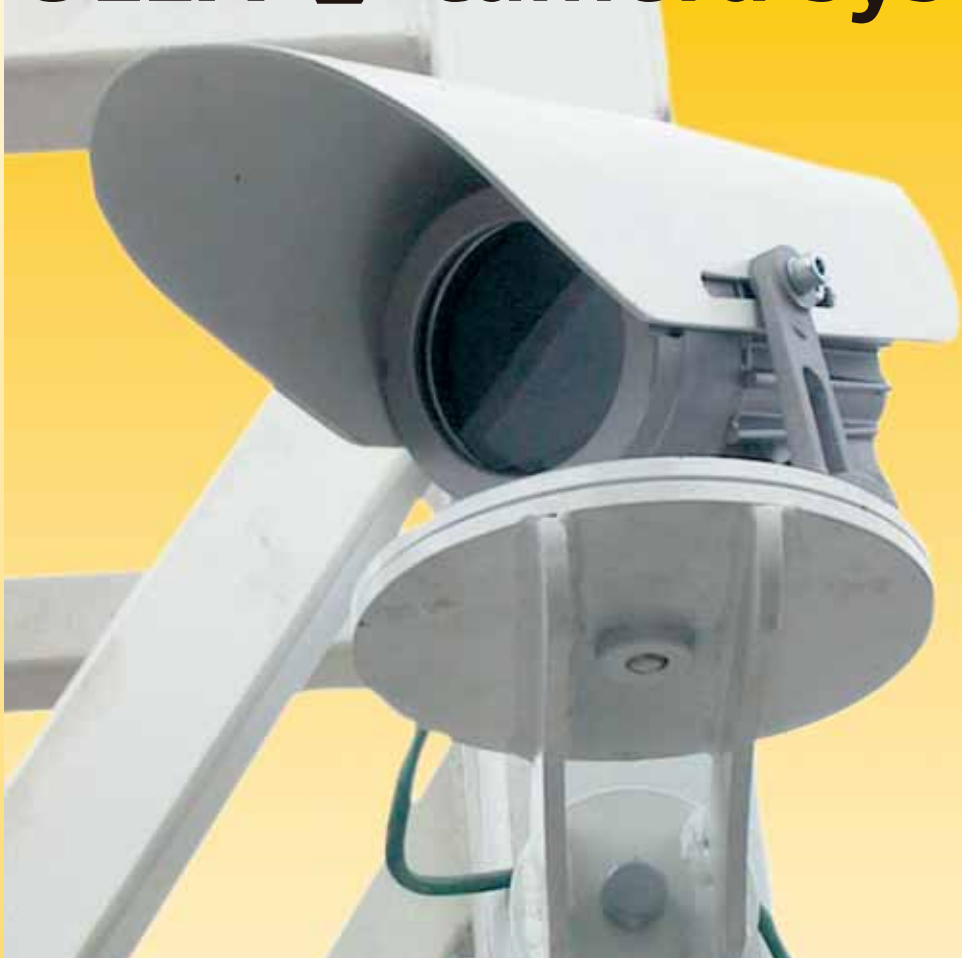


Process observation and visual control systems

lumiglas[®]

VISULEX -camera system



Inspection and remote observation of process operations
in explosion and non explosion hazardous areas

PAPENMEIER



Ex-camera system

Lumiglas-VISULEX-Ex-camera system 'In-sight with far-sight'

Data Sheet 07.70

- For the inspection and remote observation of process operations in explosion and non explosion hazardous areas. Remotely sited cameras also provide for surveillance of areas not normally accessible.
- The permanent availability of visual process data in a central control room saves considerable expenses such as work and travel time. Physical visits to critical production areas or external facilities are no longer necessary, contributing to plant safety. The Lumiglas VISULEX Ex camera system meets these requirements with optimum cost effectiveness.
- Visual process data is displayed for checking, evaluation or possible image processing on a monitor screen or on the PC, thus allowing digital storage of the complete process sequence and its replay.
- Lumiglas Ex luminaires provide for any additional lighting needed for the internal illumination of the subject to be observed.

