Electro Magnetic Compatibility (EMC)

This equipment complies with the European rules for EMC according to EN55013, EN55020 and EN50082-1.

The equipment conforms to the EMC directive and low-voltage directive.

This device complies with EMC rules under test conditions that included use of system cables and connectors between system components. If you have any problems, contact your dealer.

Warning

Any unauthorized modification to this equipment may cause violation of the EMC rules resulting in the revocation of the authorization to operate the equipment.

The exclamation mark within a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note: *We advise you to use the following types of mains power adaptors in combination with the camera:*
UK Philips VCM1162/01R
EUR Philips VCM1162/00R

English

Colour Observation Camera

Table of contents

Read these instructions, before taking your system in operation.

Introduction

This camera is especially designed for the Philips Observation System. It can be used in combination with a system monitor (System, Quad or Slave). The System and Quad monitor provides input for up to 4 cameras. The slave monitor can handle 1 camera in a stand-alone configuration. The camera has a standard camera mount allowing installation on, for example, a tripod or wall bracket.

Power supply:
The safe low voltage (16-32V ⎓) for the camera and system accessory is supplied by the monitor through the system cable. If the length of the system cable is more than 200m/600ft a mains power adapter should be used to provide the camera power supply.

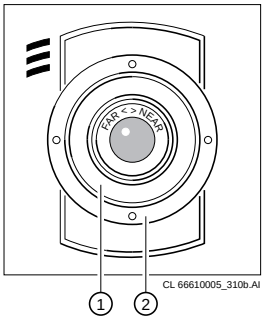
Camera accessories:
The following camera accessories are available:

- Auto-iris lens 4mm (F1.2)
- Auto-iris lens 8mm (F1.2)
- Protective camera housing
- Mains power adapter

Connection and operation facilities

1 Focus adjustment ring

2 Back-focus adjustment ring



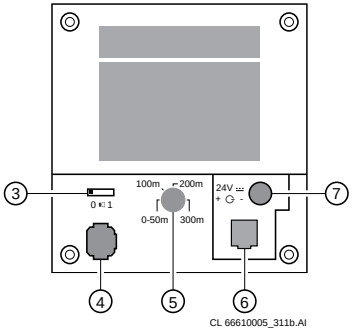
3 Camera sound on/off

4 Auto-iris socket

5 Cable length compensation selector

6 System cable socket

7 External supply socket



Installation

This chapter describes the installation of the camera. For more detailed information about the installation and operation of the system monitor and accessories (optional) you should consult the monitor and/or accessory manuals.

Remark: *When the system configuration is altered, the system monitor needs to check and memorise the cameras and accessories connected to its inputs. This is done automatically when the power is switched on. Use the power switch to switch off, only operating the power save key is not sufficient. If switching off is impracticable, use the auto install option of the system monitor's install menu.*

Caution: *Never touch the glass of the camera lens as this may cause damage.*

Camera position

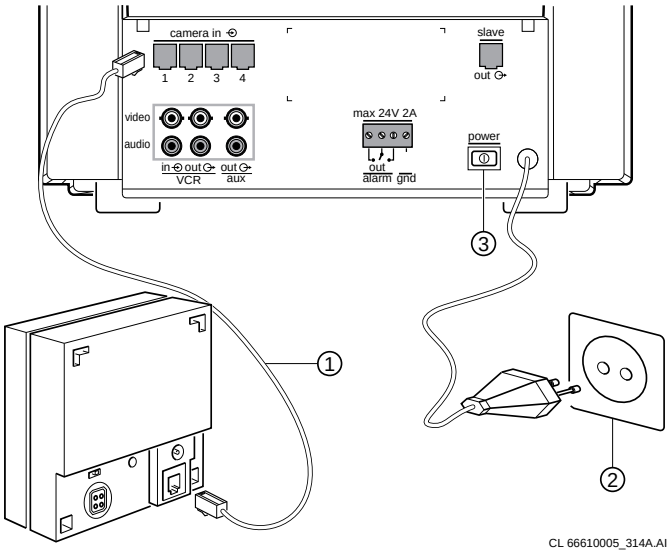
1 Take the camera, system cable and monitor to the area you want to observe (with the monitor on site, you can check whether the camera covers the required area).
Remark: *For outdoor use protective camera housing has to be used to protect the camera from rain and snow.*

2 Connect the camera to the system monitor (1).

3 Connect the system monitor to the mains (2).

4 Switch on the mains power switch (3).

The monitor will check the system. After about 30 seconds or when a key is pressed the camera image will appear on the monitor screen.

