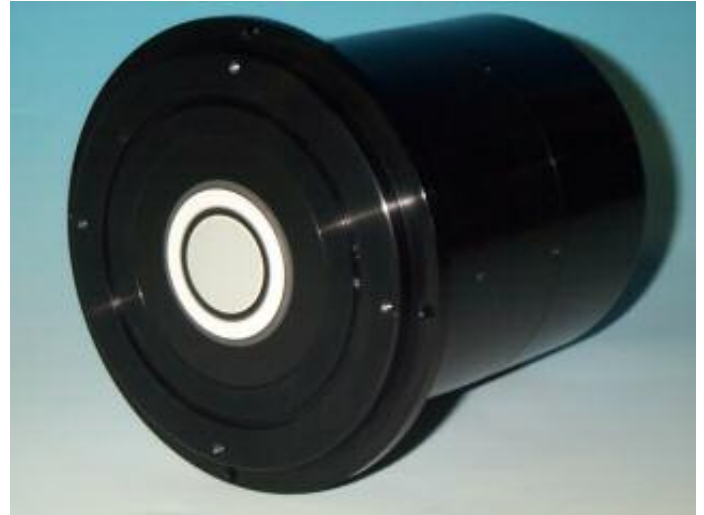




ICCD125 Intensified CCD Camera with Lens



ICCD125 Intensified CCD Camera without lens adapter

INTRODUCTION

The ICCD118/125/140 is a range of sensitive single stage MCP intensified CCD camera suitable for a wide variety of imaging applications. These compact camera is normally supplied with a 'C' mount lens adapter which allows it to be used with a variety of commercially available camera lenses or for direct connection to a microscope. Flange and 'F' mount options are also available. The ICCD140 camera is not available with the 'C' mount lens adapter.

The camera can be supplied alone or as part of a gated system. A camera power supply and control unit providing manual control of intensifier gain and video gain is supplied as standard with the unit. Optional gating controllers, framer grabbers and software can also be supplied. Full characterisation of the intensifier including spectral response and gain calibration is provided.

Customised versions of this camera with a range of different input windows, photocathodes, phosphors and MCP configurations are also available.

FEATURES

- High sensitivity image intensifier
- 18, 25 or 40 mm active diameter
- Fibre optic or fused silica input windows
- S20, Low noise S20 or bialkali photocathodes
- Sub 100 ns gating
- Flange or lens mount options
- CCIR or RS170 or non-standard options
- Voltage controlled video and intensifier gain
- Sony ICX083 2/3" interline CCD sensor

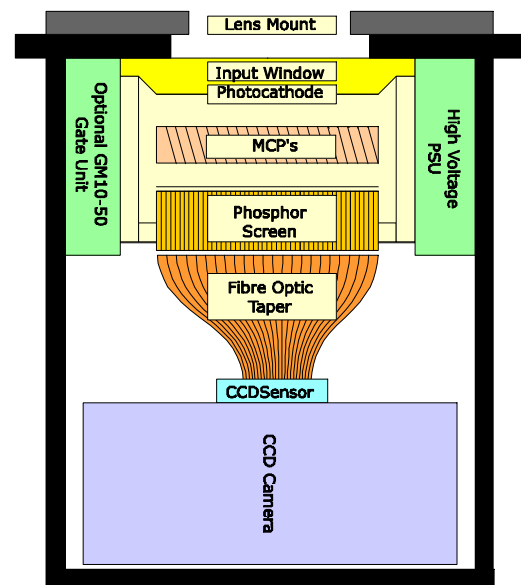
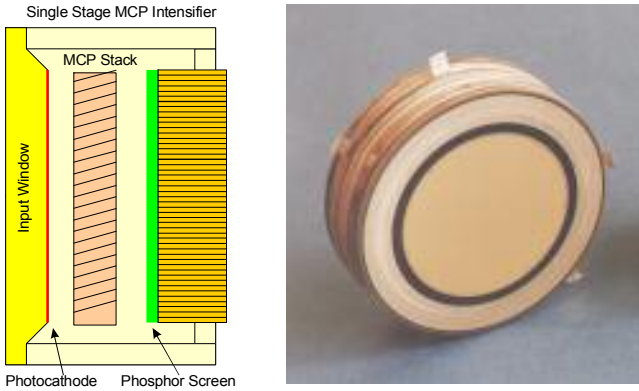


Image Intensifiers

The image intensifiers used in the cameras are generally single stage MCP device. These offer a gain of up to 10,000 W/W. For applications requiring ultimate sensitivity, multi-stage MCP detectors are also available. Image intensifiers can be customised in a number of ways so as to achieve ultimate performance.