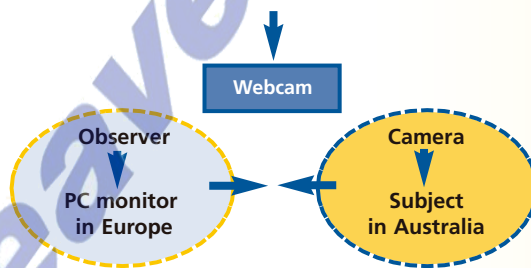
- The remote controlled camera system is designed for use in Ex as well as aseptic areas.
- System – and control software 'LumiCam'
This software package, based on Windows and specially developed by Lumiglas offers the user the following functions, either through a PC or Notebook, for the control of the camera fitted on the subject:
 - Setting of
 - zoom
 - focus
 - aperture, shutter, gain
 - documentation aids e.g. date and time
 - preset functions
 - Image modification and storage
 - Image transfer in real time
 - company wide via LAN
 - worldwide via 'Webcam', e.g.



A reactor in an Ex area.



Process flow in the reactor



Pictures taken by the camera are shown on a monitor screen in the control room situated outside the Ex hazardous area



Lumiglas-VISULEX-Ex-camera with zoom lens, model K07-Ex

Lumiglas-VISULEX-Ex-camera with fixed lens, model K06-Ex

- **All the advantages at a glance:**

- small size of the compact Ex-camera (only 167 x 110 mm)
- simple handling, setting up and little space requirement
- ideal when combined with Ex-luminaires, including the Light guide models
- data transfer in Ex areas via Video cable up to 500m and/or world-wide over web
- picture presented on Monitor or via PC
- PC: storage of single pictures or video sequences
- Projector presentation for large groups of people

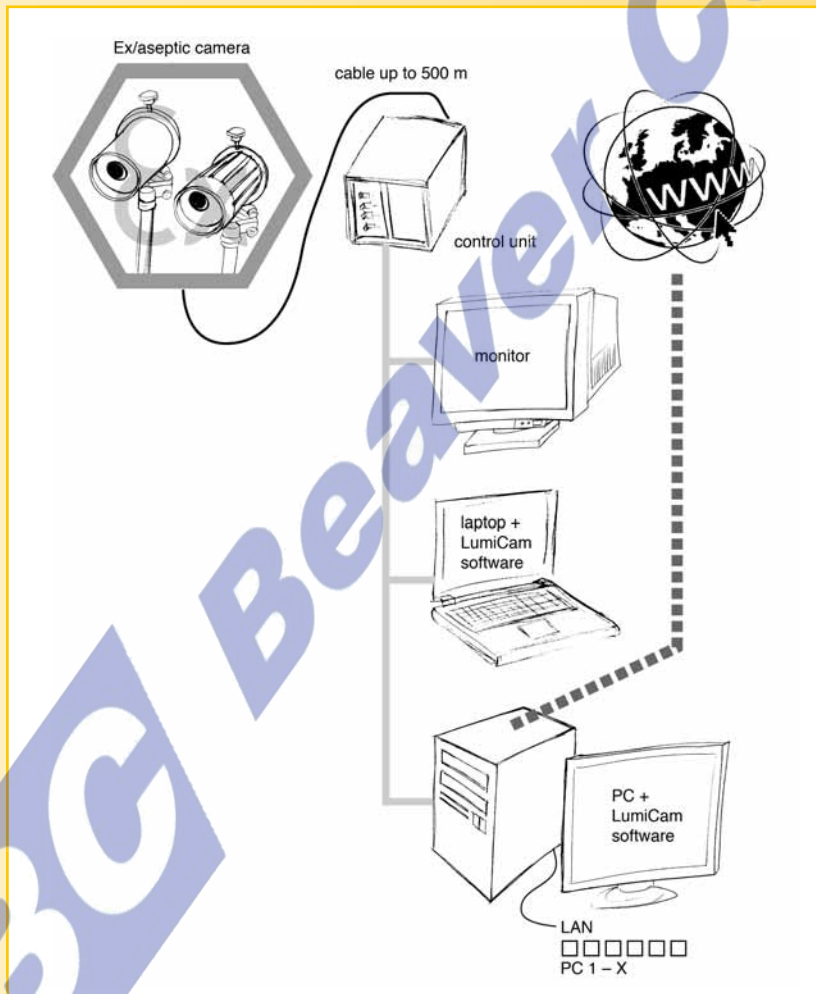
- **Results from practical experience:**