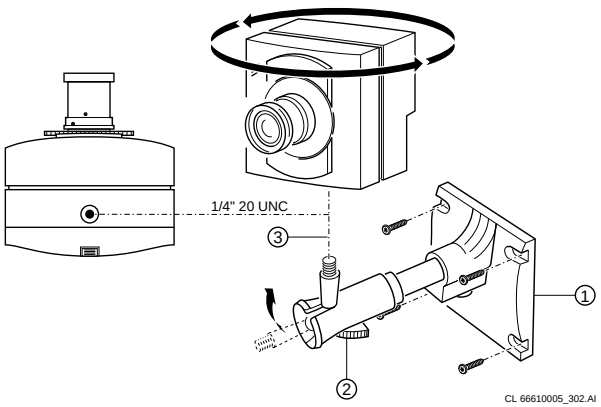


5 If necessary adjust contrast ◑/brightness ☼ and/or colour ◔ (controls at the front of the monitor) to optimise the camera image.

6 Hold the camera at the proposed installation position

7 Check on the monitor whether the camera covers the required area (The best results are obtained when the camera is pointed slightly downwards and is not looking into a bright light source). Adjust focus if necessary.

8 Fasten the wall bracket (1) to the wall, or another even and firm surface.



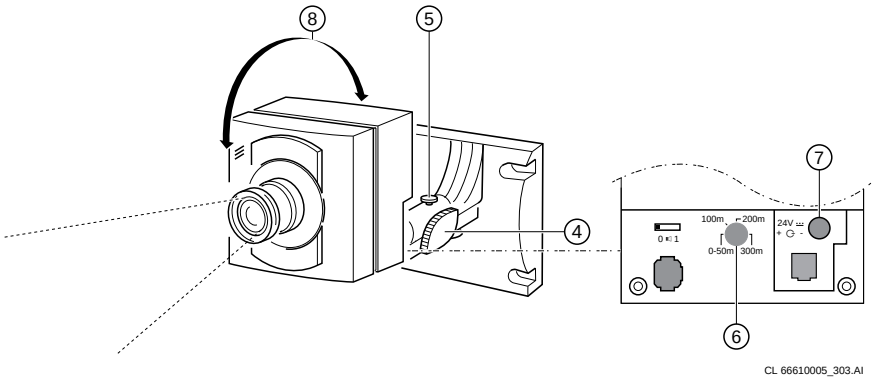
9 Tighten the knob (2).

10 Fasten the camera to the bracket (3).

11 Loosen knob (4) and screw (5) slightly (figure below).

12 Direct the camera at the object or area you want to observe (8). Check the camera image on the monitor. Adjust focus if necessary.

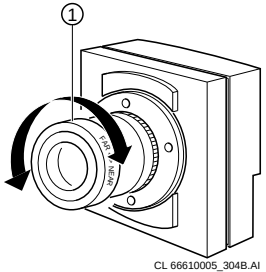
13 Tighten the knob (4) and screw (5) when the camera is in position.



14 Check if the cable length compensation (6) selector is set to the correct length. The length set must be the same as the length of the system cable (0-300m/900ft max.) connecting monitor and camera.
Remark: *If the length of the system cable is more than 200m/600ft, a mains power adapter (optional) should be used (the max. allowed cable length is 300m/900ft). Connect the adaptor to the mains and to the external supply socket (7) at the back of the camera.*

Focus adjustment

- Adjust the focus ring of the camera lens to obtain optimal image sharpness.
Remark: *If still no sharp object image is obtained, you should adjust the back-focus of the camera.*

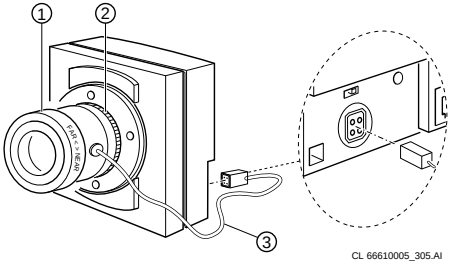


CL 66610005_304B.AI

Back-focus adjustment

Caution: *Back-focus adjustment is only necessary when no sharp object image is obtained with the focus adjustment ring.*