Intensifier Format

The image intensifiers are available in a range of formats. These include 18 mm, 25 mm and 40 mm. The diagram below shows the typical construction of an image intensifier.



Input Windows

Both fused silica or fibre optic are provided as standard with this camera. The fused silica windows are designed for applications that require enhanced UV imaging and have response to below 190 nm. Fibre optic input windows have a sharp cut off at around 320 nm, but have the added advantage of allowing direct contact imaging or coupling of a reducing fibre taper to the cathode.

Camera Options

These cameras are supplied with either a conventional TV camera (CCIR or RS170). Other specialist CCD cameras may be fitted to the camera on request.

Imaging Area

In general these ICCD cameras can operate in either non interlace (for gated applications) giving an image format of 288x384 pixels or interlaced 576x768 pixels.

| Size | CCIR | Area |
|-------|-----------|---------------------|
| 18 mm | 11x14 | 1.5 cm ² |
| 25 mm | 15.2x19 | 3 cm ² |
| 40 mm | 24.4 x 31 | 7.8 cm ² |

Active imaging area

| Camera | Format | 18 mm | 25 mm | 40 mm |
|-------------|---------|-------|-------|-------|
| CCIR (25Hz) | 576x752 | 36 | 50 | 106 |
| CCIR (50Hz) | 288x376 | 18 | 25 | 53 |

Pixel size at photocathode (microns)

Photek Ltd

26 Castleham Road,
St Leonards on Sea,
East Sussex, TN38 9NS,
United Kingdom

T: (+44) 1424 850555
F: (+44) 1424 850051
E: sales@photek.co.uk
W: http://www.photek.co.uk

15/12/03

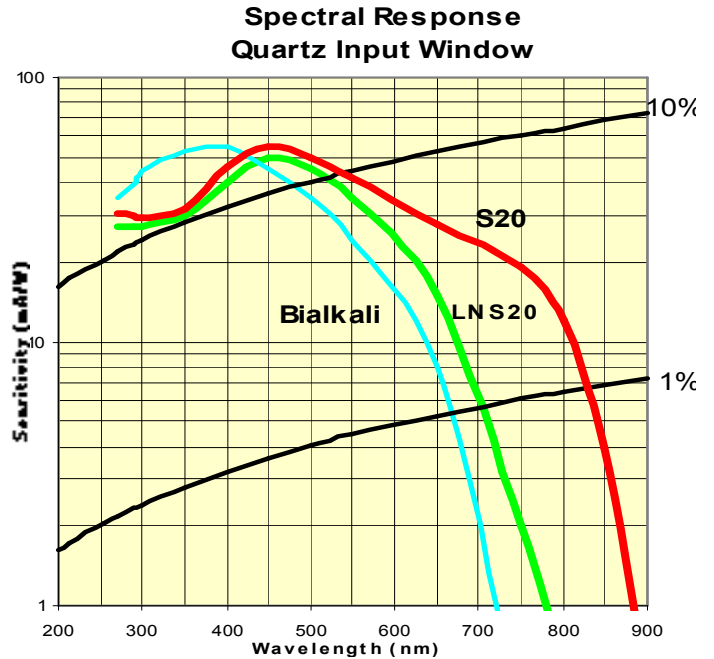
© 2001 Photek Ltd

Photek Ltd reserves the right to update and improve this specification without prior notice.

Photek is a registered trademark of Photek Limited in the UK and for other countries

Photocathodes

Photek can offer a range of photocathodes including S20, low noise S20 and bialkali. Typical spectral response curves are shown below. For full details see the separate photocathode data sheet.



Gated Cameras

The GM10-50 gate unit is a small compact gate unit which can be fitted around the image intensifier. The performance of the gate unit is detailed below:

Features

| | |
|-------------------------|------------------------|
| Input Gate Pulse | TTL & CMOS compatible |
| Logic Mode | Positive |
| Pulse Amplitude | +50V / -200V (nominal) |
| Pulse Width | 50 ns - DC |
| Pulse Rise/Fall Time | <50 ns / <35 ns |
| Pulse Propagation Delay | <150 ns |
| Repetition Rate | 10 kHz |

Other Gate units including the GM150-20 can also be provide.

Lens Adapters

All cameras can be provided with a variety of input mounts.

These include:

- o Standard 'C' Mount
- o Nikon 'F' Mount
- o Flange Mounting for custom applications.

Mechanical

| | |
|----------|--------|
| Diameter | 130 mm |
| Length | 160 mm |
| Weight | 1.5 Kg |