

**COMPATIBLE
WITH HIGH-
SPEED CAMERA**

HIGH-SPEED GATED IMAGE INTENSIFIER UNITS

C10880-03C/-03F/-13C/-13F

**No lighting required during imaging
with High-speed camera**

OVERVIEW

Image intensifiers (I.I.) are devices capable of intensifying an image at high gain and high-speed gating (electronic shutter operation).

The C10880 series is an image intensifier unit which is suitable for High-speed camera application. It has a built-in pulse generator to allow multi-exposure (burst) operation.

By using a relay lens, the C10880 series can be easily connected to various High-speed cameras. The image intensifier gain, gate width and delay time can be controlled and set from a PC through the RS-232C interface. (The image intensifier gain can also be controlled and set from the remote controller.)

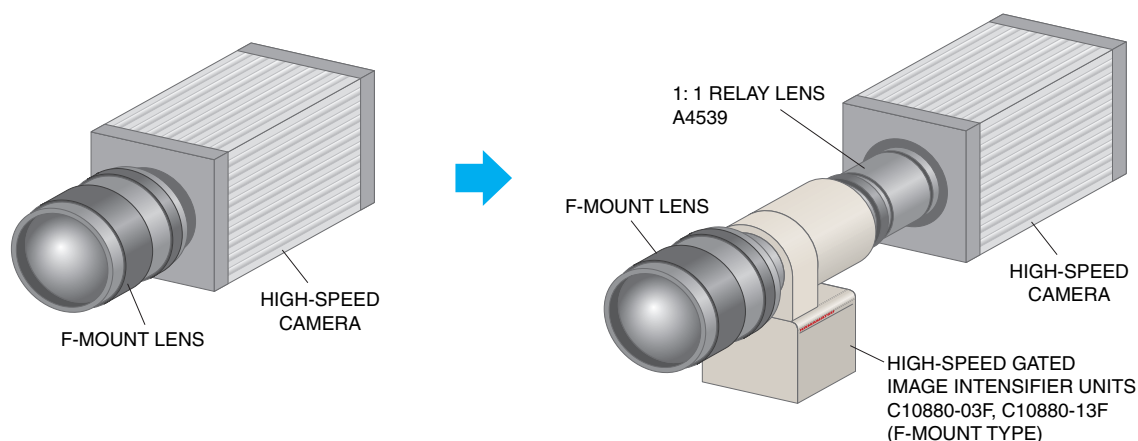


▲C10880-03F

FEATURES

- Maximum repetition frequency: 200 kHz
- Built-in pulse generator
- Multi-exposure
- Built-in low distortion image booster (C10880-13C/C10880-13F)
- High-speed gating: 10 ns minimum
- High performance image intensifier
Wide spectral response range from UV to near IR:
Multialkali photocathode type.
High linearity compatible with high frame rate:
Image booster included.

CONNECTED TO HIGH-SPEED CAMERA (USING F-MOUNT LENS)



SPECIFICATIONS

Parameter		C10880-03C C10880-03F	C10880-13C C10880-13F	Unit
Photocathode sensitivity [Ⓐ]	Luminous sensitivity [Ⓐ] (Typ.)	230		μA/lm
	Radiant sensitivity [Ⓑ] (Typ.)	53		mA/W
	Quantum efficiency [Ⓑ] (Typ.)	15		%
Photocathode	Effective diameter (Min.)	24		mm
	Window material	Synthetic silica		—
	Photocathode material	Multialkali		—
	Spectral response	185 to 900		nm
Peak wavelength		430		nm
Input mount		C-mount (C10880-03C), C-mount (C10880-13C) F-mount (C10880-03F), F-mount (C10880-13F)		—
Stage of MCP (Front-stage I.I.)		1		—
Phosphor screen	Material (Front-stage I.I. / Image booster)	P46 / P46		—
	Effective diameter (Min.)	16		mm
Luminous gain (Typ.)		1 × 10 ⁵		(lm/m ²)/lx
Equivalent background input (EBI) (Typ.)		2 × 10 ⁻⁹		lm/cm ²
Limiting resolution (Typ.)		38		Lp/mm
Image magnification (Typ.)		0.67		—
Output	Image distortion [Ⓒ] (typ.)	4.4	2.4	%
	Window material	Borosilicate glass	FOP	—
	Relay lens adapter	Special mount for connecting a relay lens		—
Relay lens		A11703 (1:2), A4539 (1:1), A11669 (3:2), A2098 (2:1), A11716 (3:1)		—
AC input voltage		AC 100 to AC 240		V
Power consumption (Max.)		15.6		W
Control method		RS-232C interface / Remote controller		—
Applicable OS		Windows® Vista / 7		—
Operating ambient temperature		0 to +40		°C
Storage temperature		-20 to +50		
Operating and storage humidity [Ⓓ]		Below 70		%
Weight		C10880-03C: 1750	C10880-13C: 1970	g
		C10880-03F: 1830	C10880-13F: 2050	

