

SIL3



Compact image intensifier/converter

Range of Intensifier tube options

Up to 40lp/mm resolution

Gate times down to 50ns

**Comprehensive triggering
for High-speed video
and Standard
cameras**



The Specialised Imaging SIL3 image intensifier is the latest generation of intensifier that can be synchronised to almost any high-speed video, conventional video or stills camera.

Maximum equivalent frame rates ranging from 100,000fps to 1,000,000fps and minimum gate (exposure) time of 50ns.

The range of Intensifier tube options include output window diameters, Phosphor decay times and Wavelength responses (inc. UV) provide a unique enhancement to any camera.

Intuitive custom control software allows gain, gate/exposure and delay adjustment via Ethernet.

FEATURES

- 25mm and 40mm Intensifier tube options
- Fully adjustable gating time down to 50ns
- Gain adjustment up to 500,000X
- Nikon lens mount fitting
- Optical camera coupling
- Ethernet communications
- UV wavelength conversion option

INTENSIFIER /SENSOR	SIL40HG50	SIL40NG50	SIL25HG50	SIL25NG50	SIL25HG50-X	SIL25HG50-D
Front Window	Fused Silica	Fused Silica	Fused Silica	Fused Silica	Fused Silica	Quartz
Output Window	Glass	Glass	Glass	Glass	Glass	Glass
Photocathode	S20	S20	S20	S20	S20	UV Enhanced S20
Output Phosphor	FS/10µs decay	FS/10µs decay	FS/10µs decay	FS/10µs decay	P46/300ns decay	P46/300ns decay
Input Area (diameter)	40mm	40mm	25mm	25mm	25mm	25mm
Spectral response (minimum)	15mA/W @ 214nm	17mA/W @ 214nm	15mA/W @ 214nm	20mA/W @ 214nm	20mA/W @ 214nm	20mA/W @ 220nm
	55mA/W @ 450 nm	55mA/W @ 450 nm	48mA/W @ 450 nm	53mA/W @ 450nm	53mA/W @ 450nm	53mA/W @ 450nm
	17mA/W @ 800 nm	10mA/W @ 800 nm	17mA/W @ 800 nm	17mA/W @ 800 nm	17mA/W @ 800 nm	17mA/W @ 800 nm
Gain (W/W @ 500nm)	100,000	10,000	100,000	10,000	100,000	500,000
Limiting resolution (Typical)	22 lp/mm	30 lp/mm	27 lp/mm	40 lp/mm	27 lp/mm	28 lp/mm
Frame Rate (Max. Fps)	100,000	100,000	100,000	100,000	1,000,000	1,000,000

OPTICAL

Front Lens mount	F-mount
Optical Coupling	F-mount

MECHANICAL

Dimension mm (w/d/h)	17.8cm x 18.5cm x 19.7cm (7.0" x 7.3" x 7.8") without lenses
Mount	3/8-16UNC Female (standard tripod)
Weight	4.8Kg (10.6lbs) without lenses
Lens/Camera Support	Option available

ENVIRONMENTAL

Storage temperature	-10°C to +50°C
Operating temperature	-5° to +40°C
Humidity	10 - 90% RH non condensing
Vibration shock	10 - 40Hz Max. 10g in any direction
EMC	Meets all EC harmonized standards

TIMING PARAMETERS

System Clock	200MHz, quartz crystal controlled.
Inherent Delay (5ns jitter)	60ns
Exposure Time	50ns—DC in 5ns steps independently variable
Inter Exposure Time	50ns—25ms in 5ns steps independently variable
Number of exposures	Up to 64 in pulsed mode. Unlimited in REP (synchronous) mode

INPUT / OUTPUT SIGNALS

Triggers	Electrical signal (BNC connector) Maximum Input level 50V Threshold variable from ± 25V Positive or Negative polarity, Make/Break 50Ω or 1KΩ termination
Aux Outputs	Pulse width and position user programmable (min. 5ns) TTL into 50Ω
Control Interface	Remote control via Standard 100Mbps Ethernet
Inhibit Input	5V TTL (user input brightness protection)
Software	Custom software compatible with Microsoft Windows Operating Systems for control
Power Requirements	100-240V AC 2A, 50-60Hz

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