

# EU-TYPE EXAMINATION CERTIFICATE



## Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [3] EU-Type Examination Certificate Number: **DEMKO 16 ATEX 1674X Rev. 6**
- [4] Product: **Pan & Tilt Units – EC-940-PTZ-A\* / EC-940-PTZ-\* / EC-940-DUA-\* / EC-94\* (with \* other than 0) / EC-98\* / EC-84\* (with \* other than 0) series and EC-95\* series**
- [5] Manufacturer: **R. STAHL HMI Systems GmbH**
- [6] Address: **Adolf-Grimme-Allee 8, 50829 Köln, Germany**
- [7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in confidential report no. **DK/ULD/ExTR16.0005/06.**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018**

**EN 60079-1:2014**

**EN 60079-31:2014**

- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by the certificate.
- [12] The marking of the product shall include the following:

**EC-940-PTZ-A\* /, EC-940-PTZ-\* / and EC-940-DUA-\* / EC-94\* (with \* other than 0) / EC-98\* / and EC-84\* (with \* other than 0) series:**

 **II 2 G Ex db IIC T6 Gb or  
Ex db IIC T6...T1 Gb**

 **II 2 D Ex tb IIIC T85°C Db or  
Ex tb IIIC T85°C...T450°C Db**

**EC-95\* series:**

 **II 2 G Ex db IIC T6...T4 Gb**

 **II 2 D Ex tb IIIC T85°C...T135°C Db**

**Certification Manager**  
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

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## Schedule

### EU-TYPE EXAMINATION CERTIFICATE No.

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[15] Description of Product

EC-940-PTZ-A\* / EC-940-PTZ-\* / EC-940-DUA-\* / EC-94\* (with \* other than 0) / EC-98\* / EC-84\* (with \* other than 0) and EC-95\* series housings contain an integrated fully functional camera head system handling preset, autopan and patrol functions with an integrated wiper. The housings are comprised of the following compartments: a static terminal compartment base, a main body providing 360° continuous pan movement and either one or two camera housings with +90° to -90° tilt movement. The EC-940-PTZ-A, EC-940-DUA and EC-98\* series housings are fitted with a standard day/night camera. The EC-940-PTZ and EC-94\* (with \* other than 0) are fitted with a Full HD day/night camera. The EC-940-DUA and EC-98\* series housing are additionally fitted with an infra-red camera. The EC-95\* is additionally fitted with white light or infrared 850nm wavelength LEDs. The EC-84\* (with \* other than 0) series housing is fitted with an infra-red camera.

The terminal compartment provides one or two 3/4" NPT (M25 x 1.5 as an alternative) cable entry to the side of the projecting cylinder welded to its enclosure for end user connection to either cable connectors or a conduit system depended on application. Access to the terminal enclosure for termination of supply or replacement of either of the two fitted fuses or inputs and outputs is via a threaded cover closing off the projected cylinder. The top threaded cover provides a shaft for connection to the main enclosure body, which is fitted with a slip ring, providing cable connection from the terminal compartment into the main body enclosure.

The main body is cylindrical in shape with two externally welded cylindrical spigot arms with female threaded apertures projecting from it 180° apart that can be used for connection of either a camera housing, LED illuminator housing or closed off with a threaded cover. The EC-940-PTZ, EC-94\* (with \* other than 0) and EC-84\* (with \* other than 0) series are provided with only one externally welded cylindrical spigot arms. Internal circuitry consists of a thermostat board maintaining a minimum internal temperature when the equipment is powered. With one of two thermostats fitted in series switching off the circuit when the temperature is reached. The base of the main body provides a female thread for connection to the terminal compartment with the top of the main body closed off with a threaded cover.

The camera housing is cylindrical in shape with an externally projecting welded cylindrical spigot arm with a female threaded aperture. The aperture is fitted with a connecting shaft for connection to the main body. The ends of the housing are closed off with threaded covers. The front cover is fitted with a window cemented in place. The day/night camera housing is additionally fitted with an externally fitted window wiper and internally fitted with thermostat circuitry. The circuitry maintains a minimum internal temperature when the equipment is powered with one of two thermostats fitted in series switching off the circuit when the temperature is reached. The top of the housing is fitted with female threaded studs for connection of a sun shield. Internally the camera housing is fitted with an optical zoom.

Externally the equipment, other than the cemented windows, is manufactured from passivated, electro-polished AISi 316L stainless steel.

Product Nomenclature:

EC-940-PTZ-A\*, EC-940-PTZ-\* and EC-940-DUA-\* series.