NOTE: [Ⓐ]Typical value at front-stage I.I. [Ⓑ]At wavelength of peak sensitivity
[Ⓒ]Overall distortion at a position 80 % away from the center of the image [Ⓓ]No condensation

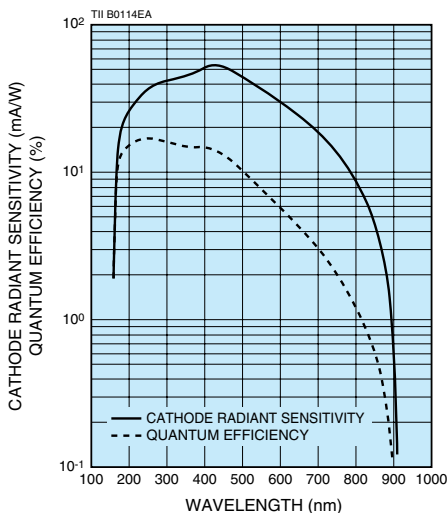
Accessories (Supplied): AC adapter, AC cable, RS-232C cable (5 m), CD-ROM (Control software, Instruction manual [PDF]), Instruction manual

Gate specifications

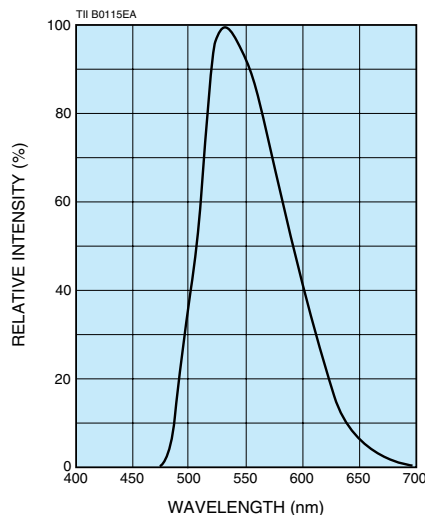
Parameter	Description / value	
Operation mode	Normal (continuous) mode / Single gate mode / Burst gate mode	
Gate trigger input	Level	TTL positive logic
	Input impedance	1 kΩ
Single gate mode	Gate time	10 ns to 9.99 ms
	Delay time	10 ns to 9.99 ms
	Repetition frequency (Max.)	200 kHz (protection circuit incorporated)
Timing jitter (Max.)	2 ns (10 ns maximum when gate time is set to 10 μs or more)	
Burst gate mode	Repetition frequency (Max.)	10 kHz (protection circuit incorporated)
	Number of exposures (Max.)	16
	Exposure interval (Min.)	500 ns

