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 ULD 17.0012X**

Page 1 of 4

Certificate history:

Status: **Current**

Issue No: 4

Issue 3 (2020-07-30)
Issue 2 (2019-02-28)
Issue 1 (2019-01-25)
Issue 0 (2017-11-16)

Date of Issue: 2022-05-20

Applicant: **Siemens AG**
Östliche Rheinbrückenstraße 50
76187 Karlsruhe
Germany

Equipment: **HF-RFID Readers: SIMATIC RF310R, SIMATIC RF340R, SIMATIC RF350R and SIMATIC RF380R**

Optional accessory:

Type of Protection: **Increased Safety "ec", Intrinsic Safety "ic, Dust Ignition Protection by Enclosure "tc"**

Marking: Models SIMATIC RF310R, SIMATIC RF340R and SIMATIC RF380R:

Ex ec IIB T4 Gc

Ex tc IIIC T80°C Dc

Model SIMATIC RF350R:

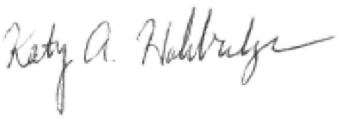
Ex ec [ic] IIB T4 Gc

Ex tc [ic IIB Gc] IIIC T80°C Dc

Approved for issue on behalf of the IECEx Certification Body: **Katy A. Holdredge**

Position: **Senior Staff Engineer**

Signature: (for printed version)



Date: (for printed version) 2022-05-20

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:

UL International DEMKO A/S
Borupvang 5A
DK-2750 Ballerup
Denmark

IECEx Certificate of Conformity

Certificate No.: **IECEx ULD 17.0012X**

Date of issue: 2022-05-20 Issue No: 4

Manufacturer: **Siemens AG**
Östliche Rheinbrückenstraße 50
76187 Karlsruhe
Germany

Manufacturing locations: **Siemens AG**
Östliche Rheinbrückenstraße 50
76187 Karlsruhe
Germany

Siemens AG, Electronic Works Amberg (EWA)
Werner-von-Siemens-Strasse 50
Amberg 92224
Germany

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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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 Reports:

DK/ULD/ExTR17.0014/00
DK/ULD/ExTR17.0014/01
DK/ULD/ExTR17.0014/02
DK/ULD/ExTR17.0014/03
DK/ULD/ExTR17.0014/04

Quality Assessment Reports:

NL/DEK/QAR12.0079/05
NL/DEK/QAR21.0001/01

IECEx Certificate of Conformity

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

The SIMATIC RF300-Series is an inductive identification system specially designed for use in industrial production environment.

Please see Annex for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The apparatus shall be provided with protection against mechanical impact.
- The apparatus shall be protected against ultraviolet light.
- Apparatus model SIMATIC RF380R shall be cleaned only with a damp cloth.
- For RF350R:
- For installations in which both the Ci and Li of the intrinsically safe apparatus exceeds 1% of the Co and Lo parameters of the associated apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1: Addition of Model SIMATIC RF350R with intrinsically safe external antenna connection and addition of Model SIMATIC RF380R.

Issue 2: Minor modifications of PCB related to low pass filtering and ESD in models SIMATIC RF310R, SIMATIC RF340R, SIMATIC RF350R.

Issue 3: Changes of power matching circuit's capacitors, not affecting safety characteristics of the product and added schematics and bill of materials.

Issue 4: Updated labels and manuals and update of standards IEC 60079-0 and IEC 60079-7 to latest editions.

Annex:

Annex to IECEx ULD 17.0012X Issue 4.pdf

IECEx Certificate of Conformity

Certificate No.: IECEx ULD 17.0012X

Issue No.: 4

TYPE DESIGNATION

SIMATIC RF3x0R

The standard for interfaces for communication is RS-422.

The reader (read/write device) ensures inductive communication and power supply to the transponder, and handles the connection to the various controllers (e.g., SIMATIC S7) through the communications module.

