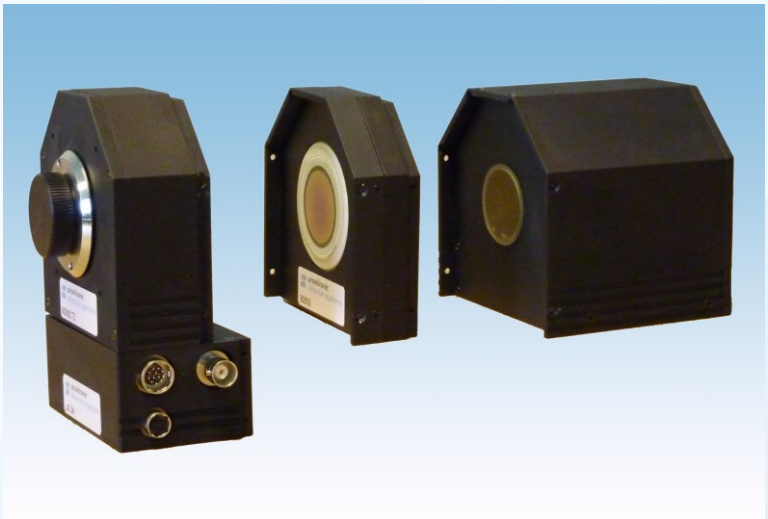
INNOVATION IN OPTOELECTRONICS

ProxiKit – the Modular Intensified & Gated Camera



Camera Assembly Kit

APPLICATIONS

- Low-light microscopy
- Fluorescence analysis
- Dynamic processes
- Combustions analysis
- Plasma research

FEATURES

- Modular system
- Grows together with your application
- Convenient handling
- MCP module with UV-Broadband sensitivity
- Booster module
- Camera module with 1.4 MPix camera
- Gating module down to 3 ns
- High-voltage power supply integrated

For more information visit
www.proxivision.de

ProxiVision GmbH
Stubenwald-Allee 16
64625 Bensheim
Germany

Tel. +49.6251.1703.0
Fax +49.6251.1703.80
info@proxivision.de
www.proxivision.de

WHAT IS THE CONCEPT BEHIND PROXIKIT?

- ProxiKit is a collection of electro-optical modules forming an intensified and/or gated camera system.
- The modules fit together with respect to mechanical, optical and electrical connections and can be easily assembled, dis-assembled and re-assembled.
- An intensified camera made of ProxiKit modules can be easily extended, upgraded or modified by adding or exchanging components. This can even be done by the skilled end-user.

WHAT ARE TYPICAL APPLICATIONS?

- Observation of low-light processes which cannot be illuminated by extraneous light (e.g. combustion, fluorescence)
- Freezing of ultrafast processes (e.g. explosions, plasmas) or synchronization
- of laser-excited processes (exposure time down to 3 ns with a maximum repetition rate of 10 kHz)
- Detection of UV sources and weak UV images down to the photon level
- Low-light imaging in the spectral range from UV (200nm) to visible (780nm), even to NIR (850nm) with customized version

WHAT ARE PROXIKIT'S "BASIC MODULES"?

- Gateable MCP image intensifier module (PKI)
- Booster High Brightness Diode Module (PKB)
- Gating Electronics Module ≥ 3ns / max 10 kHz (PKG)
- Digital Control Unit for Gating Electronics Module and Image Intensifier adjustments (µDCU)
- Lens coupling module with C-Mount out for sensor sizes from 1/2" to 2/3" (PKO)
- Fiber coupled camera module with 1.4 MPix, 30 fps, GigE (PKC)

ARE THERE ADDITIONAL, CUSTOMIZED MODULES AVAILABLE?

- Yes, image intensifier and camera modules can be manufactured based on the broad product range of ProxiVision's image intensifier and many third-party camera types. Special image intensifiers cover certain spectral ranges, e.g. down to 120nm or up to 850nm. Cameras with different interface, resolution or frame rate are available.

WHAT ARE THE BENEFITS OF PROXIKIT?

- It is a set of basic modules with an attractive price-performance ratio and short delivery times.
- The electro-optical modules fit together regarding mechanical, optical and electrical connections and allow
  > to add or remove components just as needed
  > to handle your modification as a skilled end-user
  > to enhance the imaging system at low additional costs
  > to re-use it later for new applications