Model: EC-940-PTZ-Aaa-bcd-ee

Where:

|    |              |    |   |
|----|--------------|----|---|
| aa | Camera       | 3P | 36x optical zoom, PAL   |
|    |              | 2P | 28x optical zoom, PAL   |
|    |              | 3N | 36x optical zoom, NTSC  |
|    |              | 2N | 28x optical zoom, NTSC  |
| b  | Accessory    | W  | With wiper  |
| c  | Voltage      | 1  | 230Vac  |
|    |              | 2  | 24Vac   |
|    |              | 3  | 120Vac  |
| d  | Video output | 0  | Analog version  |
|    |              | X  | Integrated MPEG4 video server to control all functions via IP |
|    |              | F  | Integrated Single Mode video and data fiber optic transmitter |
|    |              | G  | Integrated Multi Mode video and data fiber optic transmitter  |
| Z  |              |    | Integrated H264 video server to control all functions via IP  |
|    |              |    |   |
| ee | Variation    | ** | Empty or for internal use                                     |

Model: EC-940-PTZ-aab-cdeff

Where:

|    |              |    |  |
|----|--------------|----|--|
| aa | Camera       | HD | HD Camera day/night, 30x optical Zoom                        |
|    |              | HF | HD Camera day/night, 30x high sensitivity                    |
| b  | Video output | I  | Integrated H264 video server to control all functions via IP |
| c  | Accessory    | W  | With wiper   |
| d  | Voltage      | 1  | 230Vac   |
|    |              | 2  | 24Vac  |
|    |              | 3  | 120Vac   |
| e  | Release      | *  | Empty – first release  |
|    |              | B  | Second release   |
| ff | Variation    | ** | Empty or for internal use                                    |



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Model: EC-940-DUA-abb-cdd-eef-ghi-ll

Where:

|    |                          |         |   |
|----|--------------------------|---------|---|
| a  | Type of camera           | A       | Analog camera day/night                                       |
| bb | Camera                   | 3P      | 36x optical zoom, PAL   |
|    |                          | 2P      | 28x optical zoom, PAL   |
|    |                          | 3N      | 36x optical zoom, NTSC  |
|    |                          | 2N      | 28x optical zoom, NTSC  |
| c  | Type of camera           | A       | Analog TIC camera   |
| dd | Lens size thermal camera | 35      | 35mm lens   |
|    |                          | 25      | 25mm lens   |
|    |                          | 19      | 19mm lens   |
|    |                          | 13      | 13mm lens   |
|    |                          | 09      | 9mm lens  |
| ee | Thermal camera           | 16      | Tau 160   |
|    |                          | 32      | Tau 320   |
|    |                          | 33      | Tau 336   |
|    |                          | 64      | Tau 640   |
| f  | Wiper                    | W       | With wiper  |
| g  | Voltage                  | 1       | 230Vac  |
|    |                          | 2       | 24Vac   |
|    |                          | 3       | 120Vac  |
| h  | Video output             | 0       | Analog version  |
|    |                          | X       | Integrated MPEG4 video server to control all functions via IP |
|    |                          | F       | Integrated Single Mode video and data fiber optic transmitter |
|    |                          | G       | Integrated Multi Mode video and data fiber optic transmitter  |
|    |                          | Z       | Integrated H264 video server to control all functions via IP  |
| i  | Thermal camera frequency | No code | 7.5-8.3 Hz  |
|    |                          | H       | 25-30 Hz  |
| ll | Variation                | **      | Empty or for internal use                                     |

EC-94\* (with \* other than 0), EC-98\* and EC-84\* (with \* other than 0) series.

Model: EC-94a-bbcccddeeee

Where:

|      |                |      |  |
|------|----------------|------|--|
| a    | Release        | *    | For internal use (one alphanumeric character other than 0)   |
| bb   | Voltage        | V1   | 230V ac  |
|      |                | V2   | 24V ac   |
|      |                | V3   | 120V ac  |
|      |                | V5   | 220V ac  |
|      |                | V6   | 100V ac  |
| ccc  | Visible camera | ***  | Pre-installed visible camera (three alphanumeric character)  |
| dd   | Temperature    | **   | T CLASS and Ambient Temperature (two alphanumeric character) |
| eeee | Variation      | **** | For internal use (four alphanumeric character)               |

Model: EC-98a-bbccddddeeffggg

Where:

|      |                          |      |  |
|------|--------------------------|------|--|
| a    | Release                  | *    | For internal use (one alphanumeric character other than 0)   |
| bb   | Voltage                  | V1   | 230V ac  |
|      |                          | V2   | 24V ac   |
|      |                          | V3   | 120V ac  |
|      |                          | V5   | 220V ac  |
|      |                          | V6   | 100V ac  |
| ccc  | Visible camera           | ***  | Pre-installed visible camera (three alphanumeric character)  |
| dddd | Thermal camera           | **** | Pre-installed thermal camera (four alphanumeric character)   |
| ee   | Temperature              | **   | T CLASS and Ambient Temperature (two alphanumeric character) |
| ff   | Thermal camera frequency | Y0   | 7.5 Hz   |
|      |                          | Y1   | 30 Hz  |
| gggg | Variation                | **** | For internal use (four alphanumeric character)               |

