CERTIFICATE OF CONFORMITY

FM Approvals

1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** **FM24US0069X**
3. **Equipment:** **V50 Circuit Breakers Series x150/5-V50 & x146/5-V50**
   (Type Reference and Name)
4. **Name of Listing Company:** **R. STAHL Schaltgeraete GmbH**
5. **Address of Listing Company:** **Am Bahnhof 30, D-74638 Waldenburg (Württ.), Germany**
6. The examination and test results are recorded in confidential report number:

   PR467819 dated 13th August 2024

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   FM 3600:2022, FM 3611:2018, FM 3616:2022, FM 3810:2021, ANSI/UL 50E:2020, ANSI/UL 508:2021, ANSI/UL 60079-0:2020, ANSI/UL 60079-1:2015, ANSI/UL 60079-7:2021, ANSI/IEC 60529:2020, ANSI/UL 121201:2021

8. 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.
9. 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.
10. Equipment Ratings:

    Refer to Annex

11. The marking of the equipment shall include:

    Refer to Annex

12. **Description of Equipment:**

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

05/29/2026
Date

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

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FM Approvals LLC. 1165 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCC Accredited CB-P/S OCPS Accredité CCN

The system is based upon several series of circuit breaker devices. The devices are currently certified by Factory Mutual They each also have IECEx & ATEX certification.

The enclosures used for the systems are approved by UL for North American applications and are Ex Component enclosures with IECEx and ATEX listings evaluated by PTB.

The system is available without entries such that the entry hardware can be mounted at the time of installation. The 8166 conduit hub can be offered as entry method for the units in all applications (NEC & CEC). Proper product marking must be assured depending on the entry method. Entry mounting and final assembly must meet the area requirement.

Components (other than the switch handle) will be mounted to DIN-rail or directly to the back pan of the enclosure. The DIN-rail will in turn be mounted to the enclosure back pan.

13. **Specific Conditions of Use:**

    Refer to Annex

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
13 August 2024	Original Issue.
13 August 2025	Supplement 1: Report Reference: RR247133 dated 13 August 2025. Description of the Change(s): Update to temperature ranges to conform with test data.
29 May 2026	Supplement 2: Report Reference: RR251069 dated 29 May 2026. Description of the Change(s): Marked to -40°C based on circuit breaker type used, 8530, NAA Variant with ABB insert.

ANNEX

V50 Circuit Breaker Series 7146/5-V50-b ccc-ddd-ee ff g h j k-m

Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D T4; Dust-Ignitionproof for Class II, Division 2, Groups F and G T4 with ingress protection of Type 3, 4, 4X, IP66 and ambient temperature range of -40°C/-25°C ≤ Ta ≤ +60°C.

Markings:

Class I, Division 2, Groups A, B, C, D T4
Class II, Division 2, Groups F, G T4
-40°C/-25°C ≤ Ta ≤ +55°C
Type 3, 4, 4X, IP66

Description of Equipment:

V50 Circuit Breaker Series 7146/5-V50-b ccc-ddd-ee ff g h j k-m
b = Number of poles: 01, 02, 03.
ccc = Current: 001, 002, 004, 005, 006, 008, 010, 013, 015, 016, 020, 025, 030, 032, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110 or 125.
ddd = Voltage: 120, 240, 277, 347, 480, 024, 048, 060, 125, 250 or 440.
ee = Standard Circuit Breaker for Application: 30 or 65.
ff = Auxiliary Contacts: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
g = Terminals: 0 or 1.
h = Entries: 0, 1, 2, 3, 4, 5, 6 or 7.
j = Number of Entries: 0, 1, 2 or 3.
k = Size: 0, 1, 2, 3, 4, 5, 6, 7, A, B, C, D, E, F, G or H.
m = Additional Options (blank if not included): r, GFCI, GFEP, GFI, B, D, K, Z or CON.

