



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx ITS 16.0026X

Issue No: 2

Certificate history:

Issue No. 2 (2018-07-31)

Status: **Current**

Issue No. 1 (2018-02-22)

Date of Issue: **2018-07-31**

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Issue No. 0 (2016-04-01)

Applicant: **R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8  
50829 Köln  
**Germany**

Equipment: **Videocamera enclosure model: EC-940S and EC-840S**

*Optional accessory:*

Type of Protection: **Ex db IIC; Ex tb IIIC**

Marking:

Ex db IIC Tx Gb

Ex tb III C Tx Db IP66/IP68

$-60^{\circ}\text{C} \leq T_{\text{amb}} \leq +65^{\circ}\text{C}$  or  $+55^{\circ}\text{C}$  depending on application

*Approved for issue on behalf of the IECEx  
Certification Body:*

V K Varma

*Position:*

Certification Officer

*Signature:  
(for printed version)*

*Date:*

2018-07-31

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 the [Official IECEx Website](#).

Certificate issued by:

**Intertek Testing & Certification Limited**  
ITS House, Cleeve Road,  
Leatherhead,  
Surrey, KT22 7SA  
United Kingdom





# IECEX Certificate of Conformity

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Manufacturer: **R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8  
50829 Köln  
Germany

Additional Manufacturing location(s):

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 apparatus 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 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0  
**IEC 60079-1 : 2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0  
**IEC 60079-31 : 2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

*This Certificate **does not** indicate compliance with electrical 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 Report:

[GB/ITS/ExTR16.0029/00](#)      [GB/ITS/ExTR16.0029/01](#)      [GB/ITS/ExTR16.0029/02](#)

### Quality Assessment Report:

[DE/BVS/QAR06.0007/09](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The EC series explosion-proof housing has been designed for use with cameras operating in industrial environments in which there may be an explosive atmosphere due to gas, vapours, mists, or air or powder mixtures. The EC housing is made of micro shot peened AISI 316L stainless steel. It is constituted by a cylindrical body closed by one welded front flange and one bolted rear flange. The front flange has toughened glass window or germanium window. The rear flange incorporates the internal slide where the camera must be positioned, it contains also the internal electronics that manages the power supply and the heating devices of the housing. The cables entry is made through one 3/4" NPT threaded hole on the rear flange.

The EC series explosion-proof housing has an IP66/IP68 (2h, 5m) protection degree and its operating temperature is from -60°C to +65°C, or +55°C depending on application.

see details in the COC Annex.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

The max power consumption of the camera installed inside the enclosure and its dimensions are defined in the CoC annex.

The video encoder, if present, is be part of the pcb preinstalled by the manufacturer.

It is required to use cables and cable glands, fittings or other connection element suitable for a minimum temp of +80°C.

Specific guidance noted to contact the original manufacturer for information on the dimensions of the flameproof joints is reported in the user manual.

The rear access cover has to be closed with eight M5x0.8 hexagon socket stainless steel screws (A4 class 70, head per ISO 4762, long 12 mm, yield stress 450 N/mm<sup>2</sup>).

It is not possible to install video camera o component with batteries.

When the enclosure is used with a conduit, the following requirement must be satisfied: The distance from the face of the seal closest to the enclosure (or intended end-use enclosure), and the outside wall of the enclosure (or intended end-use enclosure) shall be as small as practical, but in no case more than the size of the conduit or 50 mm, whichever is the lesser.

### Routine test:

Routine test for IEC 60079-1: it is required to make an overpressure at 45bar. The application of the pressure shall be at least 10s.



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## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

### Issue 01:

Applicant and manufacturer change name, from

R. STAHL Camera Systems GmbH, Adolf-Grimme Allee 8, 50829 Köln (DE)

to

R. STAHL HMI Systems GmbH, Adolf-Grimme Allee 8, 50829 Köln (DE)

Marking changes from:

Ex d IIC Tx Gb

to

Ex db IIC Tx Gb

All other parameters remain the same.

### Issue 02:

It has changed the last point of type code in the following:

- EC-940s model.Empty: First release,B: Second release
- EC-840s model.Empty: First release,B: Second release

The electronic component present inside the equipment has changed, but there are no variations on the absorbed and dissipated powers, and the free volume is not changed from the previous certification, so the explosion tests are not affected by these modifications.

All other parameters remain the same.

### Annex:

[IECEX ITS 16.0026X -- Issue 02.pdf](#)



# Annex to IECEx Certificate of Conformity

Certificate No:	<b>IECEX ITS 16.0026X</b>	Issue No. 2
Annex No. 1		

1. Applicant:

R. Stahl Camera System GmbH  
 Adolf-Grimme Allee 8,  
 50829 Köln  
 Germany

2. Description of the equipment

The EC series explosion-proof housing has been designed for use with cameras operating in industrial environments in which there may be an explosive atmosphere due to gas, vapours, mists, or air or powder mixtures.