Model: EC-84a-bbcccddeeffff

Where:

|      |                          |      |  |
|------|--------------------------|------|--|
| a    | Release                  | *    | For internal use (one alphanumeric character other than 0)   |
| bb   | Voltage                  | V1   | 230V ac  |
|      |                          | V2   | 24V ac   |
|      |                          | V3   | 120V ac  |
|      |                          | V5   | 220V ac  |
|      |                          | V6   | 100V ac  |
| cccc | Thermal camera           | **** | Pre-installed thermal camera (four alphanumeric character)   |
| dd   | Temperature              | **   | T CLASS and Ambient Temperature (two alphanumeric character) |
| ee   | Thermal camera frequency | Y0   | 7.5 Hz   |
|      |                          | Y1   | 30 Hz  |



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|      |           |      |  |
|------|-----------|------|--|
| ffff | Variation | **** | For internal use (four alphanumeric character) |
|------|-----------|------|--|

EC-95\*: EC-95a-bbccccdeeffgggg

Where:

|      |                      |      |  |
|------|----------------------|------|--|
| a    | Release              | *    | Release (one alphanumeric character)                         |
| bb   | Voltage              | V1   | 220-230V ac  |
|      |                      | V2   | 24V ac   |
|      |                      | V3   | 120V ac  |
|      |                      | V6   | 100V ac  |
| ccc  | Visible light camera | ***  | Pre-installed visible camera (three alphanumeric character)  |
| dd   | Light                | L8   | 850 nm   |
|      |                      | LW   | White  |
| ee   | Illuminator lens     | **   | Pre-installed illuminator lens (two alphanumeric character)  |
| ff   | Temperature          | **   | T CLASS and Ambient Temperature (two alphanumeric character) |
| gggg | Variation            | **** | For internal use (four alphanumeric character)               |

Electrical Ratings:

EC-940-PTZ-A\* / EC-940-PTZ-\* / EC-940-DUA-\*:

| Supply Voltage | Electrical ratings   |
|----------------|----------------------|
| 230V ac        | 0.52A, 50/60Hz, 120W |
| 24V ac         | 5A, 50/60Hz, 120W    |
| 120V ac        | 1A, 50/60Hz, 120W    |

EC-94\* (with \* other than 0) / EC-98\* / EC-84\* (with \* other than 0):

| Supply Voltage | Electrical ratings   |
|----------------|----------------------|
| 230V ac        | 0.52A, 50/60Hz, 120W |
| 24V ac         | 5A, 50/60Hz, 120W    |
| 120V ac        | 1A, 50/60Hz, 120W    |
| 220V ac        | 0.54A, 50/60Hz, 120W |
| 100V ac        | 1.2A, 50/60Hz, 120W  |

EC-95\*:

| Supply Voltage | Electrical ratings       |
|----------------|--------------------------|
| 220-230V ac    | 0.54A max, 50/60Hz, 120W |
| 24V ac         | 5A, 50/60Hz, 120W        |
| 120V ac        | 1A, 50/60Hz, 120W        |
| 100V ac        | 1.2A, 50/60Hz, 120W      |

Environmental Ratings:

The relation between ambient temperature and the assigned temperature class is as follow:

EC-940-PTZ-A\* / EC-940-PTZ-\* / EC-940-DUA-\*:

| Ambient temperature range | Temperature Class / Max. Surface Temperature |
|---------------------------|--|
| -40°C ≤ Ta ≤ +60°C        | T6/T85°C                                     |

For EC-94\* (with \* other than 0) / EC-98\* / EC-84\* (with \* other than 0):

Ambient temperature range:

-40°C ≤ Ta ≤ +80°C.

Cable entries and field wiring must be suitable for an operating temperature as specified in the following table. The relation between maximum ambient temperature, maximum dissipated power (W) within camera housings, cable entry/branching point temperatures and the assigned temperature class/maximum surface temperature is as follows:

For maximum dissipated power (W) within each camera housings ≤ 12W:

| Temperature Class                                 | T6/T85°C |      |      |      |      |      |      |
|---|----------|------|------|------|------|------|------|
|   | 50°C     | 55°C | 60°C | 65°C | 70°C | 75°C | 80°C |
| T Ambient   |          |      |      |      |      |      |      |
| Max. dissipated Power [W] for each camera housing | 12.0     | 11.0 | 8.2  | 5.3  | 2.5  | -    | -    |
| T Cable [°C]                                      | 60.9     | 65.3 | 68.7 | 72.1 | 75.5 | -    | -    |

Note: All models which meet the requirements for T6/T85°C are also permitted to be marked T5/T100°C, T4/T135°C, T3/T200°C, T2/T300°C or T1/T450°C.