Specific Conditions of Use:

1. The flameproof joints of the explosion-protected switches cannot be repaired.
2. For use of the 8166 series conduit hub, the low ambient temperature is -30°C.
3. Electrical Ratings:

- The 7146/5-V50-b ccc-ddd-30, with a maximum current of 40 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+55°C/60°C.
- The 7146/5-V50-b ccc-ddd-30, with a maximum current of 60 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+50C.
- The 7146/5-V50-b ccc-ddd-65, with a maximum current of 30 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.

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V50 Circuit Breaker Series 7150/5-V50-b ccc-ddd-ee ff g h j k-m

Equipment Ratings:

Nonincendive for Class I, Division 2, Groups A, B, C and D T4; Dust-Ignitionproof for Class II, Division 2, Groups F and G T4 with the ambient temperature of -40°C/-35°C ≤ Ta ≤ +60°C and water ingress rating of Type 3, 4, 4X and IP66.

Markings:

Class I, Division 2, Groups A, B, C, D T4
Class II, Division 2, Groups F, G T4
-40°C/-35°C ≤ Ta ≤ +55°C
Type 3, 4, 4X and IP66

Description of Equipment:

V50 Circuit Breaker Series 7150/5-V50-b ccc-ddd-ee ff g h j k-m
b = Number of poles: 01, 02, 03 or 3N.
ccc = Current: 001, 002, 004, 005, 006, 008, 010, 013, 015, 016, 020, 025, 030, 032, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110 or 125.
ddd = Voltage: 120, 240, 277, 347, 480, 024, 048, 060, 125, 250 or 440.
ee = Standard Circuit Breaker for Application: 30, 50, 68 or 65.
ff = Auxiliary Contacts: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
g = Terminals: 0 or 1.
h = Entries: 0, 1, 2, 3, 4, 5, 6 or 7.
j = Number of Entries: 0, 1, 2 or 3.
k = Size: 0, 1, 2, 3, 4, 5, 6, 7, A, B, C, D, E, F, G or H.
m = Additional Options (blank if not included): r, GFCI, GFEP, GFI, B, D, K, Z or CON.

Specific Conditions of Use:

1. The flameproof joints of the explosion-protected switches cannot be repaired.
2. For use of the 8166 series conduit hub, the low ambient temperature is -30°C.
3. Equipment with circuit breaker type 8568 can be marked with the low ambient temperature of -35°C.
4. Electrical Ratings:

- The 7150/5-V50-b ccc-ddd-30, with a maximum current of 40 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+55°C/60°C.
- The 7150/5-V50-b ccc-ddd-30, with a maximum current of 60 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+50°C.
- The 7150/5-V50-b ccc-ddd-50, with a maximum current of 125 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.
- The 7150/5-V50-b ccc-ddd-68, with a maximum current of 125 A, provide a temperature class of T4 in an ambient temperature range of -35°C to +55°C.
- The 7150/5-V50-b ccc-ddd-65, with a maximum current of 30 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.

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V50 Circuit Breaker Series 8146/5-V50-ccc-ddd-ee ff g h j k-m

Equipment Ratings:

Flameproof with increased safety for Class I, Zone 1 AEx db eb IIC T4 Gb; Nonincendive for Class I, Division 2, Groups A, B, C and D T4; Dust-Ignitionproof for Class II, III, Division 2, Groups E, F and G T4 ambient temperature range of -40°C/-25°C ≤ Ta ≤ +60°C and water ingress rating of Type 3, 4, 4X and IP66.

Markings:

Class I, Zone 1, AEx db eb IIC T4 Gb
Class I, Division 2, Groups A, B, C, D T4
Class II, III, Division 1, 2, Groups E, F, G T4
-40°C/-25° ≤ Ta ≤ +55°C
Type 3, 4, 4X and IP66

Description of Equipment:

V50 Circuit Breaker Series 8146/5-V50-b ccc-ddd-ee ff g h j k-m
b = Number of poles: 01, 02, 03 or 3N.
ccc = Current: 001, 002, 004, 005, 006, 008, 010, 013, 015, 016, 020, 025, 030, 032, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110 or 125.
ddd = Voltage: 120, 240, 277, 347, 480, 024, 048, 060, 125, 250 or 440.
ee = Standard Circuit Breaker for Application: 30 or 65.
ff = Auxiliary Contacts: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
g = Terminals: 0 or 1.
h = Entries: 0, 1, 2, 3, 4, 5, 6 or 7.
j = Number of Entries: 0, 1, 2 or 3.
k = Size: 0, 1, 2, 3, 4, 5, 6, 7, A, B, C, D, E, F, G or H.
m = Additional Options (blank if not included): r, GFCI, GFEP, GFI, B, D, K, Z or CON.