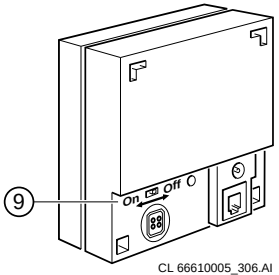
- Set focus adjustment ring to Far or Infinity (1).
- Aim the camera at an object at least 15 metres/45 feet away.
Remark: *When bright light sources are positioned within thecamera view field; dim the light source.*
- Loosen the back-focus locking ring (2).
- Rotate the lens, including the CS-mount ring, until the video image on the monitor is sharp.
- Tighten the back-focus locking ring (2), while keeping the lens in place.



CL 66610005_305.AI

Camera sound on/off

Use switch (9) to enable or disable the built-in camera microphone.



CL 66610005_306.AI

Outdoor use

For outdoor use a protective cover has to be used to protect the camera.
Remark: *When the camera is used outdoors an auto-iris lens is recommended.*

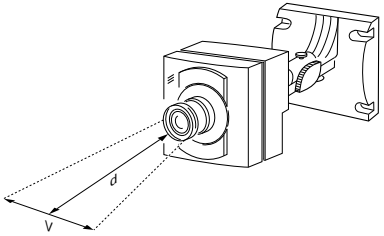
Using a different lens

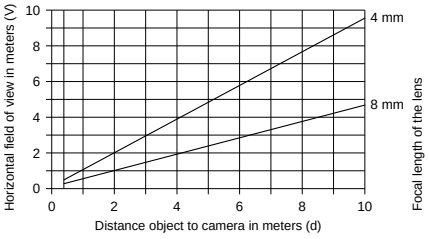
The CS-mount of the camera allows you to use other lenses. The field of view (= covered area) of an 8mm lens is half of the field of view of the 4mm lens (see figure below).

Lenses available are:
4mm/F1.2 lens
8mm/F1.2 lens
4mm/F1.2 auto-iris lens
8mm/F1.2 auto-iris lens

The cameras are supplied either with the 4mm or 8mm lens.

The auto-iris lenses are recommended when the camera is used in environments with variable light conditions (eg. outdoors). By means of the auto-iris the amount of light going through the lens is regulated. The auto-iris is DC-controlled through a 4-pole connector at the back of the camera (3).

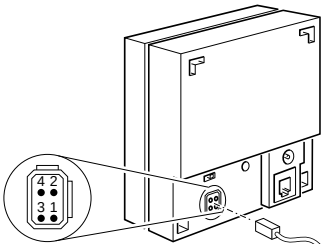




CL 66610005_308A.AI

The pin connections of the auto-iris connector are:
pin 1 = control coil -
pin 2 = control coil +
pin 3 = drive coil -
pin 4 = drive coil +

All lenses have the same light sensitivity.

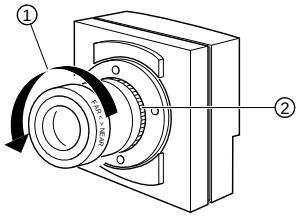


CL 66610005_309.AI

Changing a lens

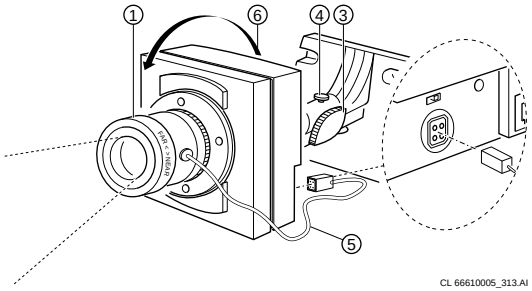
Perform the following steps to change a lens:

- Point the camera downwards. This to minimize possible deposit of dust on the inside of the camera when the lens is removed.
- Remove the old lens by turning it counter-clockwise (1).
  Do not release the back-focus locking ring (2), otherwise you may have to readjust the back-focus of the camera.
  Caution: *Never touch the CCD sensor which is located at the inside of the camera. Only use clean, dry air to blow particles from the surface of the sensor.*



CL 66610005_312.AI

- Mount the new lens by turning it clockwise onto the lens mount of the camera.

