required in IEC 61010-1: 2010 clause 6.11.4. (Circuit breaker in end-use installation is considered as disconnecting device).
5. The external circuit breaker shall be separately certified and rated 10 A for model RN42-CB1, Type B and min. 1.5 kA breaking capacity.
6. The device is intended for installation in a cabinet or similar housing acceptable to the Authority having jurisdiction (AHJ). The device may only be operated as an installed device.
7. Equipment is only to be installed by trained personal in accordance to the installation, set-up.



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**CLASS 2258 84** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations – Certified to US Standards

[AEx ia Ga] IIC

[AEx ia Da] IIIC

Associated Apparatus for connection to Class I, Division 1, Groups A, B, C, D

Associated Apparatus for connection to for Class I, Groups A, B, C & D; Class II, Groups E, F & G; Class III

See Products listed under Class 2258-04 and the conditions of acceptability

**CLASS 2258 02** - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

Ex ec IIC Gc

Class I, Division 2, Groups A, B, C, D

• COMPONENT: Type RN22 for transmission and galvanic isolation of 0/4 to 20mA signals. Rated 24 Vdc, Power consumption max. 2.5 W. Install per drawing 10000011794. Pollution degree 2. Ambient temperature range -40°C up to +60°C as per Conditions of Acceptability for Component/Schedule of limitations

| Series No | Suffix Code  |
|-----------|--------------|
| RN22-     | aabcddeeffgg |

| Designation | Explanation           | Value | Details                               |
|-------------|-----------------------|-------|---------------------------------------|
| aa          | Approval              | CB    | CSA C/US AIS, 1/2/ABCD                |
| b           | Power supply          | 1     | 1 -channel                            |
|             |                       | 2     | 2 – channel                           |
|             |                       | 3     | Signal doubler                        |
| c           | Electrical connection | A     | Screw terminals                       |
|             |                       | B     | Push in terminal                      |
| dd          | Additional approval   | ns*   | Not relevant for Explosion safety     |
| ee          | Additional option     | ns*   | Not relevant for Explosion safety     |
| ff          | Accessory Enclosed    | PA    | Power rail connector DIN rail 12.5 mm |
| gg          | Marking               | ns*   | Not relevant for Explosion safety     |

\*ns = value not related to Explosion protection

• COMPONENT: Type RN42 for transmission and galvanic isolation of 0/4 to 20mA signals. Rated 24 to 230 V AC/DC, Power consumption max. 2.4 W. Installation per drawing 10000011794. Pollution degree 2. Ambient temperature range -40°C up to +60°C as per Conditions of Acceptability for Component/Schedule of limitations

| Series No | Suffix Code |
|-----------|-------------|
| RN42-     | aabcdeeffgg |



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| Designation | Explanation           | Value | Details  |
|-------------|-----------------------|-------|--|
| aa          | Approval              | CB    | CSA C/US AIS, 1/2/ABCD                           |
| b           | Channel               | 1     | 1 -channel                                       |
| c           | Electrical connection | A     | Screw terminals                                  |
|             |                       | B     | Push in terminal                                 |
| d           | Housing Shape         | O     | On top terminal for power supply width 17.5 mm   |
|             |                       | U     | On bottom terminal for power supply width 17.5mm |
| ee          | Additional approval   | ns*   | Not relevant for Explosion safety                |
| ff          | Additional option     | ns*   | Not relevant for Explosion safety                |
| gg          | Marking               | ns*   | Not relevant for Explosion safety                |

\*ns = value not related to Explosion protection

**Conditions of Acceptability:**

1. Certified as a component. For full certification by a Certification agency, as an electrical equipment the tests according to CSA/UL 60079-0 section 5.2 and 5.3 have to be carried out. Based on the test results a temperature class shall be assigned.
2. These components do not have any surface that achieves a temperature greater than 135°C with a 5K safety factor when operated under full load conditions at an ambient of range of 60°C respectively.
3. If several devices are installed side by side, it is important to ensure that the maximum side wall temperature of the individual devices of 80°C (176°F) is not exceeded. If this cannot be guaranteed, mount the devices at a distance from one another or ensure sufficient cooling.
4. For use in the type of protection increased safety Ex ec, and for Zone 2 (EPL Gc), and Class I, Division 2 applications, the RN22/RN42 shall be installed completely inside an additional enclosure, providing a degree of protection of not less than IP54 according to CSA/UL 60079-0 and CSA/UL 60079- 7. The ambient temperature within the end use enclosure shall not exceed the limits of the permissible ambient temperature range. Clearances, creepage distances, and separations as defined in CSA/UL 60079-7 shall be considered for the installation.
5. For model RN22-CB: the unit shall only be powered by a power supply unit with a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
6. The control circuit connection shall be sourced a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
7. For model RN42-CB: a disconnecting device shall be part of the end-use installation. This shall be accessible for the operator and marked as required in IEC 61010-1: 2010 clause 6.11.4. (Circuit breaker in end-use installation is considered as disconnecting device).
8. The external circuit breaker shall be separately certified and rated 10 A for model RN42-CB1, Type B and min. 1.5 kA breaking capacity.



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**CLASS 2258 82 - PROCESS CONTROL EQUIPMENT - - For Hazardous Locations - Certified to US Standards**

**Class I, Zone 2, AEx ec IIC Gc**  
**Class I, Division 2, Groups A, B, C, D**

See Products listed under Class 2258-02 and the conditions of acceptability

**APPLICABLE REQUIREMENTS**

|   |   |
|---|---|
| CAN/CSA C22.2 No. 61010-1-12 + Amd 1 – 1                              | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements                   |
| ANSI/UL 61010-1-2019 Third Edition                                    |   |
| CAN/CSA C22.2 No. 213-17 + UPD 1 (2018) + UPD 2 (2019) + UPD 3 (2021) | Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations |
| ANSI/UL 121201-2021- 9th Edition                                      |   |
| CAN/CSA-C22.2 No. 60079-0:19  | Explosive atmospheres — Part 0: Equipment — General Requirements  |
| ANSI/UL 60079-0-2020 7th Edition                                      |   |
| CAN/CSA-C22.2 No. 60079-7:16  | Explosive atmospheres — Part 7: Equipment protection by increased safety “e”  |
| ANSI/UL 60079-7-2017 (R2021) 5th Edition                              |   |
| CAN/CSA-C22.2 No. 60079-11:14 (R2018)                                 | Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”   |
| UL 60079-11:2018 (6 <sup>th</sup> Edition)                            |   |

**MARKINGS**

As per descriptive report

Notes:

Products certified under Class C225802, C225804, C225882, C225884 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC).  
[www.scc.ca](http://www.scc.ca)





## *Supplement to Certificate of Compliance*

**Certificate:** 80092609

**Master Contract:** 200600

*The products listed, including the latest revision described below,  
are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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| <b>Project</b> | <b>Date</b> | <b>Description</b>            |
|----------------|-------------|-------------------------------|
| 80092609       | 2021-12-14  | Original cCSAus certification |