- Minimal down times
- Greater safety!

- **The complete solution in one hand:**

- Project specific: depending on the technical requirements of the plant operator, Lumiglas offers a range of services, including installation, commissioning, and PC link including all necessary components. The costing in these cases is on an individual project basis. A performance specification is produced, based on a checklist.

- **Operational concept for the Ex- and Aseptic-camera:**



- the essential component is the Lumiglas-Ex-Camera, mounted on a sight glass on the reactor or set up to survey open spaces (gates, restricted access areas, buildings..)

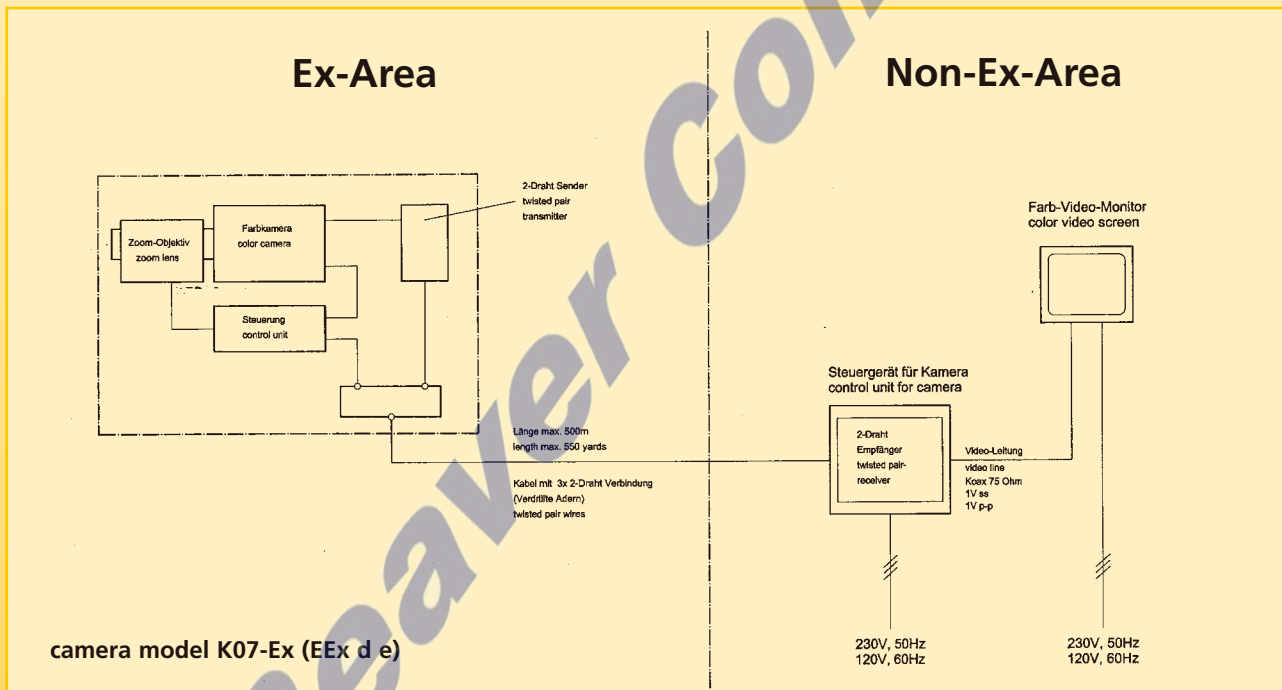
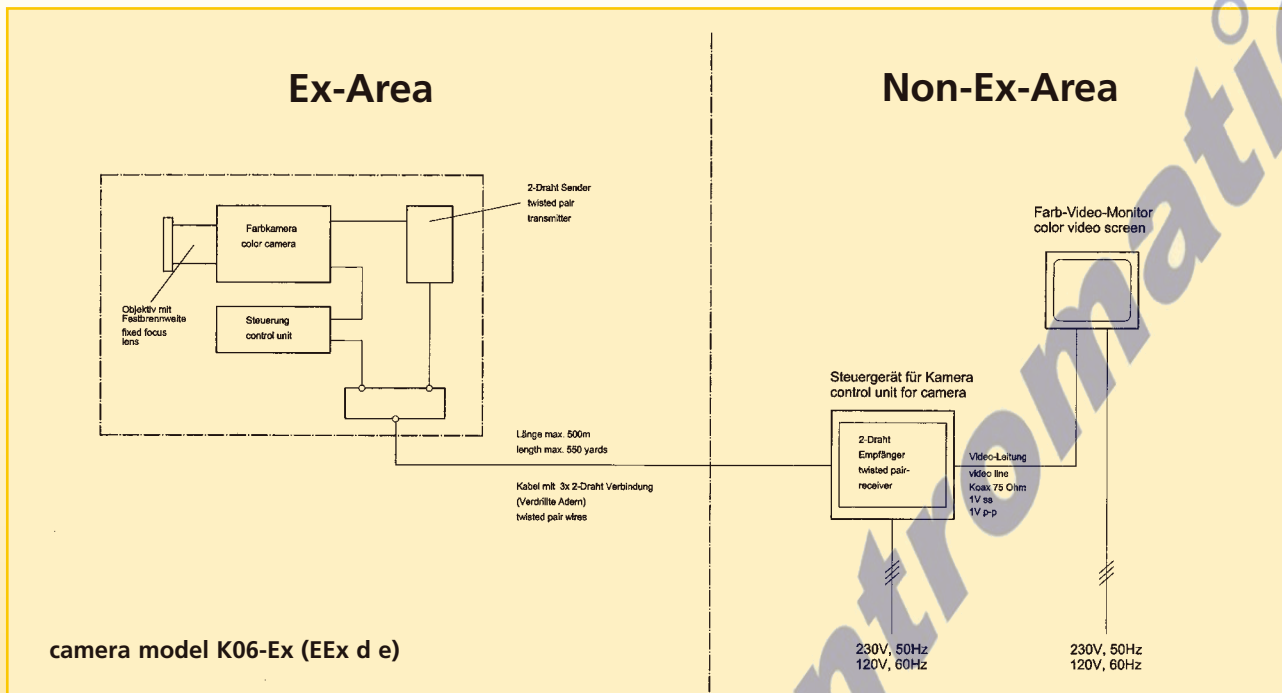
- pictures taken by the camera in the Ex area are passed by cable to a screen in the control room, either on a PC (allowing image processing) or on a standard monitor.

- A control unit wired into the circuit provides power for the camera as well as controlling the transfer of data and the zoom lens.



- Please ask for technical data sheets covering individual camera, control unit, and data management.

- We are happy to provide personal consultative discussions and practical demonstration.



Wiring block diagram Lumiglas-VISULEX-Ex-camera system K06-Ex and K07-Ex



PAPENMEIER

F.H. Papenmeier GmbH & Co. KG · Lumiglas · P.O. Box 1620 · D-58211 Schwerte

Tel: +49-2304/2050 · Fax: +49-2304/205 206 · E-mail: info.lumi@papenmeier.de · www.lumiglas.de

Subject to change.
min 02.05 3755.271