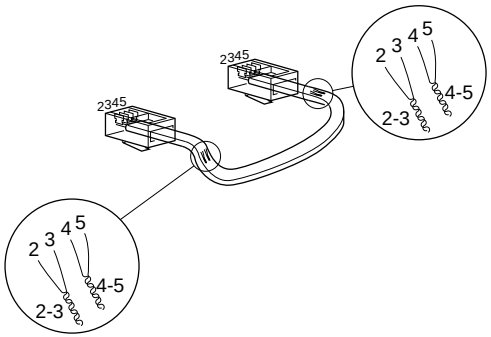


CL 66610005_313.AI

- Direct the camera at the object or area to be monitored (6).
- Tighten the knob (3) and screw (4) when the camera is in position.
- Adjust the focus ring (1) of the camera lens to obtain an optimal image sharpness.
  Remark: *If an auto-iris lens is used, connect the auto-iris cable to the camera (5).*

System cable

For the interconnections between the system monitor and camera 25m/75ft system cable is supplied. For an optimum picture and sound quality you should always use 4-wire dual twisted-pair cable when extending the connection. The max. allowed cable length is 300m/900ft. The cable and plugs are available in the hobby and professional trade. Pay attention that the connectors are fixed to the cable corresponding to the figure.



CL 66610005_006.AI

If the cable length between the monitor and camera is more than 200m/600ft a mains power adapter should be used (see accessories).
Caution: *The plugs used for the observation system have the same dimensions as standard telephone plugs. Never connect a telephone to the camera or system monitor.*

Tips for maintenance

Cleaning
You can clean the outside of the camera with a moist fluff-free cloth or shammy leather cloth.

When cleaning the camera lens a special cleaning cloth should be used. Do **NOT** use cleaning fluids based on alcohol, methylated spirit, ammonia, etc..

Never touch the glass of the camera lens to prevent its delicate coating from damaging.

Avoid direct contact with water.

Technical specifications (VCM7177/00T / VCM7178/00T)

Pick-up element	1/3" solid state CCD
Pixel elements	512 (H) x 582 (V), PAL interlaced
Resolution	330 TVL
Gain control	automatic, 20dB
Lens	See: Using a different lens
Iris	Electronic iris When connected, an auto-iris lens overrides the electronic iris.
Light sensitivity	• 0.4 lux minimally acceptable picture with standard lens (F1.2) at 3200K, transmission 86%, scene reflection 100% • 3.0 lux, 50ire (-6dB) with standard lens (F1.2) at 3200K, transmission 86%, scene reflection 100%
Scene illumination	Not for continuous use above 2k lux with standard lens (F1.2) For outdoor use an auto-iris lens is recommended.
Signal to noise ratio	48dB at 200-25000 lux, 25°C
White balance TTL	range 2500-6500K
System connector (output)	audio: common mode 500mVpp video: differential mode 175mVpp with pre-emphasis of 12dB at 5MHz. In the dual twisted pair system cable one pair carries the audio signal and the videosignal, the other the power supply and the synchronisation pulses.
Microphone	Built-in, can be switched off at the camera.
• Frequency range	300-3000Hz
Synchronisation	The camera automatically synchronises to the system monitor. Without system monitor the camera generates its own synchronisation signals.
Power supply	24V_{DC}, when the system-cable length exceeds 200m/600ft a power-adapter (24V_{DC}, current limit 500mA) is required (available as accessory)
Power consumption	≤3W
System-cable length	max. 300m/900ft (when a mains power adaptor is used)
Dimensions	72,5 (H) x 70 (W) x 60 (D) mm (excl. lens)
Weight	190g
Connectors	
• System cable	RJ11E modular (“telephone” plug)
• External power	Power jack
Auto-iris control	4-pole socket
Mounting	1/4" 20 UNC
Ambient temperature	
• Operating	-10 to +50°C
• Storage	-25 to +70°C
Ambient humidity	
• Operating	20 to 90% RH
• Storage	up to 99% RH

Specifications may change without notice.