# Lumiglas

## VISULEX Ex-Camera K07ZP-Ex/K07ZN-Ex
### ⟨Ex⟩ II 2G Ex de IIC T6 Gb
### II 2D Ex tb IIIC T80°C Db

- **Camera with zoom lens K07ZP-Ex/K07ZN-Ex:**
  The zoom lens of this camera is operated remotely from an external control room where the technical settings can be adjusted to meet the specific requirements.
  LumiCam system and control software provides the following functions for controlling the camera focused on the observed object using PC controls with a Windows interface:

- **Precision setting for:**
  - Zoom
  - Focus
  - Aperture, shutter, gain
  - Documentation aids such as date and time
  - Preset positions

- **Design and applications:**
  - Pressure-resistant aluminium body with built-in colour CCD camera, 1/4" CCD sensor, 2 lux light sensitivity, a 2-wire transmitter with electronics, and aluminium mounting bracket
  - Approved for use in Ex zones 1 and 2 as well as zones 21 and 22
  - Type of protection: IP 65

- **Ambient temperatures:** between +5°C and +40°C

- **EC type examination certificate:** BVS 08 ATEX E 132
  ⟨Ex⟩ II 2G Ex de IIC T6 Gb
  II 2D Ex tb IIIC T80°C Db

- **Ignition protection type:** Ex de

- **Explosion groups:** IIC (includes IIA and IIB)
  IIIC (includes IIIA and IIIB)

- **Zoom lens (standard version):**
  - Minimum lens-to-object distance: 100 mm
  - Focal length F = 4.2 to 42.0 mm
  - Optical zoom: 10 x
  - Digital zoom: 4 x more
  - Horizontal viewing angle at 1/4": 5° to 46°

- **Electrical connection:**
  - Link-up is established via control line to the **control unit** (camera rack with camera control modules and video server, if needed) which should be ordered separately. The CU must be installed and operated **outside the potentially explosive area**. A camera control module is required for each camera (or alternatively a video server) which is inserted into the rack. Besides single racks, we also offer racks for up to 6 camera control modules.
  - **Camera voltage:** 24 V DC (supplied by the control unit), Rated power: up to 25 W, 2-wire transmission

- **Control line:**
  - 6-core cable (3 twisted pairs)
  - Length: up to approx. 500 m (between Ex camera and control unit)
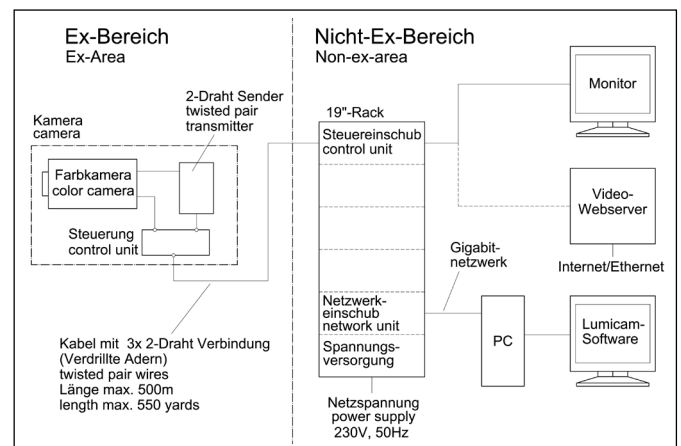  - Transmission line 3P x AWG 20 C