The EC housing is made of micro shot peened AISI 316L stainless steel. It is constituted by a cylindrical body closed by one welded front flange and one bolted rear flange.

The front flange has toughened glass window or germanium window.

The rear flange incorporates the internal slide where the camera must be positioned, it contains also the internal electronics that manages the power supply and the heating devices of the housing.

The cables entry is made through one 3/4" NPT threaded hole on the rear flange.

The EC series explosion-proof housing has an IP66/IP68 (2h, 5m) protection degree and its operating temperature is from -60°C to +65°C, depending on application.

The temperature class should be:

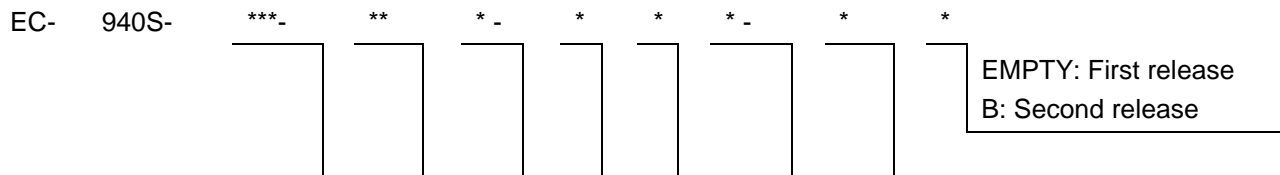
Ambient temperature: $T_{amb}$	Temperature class for Gas	Max surface temperature for Dust
-60°C up to +65°C	T5	+100°C
-50°C up to +65°C	T5	+100°C
-60°C up to +55°C	T6	+85°C
-50°C up to +55°C	T6	+85°C

The unit is designed for use in a fixed location, for surveillance of areas classified as zone 1-21 and zone 2-22 potentially explosive atmospheres.

The type code is function of the model of the camera:

1. Standard;
2. With thermal camera; and
3. With High definition Camera.

The type code for the standard model and for High definition Camera is:





# Annex to IECEx Certificate of Conformity

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Model:

65: T6 -50°C/+55°C

66: T6 -60°C/+55°C

55: T5 -50°C/+65°C

56: T5 -60°C/+65°C

Connection:

O: no cable, no cable gland

\*: connection devices

F: cable tail 4mt

G: cable tail 10mt

H: cable tail xx mt

I: cable tail xx mt

J: cable tail xx mt

Voltage:

2: 12-24VDC / 24VAC

Accessory

O: no accessory

W: with wiper

Video output :

A : analog

I : IP H.264

Camera:

00: without camera

\*\* : pre-installed camera

Certificate issued by:

**intertek**

Total Quality. Assured.

**Intertek Testing and Certification Ltd**

**Intertek House**

**Cleeve Road**

**Leatherhead**

**Surrey KT22 7SB**

**UNITED KINGDOM**

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SFT-IECEX-OP-HAZ-19f (10/23/2017)



# Annex to IECEx Certificate of Conformity

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AFZ: auto focus camera  
 WOC: without camera

The type code for the Thermal camera frequency is:

EC-	840S-	*** -	**	* -	**	*	* -	**_	*	*
										EMPTY: First release B: Second release
										Thermal camera frequency: EMPTY: 7.5-8.3Hz H: 25-30Hz
										Model: 65: T6 -50°C/+55°C 66: T6 -60°C/+55°C 55: T5 -50°C/+65°C 56: T5 -60°C/+65°C
										Connection: 0: no cable, no cable gland *: connection devices F: cable tail 4mt G: cable tail 10mt H: cable tail xx mt I: cable tail xx mt J: cable tail xx mt



# Annex to IECEX Certificate of Conformity

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Voltage:  
2: 12-24VDC / 24VAC

Camera  
00: without camera  
\*\*: pre-installed camera

Video output :  
A : analog  
I : IP H.264

Lens:  
00: without camera and lens  
\*\*: pre-installed lens

TIC: Thermal Imaging camera  
WOC: without camera

## Specific Conditions of Use:

Technical Documents			
Title:	Drawing No.:	Rev. Level:	Date:
Label drawing	LABEL DRAWING EC-940S EC-840S	02	15/05/2018
Instruction manual	MNTCMVXHDCAM_1820	1820	Week 20, 2018
Instruction manual	MNTCMVXTHD_1820	1820	Week 20, 2018





## Annex to IECEx Certificate of Conformity

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IECEX Certified Components on Which Conformance Depends					
Item	Description	Manufacturer	Type	Certificate No. / Standards*	Coding / Ratings
1	N/A	N/A	N/A	N/A	N/A

Required Manufacturer Routine Testing		
Test	Title/Description of Test	Standard and Clause
1	Overpressure test: it is required to make an overpressure at 45bar. The application of the pressure shall be at least 10s.	IEC 60079-1 cl.16