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| Temperature Class                                 | T5/T100°C |      |      |      |      |      |      |
|---|-----------|------|------|------|------|------|------|
| T Ambient [°C]                                    | 50°C      | 55°C | 60°C | 65°C | 70°C | 75°C | 80°C |
| Max. dissipated Power [W] for each camera housing | 12.0      | 12.0 | 12.0 | 12.0 | 11.0 | 8.2  | 5.3  |
| T Cable [°C]                                      | 60.9      | 65.9 | 70.9 | 75.9 | 80.3 | 83.7 | 87.1 |

Note: All models which meet the requirements for T5/T100°C are also permitted to be marked T4/T135°C, T3/T200°C, T2/T300°C or T1/T450°C.

| Temperature Class                                 | T4/T135°C |      |      |      |      |      |      |
|---|-----------|------|------|------|------|------|------|
| T Ambient   | 50°C      | 55°C | 60°C | 65°C | 70°C | 75°C | 80°C |
| Max. dissipated Power [W] for each camera housing | 12.0      | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 9.6  |
| T Cable [°C]                                      | 60.9      | 65.9 | 70.9 | 75.9 | 80.9 | 85.9 | 89.5 |

Note: All models which meet the requirements for T4/T135°C are also permitted to be marked T3/T200°C, T2/T300°C or T1/T450°C.

For maximum dissipated power (W) within each camera housings of  $12 < W \leq 16$ :

| Temperature Class / Max. Surface Temperature      | T5/T100°C        | T4/T135°C        |
|---|------------------|------------------|
| T Ambient   | 50°C             | 60°C             |
| Max. dissipated Power [W] for each camera housing | $12 < W \leq 16$ | $12 < W \leq 16$ |
| T Cable [°C]                                      | 80°C             | 80°C             |

EC-95\*:

Ambient temperature range:  
 $-40^\circ\text{C} \leq T_a \leq +75^\circ\text{C}$ .

Cable entries and field wiring must be suitable for an operating temperature as specified in the following table. The relation between ambient temperature range, cable entry/branching point temperatures and the assigned temperature class/maximum surface temperature is as follows:

For maximum dissipated power (W) within visible camera housing  $\leq 12W$ :

| Temperature Class / Max. Surface Temperature         | T6 / T85°C  | T5 / T100°C | T4 / T135°C | T4 / T135°C |
|--|-------------|-------------|-------------|-------------|
| T Ambient max. [°C]                                  | 50°C        | 60°C        | 70°C        | 75°C        |
| Max. dissipated Power [W] for visible camera housing | $W \leq 12$ |             |             |             |
| T Cable [°C]   | 66.8°C      | 76.8°C      | 86.8°C      | 91.8°C      |

For maximum dissipated power (W) within visible camera housing of  $12 < W \leq 16$ :

| Temperature Class / Max. Surface Temperature         | T6 / T85°C       | T5 / T100°C | T4 / T135°C |
|--|------------------|-------------|-------------|
| T Ambient max. [°C]                                  | 40°C             | 50°C        | 60°C        |
| Max. dissipated Power [W] for visible camera housing | $12 < W \leq 16$ |             |             |
| T Cable [°C]   | 56.8°C           | 66.8°C      | 76.8°C      |

#### Routine tests

Routine overpressure tests in accordance with EN 60079-1:2014, clause 16.3, are required in production of the following component parts:

- Main body enclosure, except upper and lower covers;
- Standard camera enclosure, body and front cover only;
- Infra-red camera enclosure, body and front cover only;
- Illuminator enclosure, body and front cover only; and
- Terminal compartment housing and welded upper cover.

Each enclosure component shall be subjected to a routine overpressure test value of a pressure of 31.3 bar for a duration of not less than 10 seconds. There shall be no sign of damage, deformation or rupture that will invalidate the concept of protection.

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#### Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this EU-Type Examination Certificate.

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#### Specific conditions of use:

- Contact the manufacturer for information on the dimensions of the flameproof joints.
- The unit can be only installed in standard or inverted position.
- Ambient temperature and Surface temperature – see instructions.
- Care shall be taken to prevent accumulation of electrostatic charges. See installation instructions.



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### Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

### Additional information



The trademark  will be used as the company identifier on the marking label.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.