

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM16US0220
3. **Equipment:** RF 3XXX Series
(Type Reference and Name) Level Limit Switch
4. **Name of Listing Company:** UWT GmbH
5. **Address of Listing Company:** Westendstrasse 5
Betzigau, D-87488
Germany
6. The examination and test results are recorded in confidential report number:

3053298 dated 14th September 2016
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2011, FM Class 3610:2010, FM Class 3615:2006, FM Class 3616:2011,
FM Class 3810:2005, ANSI/ISA 61010:2012, ANSI/ISA 60079-0:2013, ANSI/ISA 60079-11:2013,
ANSI/NEMA 250:1991, ANSI/IEC 60529:2004
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.

Certificate issued by:

J. E. Marquedant
Manager, Electrical Systems

14 September 2016

Date

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

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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SCHEDULE



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10. Equipment Ratings:

Dust-Ignitionproof and Intrinsically Safe for Class II, III, Division 1, Groups E, F, & G hazardous (classified) locations with an indoor/outdoor environmental rating of Type 4/4X with ingress protection IP67.

Explosionproof and Intrinsically Safe for Class I, Division 1, Groups B, C, D; Class I, Zone 1, Group IIB+ H2; Dust-Ignitionproof and Intrinsically Safe for Class II, III, Division 1, Groups E, F, & G hazardous (classified) locations with an indoor/outdoor environmental rating of Type 4/4X with ingress protection IP67.

Explosionproof and Intrinsically Safe for Class I, Division 1, Groups B, C, D; Class I, Zone 1, Group IIB+ H2 with an indoor/outdoor environmental rating of Type 4/4X with ingress protection IP67.

11. The marking of the equipment shall include:

In type of protection Dust-Ignitionproof and Intrinsically Safe, the equipment is labelled with the following marking(s).

RFab*Lcd*ef. Level Limit Switch.

DIP-IS CL. II,III Div. 1 Group E,F,G T4A
T (amb) -40°C...+70°C
Enclosure IP67, Type 4 or Type 4X

In type of protection Explosionproof and Intrinsically Safe, Dust-Ignitionproof and Intrinsically Safe, and Flameproof and Intrinsically Safe, the equipment is labelled with the following marking(s).

RFab*Lcd*ef. Level Limit Switch.

DIP-IS CL. II,III Div. 1 Group E,F,G T4A
XP-IS CL. I Div. 1 Gr. B,C,D T4A
Cl. I Zone 1 Group IIB + H2 T4
T (amb) -40°C...+60°C
T (amb) -40°C...+70°C (For Remote Junction Box)
Enclosure IP67, Type 4 or Type 4X

In type of protection Explosionproof and Intrinsically Safe, and Flameproof and Intrinsically Safe, the equipment is labelled with the following marking(s).

RFab*Lcd*ef. Level Limit Switch.

XP-IS CL. I Div. 1 Gr. B,C,D T4A
Cl. I Zone 1 Group IIB + H2 T4
T (amb) -40°C...+60°C
T (amb) -40°C...+70°C (For Remote Junction Box)
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12. Description of Equipment:

General - The RF 3XXX Series Level Limit Switch are an electromechanical level limit switch. The RF 3XXX Series is designed for monitoring levels in containers, bins, silos, hoppers, and pipes. The level switch is capable of monitoring a variety of bulk materials including but not limited to grains, powder, slurry and liquids. The RF 3XXX Series Level Limit Switch utilizes an electric field between the probe and the container wall. An increase of the dielectric constant due to the presence of material changes the electric field. This change is detected by the electronics and converted into an electrical output signal. The RF 3XXX Series Level Limit Switch unit consists of the probe extension (optional mounted to a pipe and /or extended by rod or rope), a process connection and a housing. The housing can be fixed directly (normal version) or by cable (remote version) to the process connection.

Ratings - Operation Temperature Ranges:

The ambient operating temperature range of the RF 3XXX Series Level Limit Switch is -40°C to 70°C (for applications with remote junction box and for ordinary locations) and -40°C to 60°C. Process temperature range is -40°C to +80°C (without spacer), -40°C to +250°C (with spacer) -40°C to +500°C (with outer surfaces painted or fabricated from stainless steel).

Process Pressure:

The maximum process pressure at the process temperature range of -40°C to +80°C, is 363psi, the maximum process pressure at the process temperature range of -40°C to +250°C, is 217psi and the maximum process pressure at the process temperature range of -40°C to +500°C, is 14.5psi.

Electrical data:

The RF 3XXX Series Level Limit Switch has the following electrical ratings;
Supply 21-230Vac 50/60 Hz and 21-230Vdc, Output 250Vac, 8A and 30Vdc, 5A

In type of protection Dust-Ignitionproof and Intrinsically Safe, the equipment is designated with the following model code(s).

RFab*Lcd*ef. Level Limit Switch.

a = Type: A= 3100, B= 3200, or C=3300

b = Certification: N, F or L

c = Process connection (any number from 0-9 or letter from A-Z) with pressure ratings up to 363psi.

d = Active probe length L1 (any number from 0-9 or letter from A-Z).

e = Inactive extension length L2 (any number from 0-9 or letter from A-Z).

f = Material process connection and extension L (any number from 0-9 or letter from A-Z).

In type of protection Explosionproof and Intrinsically Safe, Dust-Ignitionproof and Intrinsically Safe, and Flameproof and Intrinsically Safe, the equipment is designated with the following model code(s).

RFab*Lcd*ef. Level Limit Switch.

a = Type: A= 3100, B= 3200, or C=3300

b = Certification: U or I

c = Process connection (any number from 0-9 or letter from A-Z) with pressure ratings up to 363psi.

d = Active probe length L1 (any number from 0-9 or letter from A-Z).

e = Inactive extension length L2 (any number from 0-9 or letter from A-Z).

f = Material process connection and extension L (any number from 0-9 or letter from A-Z).

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- c = Process connection (any number from 0-9 or letter from A-Z) with pressure ratings up to 363psi.
- d = Active probe length L1 (any number from 0-9 or letter from A-Z).
- e = Inactive extension length L2 (any number from 0-9 or letter from A-Z).
- f = Material process connection and extension L (any number from 0-9 or letter from A-Z).

13. Specific Conditions of Use:

None

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
14 th September 2016	Original Issue.

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