- **Weight:** 2.7 kg


VISULEX Ex-Camera K07ZP-Ex with zoom lens




Single-camera rack with video server


6-camera rack equipped with three camera modules and three video servers

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**• Simple installation with special bracket for practical use:**
The camera is mounted on the cover flange of the circular sight glass fitting or flow sight glass using the hinged bracket.
In the case of the screw-type sight glass fitting, it is attached to the slotted cover nut.
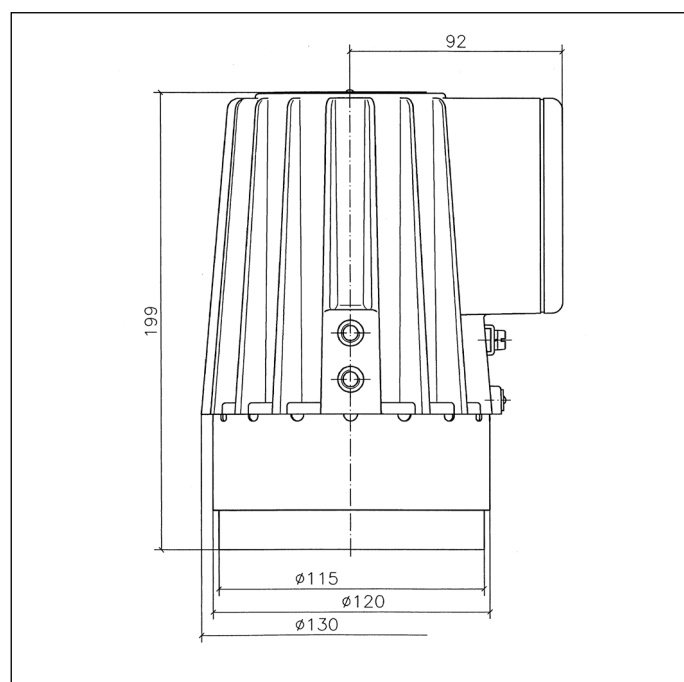
**• Illumination:**
- If there is not sufficient natural light in the vessel, an appropriately dimensioned Lumistar luminaire can additionally be installed.
- A separate arrangement consisting of light glass and camera glass is a further option for consideration. This combination depends on the process and the reactor size as well as on the surface of the vessel, the medium in question, and the angle of incidence.
- Consistently uniform illumination should be ensured.

**• Dimensions and technical data for VISULEX Ex-Camera K07ZP-Ex/K07ZN-Ex:**

| Camera | K07ZP-Ex (PAL) | K07ZN-Ex (NTSC) |
|---|---|---|
| Camera standard | CCIR (Europa) | EIA (USA) |
| Image sensor | 1/4'' CCD | 1/4'' CCD |
| Pixels | approx. 440,000 | approx. 380,000 |
| Light sensitivity | 2 lux | 2 lux |
| Resolution | 460 lines (horizontal) | 470 lines (horizontal) |
| Electronic shutter speeds | Automatic, 1/1-1/10,000 | Automatic, 1/1-1/10,000 |
| Signal-to-noise ratio | >50 dB | >50 dB |
| Aperture control | Automatic or manual | Automatic or manual |
| Colour system | PAL | NTSC |

| Control unit (rack and module) | Single-camera rack | 6-camera rack |
|---|---|---|
| Power input | Max. 15 W | Base load 5 W; the rating increases by 15 W per module (max. 95 W) |
| Fuse protection (due to starting current) | 1.6 A | 6.3 A |
| Dimensions mm (H x W x D) | 160 x 180 x 300 | 160 x 470 x 300 |



**• Order data:**

| Item | Component | Part No. |
|---|---|---|
| 1 | Single-camera rack | 1590.053.00 |
| 2 | 6-camera rack | 1590.051.00 |
| 3 | Camera control module | 1123.008.00 |
| 4 | Network unit | 1128.001.00 |
| 5 | Network unit with video server | 1128.002.00 |
| 6 | Transmission cable | 3465.000027 |

**For example:**
VISULEX Ex-Camera K07ZP-Ex
- 370 m transmission cable (please state length in full metres)
- Rack for 1 or 6 cameras (see table above)
- Camera control module, part no. 1123.008.00
We recommend the 6-camera rack for connecting additional cameras at a later date.

All dimensions in mm unless stated otherwise. Subject to change without prior notice. 10.15