Specific Conditions of Use:

1. The flameproof joints of the explosion-protected switches cannot be repaired.
2. For use of the 8166 series conduit hub, the low ambient temperature is -30°C.
3. Electrical Ratings:

- The 8146/5-V50-b ccc-ddd-30, with a maximum current of 40 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+55°C/60°C.
- The 8146/5-V50-b ccc-ddd-30, with a maximum current of 60 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+50°C.
- The 8146/5-V50-b ccc-ddd-65, with a maximum current of 30 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.

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V50 Circuit Breaker Series 8150/5-V50-ccc-ddd-ee ff g h j k-m

Equipment Ratings:

Flameproof with increased safety for Class I, Zone 1 AEx db eb IIC T4 Gb; Nonincendive for Class I, Division 2, Groups A, B, C and D T4; Dust-Ignitionproof for Class II, III, Division 2, Groups E, F and G T4 with the ambient temperature of -40°C/-35°C ≤ Ta ≤ +60°C and water ingress rating of Type 3, 4, 4X and IP66.

Markings:

Class I, Zone 1, AEx db eb IIC T4 Gb
Class I, Division 2, Groups A, B, C, D T4
Class II, III, Division 1, 2, Groups E, F, G T4
-40°C/-35°C ≤ Ta ≤ +55°C
Type 3, 4, 4X and IP66

Description of Equipment:

V50 Circuit Breaker Series 8150/5-V50-b ccc-ddd-ee ff g h j k-m
b = Number of poles: 01, 02, 03 or 3N.
ccc = Current: 001, 002, 004, 005, 006, 008, 010, 013, 015, 016, 020, 025, 030, 032, 035, 040, 045, 050, 060, 070, 080, 090, 100, 110 or 125.
ddd = Voltage: 120, 240, 277, 347, 480, 024, 048, 060, 125, 250 or 440.
ee = Standard Circuit Breaker for Application: 30, 50, 68 or 65.
ff = Auxiliary Contacts: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
g = Terminals: 0 or 1.
h = Entries: 0, 1, 2, 3, 4, 5, 6 or 7.
j = Number of Entries: 0, 1, 2 or 3.
k = Size: 0, 1, 2, 3, 4, 5, 6, 7, A, B, C, D, E, F, G or H.
m = Additional Options (blank if not included): r, GFCI, GFEP, GFI, B, D, K, Z or CON.

Specific Conditions of Use:

1. The flameproof joints of the explosion-protected switches cannot be repaired.
2. For use of the 8166 series conduit hub, the low ambient temperature is -30°C.
3. Equipment with circuit breaker type 8568 can be marked with the low ambient temperature of -35°C.
4. Electrical Ratings:

- The 8150/5-V50-b ccc-ddd-30, with a maximum current of 40 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+55°C/60°C.
- The 8150/5-V50-b ccc-ddd-30, with a maximum current of 60 A, provide a temperature class of T4 in an ambient temperature range of -40°C/-25°C to +40°C...+50°C.
- The 8150/5-V50-b ccc-ddd-50, with a maximum current of 125 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.
- The 8150/5-V50-b ccc-ddd-68, with a maximum current of 125 A, provide a temperature class of T4 in an ambient temperature range of -35°C to +55°C.

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- The 8150/5-V50-b ccc-ddd-65, with a maximum current of 30 A, provide a temperature class of T4 in an ambient temperature range of -25°C to +55°C.

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