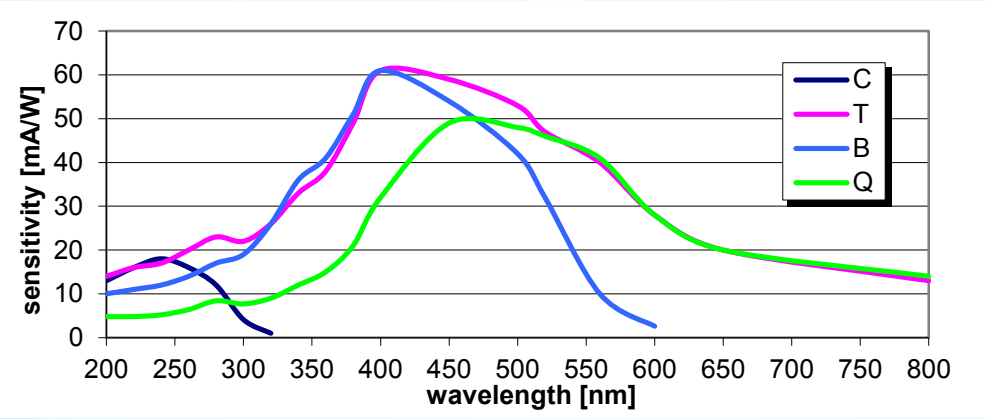
ProxiVision GmbH
Stubenwald-Allee 16
64625 Bensheim
Germany

Tel. +49.6251.1703.0
Fax +49.6251.1703.80
info@proxivision.de
www.proxivision.de

TECHNICAL DATA OF PULSE GENERATOR MOD µG 3N/100N

	PKG 3N
For gateable image intensifiers	BV 258x 3N
Shortest gating time	3 ns
Gating times	8 factory-set gating times (to be defined by customer at PO placement, standard is 3ns, 10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1µs) and “pulse-following mode” (gate width follows trigger pulse width)
MCP voltage adjustment (with µDCU)	by 0..5V analog control voltage
Supply voltage	12 V_{dc} ±10%
Trigger input	TTL (input impedance 1 kΩ, Option 50 Ω)
Maximum trigger frequency	10 kHz
Jitter	< 1 ns
Demountable connection to image intensifier	Yes
External digital control unit µDCU	Control of gating parameters, MCP gain and screen voltage, menu-driven with display, demo test mode, control of trigger parameters

TYPICAL SPECTRAL SENSITIVITY OF GATED PHOTOCATHODES ON QUARTZ INPUT WINDOWS



Photocathode / Substrate	Code	Composition	Dark Emission Rate (Electrons/cm^2/sec)
Advanced Solar Blind / Quartz	C	CsTe	3
Bialkali / Quartz	B	K_2SbCs	15
UV Enhanced S 20 / Quartz	T	$(Na_2KSb)Cs$	500
S 20 / Quartz	Q	$(Na_2KSb)Cs$	1500

ProxiVision GmbH
Stubenwald-Allee 16
64625 Bensheim
Germany

Tel. +49.6251.1703.0
Fax +49.6251.1703.80
info@proxivision.de
www.proxivision.de

BASIC MODULES

PKI 2582	**MCP Image Intensifier Module**
Characteristics	sensitivity 200..800nm with different photocathodes, one or two MCP, 25mm active area, high-voltage power-supply integrated, operation voltage 10..15V, gateable, P43, P46 or P47 phosphor
Applications	low-light, dynamic processes

PKB 2532	**Diode Image Intensifier Module**
Characteristics	sensitivity 200..800nm with different photocathodes, Gen1 non-inverting, 25mm active area, high-voltage power-supply integrated, operation voltage 10..15V, P43 phosphor
Applications	high-resolution image intensifier with low gain/high output brightness

PKB 2533	**Booster High Brightness Diode Module**
Characteristics	sensitivity adapted to P43 phosphor, Gen1 non-inverting, 25mm active area, high-voltage power-supply integrated
Applications	booster for PKI 2582 for applications with high repetition rate and/or high brightness requirements
Options	fast decay phosphors

PKG 3N	**Gating Electronics Module 3ns**
Characteristics	photocathode gating –180V/+80V, repetition rate 10kHz, MCP voltage adjustment by 0..5 analog voltage, preset gating times, start by TTL trigger
Applications	dynamic processes

MOD µDCU	**Digital Control Unit for Gating Electronics Module µG 3ns**
Characteristics	Control of gating parameters, MCP gain and screen voltage, menu-driven with display and GigE interface , demo test mode, control of trigger parameters,

PKO	**Lens Coupling Module**
Characteristics	Lens coupling optimized for 18 to 25 mm intensifier and 1/2"-2/3" Sensors, C-Mount output connector

PKC Manta G-145B	**Fiber Coupled Camera Module 1.4 MPix**
Characteristics	CCD Sony ICX285, 1388x1038, 30 fps, ROI, Binning, Subsampling, fiber coupling with taper 25:11, GigE, optionally IEEE1394b

PKT	**Terminal Module for use of PKS without PKG**
Characteristics	Terminal Module for ungated ProxiKit

Different options like active diameter of intensifier, different camera modules and different lens adapters for input on request

ProxiVision GmbH
Stubenwald-Allee 16
64625 Bensheim
Germany

Tel. +49.6251.1703.0
Fax +49.6251.1703.80
info@proxivision.de
www.proxivision.de