Model RF350R

In addition to the RS-422 communications connector, the model RF350R has an intrinsically safe “Ex ic” external antenna connection.

All Models have the same supply connector.

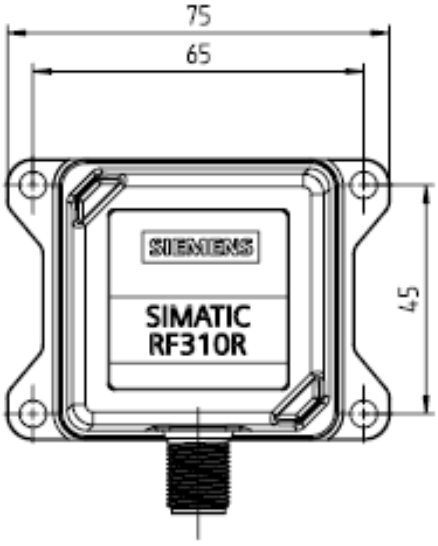
Nomenclature:

Model RF310R with small housing and small antenna.

Model RF340R with mid-size housing and mid-size antenna.

Model RF350R with mid-size housing, no antenna inside, external antenna connector.

Model RF380R with housing, long range antenna (ferrite type)



Model SIMATIC RF310R small housing, small antenna

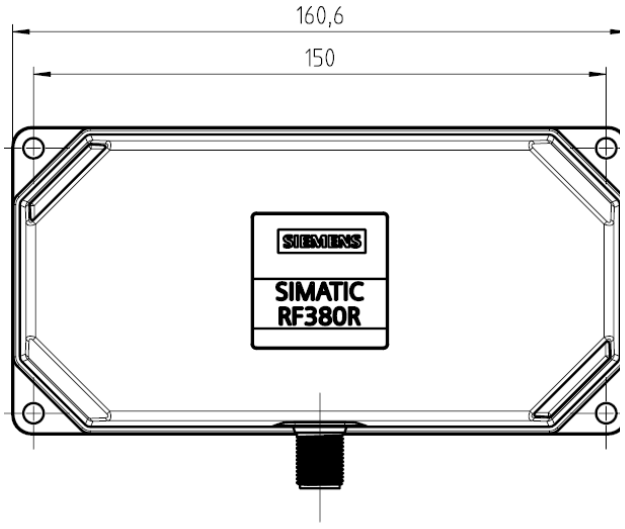
Rated Value: 24 Vdc, 60 mA

Model SIMATIC RF340R mid-size housing, mid-size antenna

Rated Value: 24 Vdc, 60 mA

RF350R

Model SIMATIC RF350R mid-size housing, no antenna inside, external antenna connector.
Rated Value: 24 Vdc, 60 mA



RF380R

Model SIMATIC RF380R housing, long range antenna (ferrite type).
Rated Value: 24 Vdc, 130 mA

PARAMETERS RELATING TO THE SAFETY

Models SIMATIC RF310R, SIMATIC RF340R:
24 V dc, 60 mA

Model SIMATIC RF350R:
24 Vdc, 60 mA

Serial communication connector:
Um = 28V
Antenna HF output connector

Uo	:	34.5 V
Io	:	170 mA
Po	:	0.56 W
Lo	:	11 mH
Co	:	1 µF

Model SIMATIC RF380R:
24 V dc, 130 mA

IECEx Certificate of Conformity

Certificate No.: IECEx ULD 17.0012X

Issue No.: 4

MARKING

Marking has to be readable and indelible; it has to include the following indications:

Example for Model RF310R

Example for Model RF340R

Example for Model RF350R

Example for Model RF380R

ROUTINE EXAMINATIONS AND TESTS

Dielectric test in accordance with industrial test may serve as alternative for the test described in cl. 6.1 of IEC 60079-7.

These tests may be performed on statistical basis in accordance with ISO 2859-1 with an acceptance quality limit (AQL) of 0,04.