CHARACTERISTICS

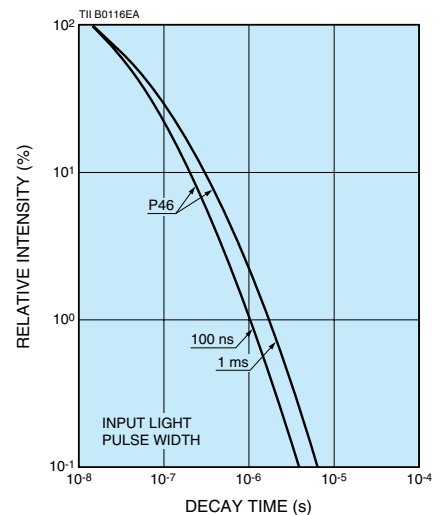
● Typical spectral response



● Typical phosphor screen spectral emission

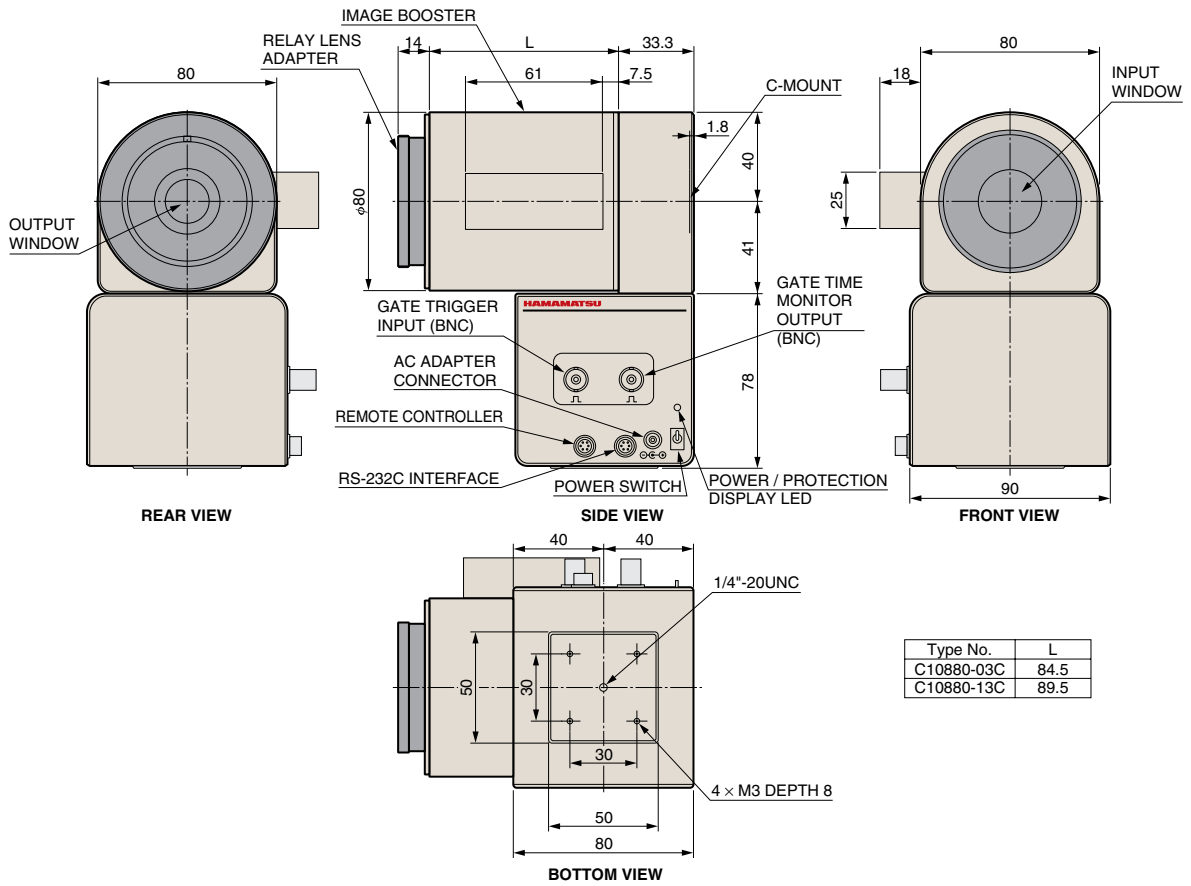


● Typical phosphor screen decay characteristics



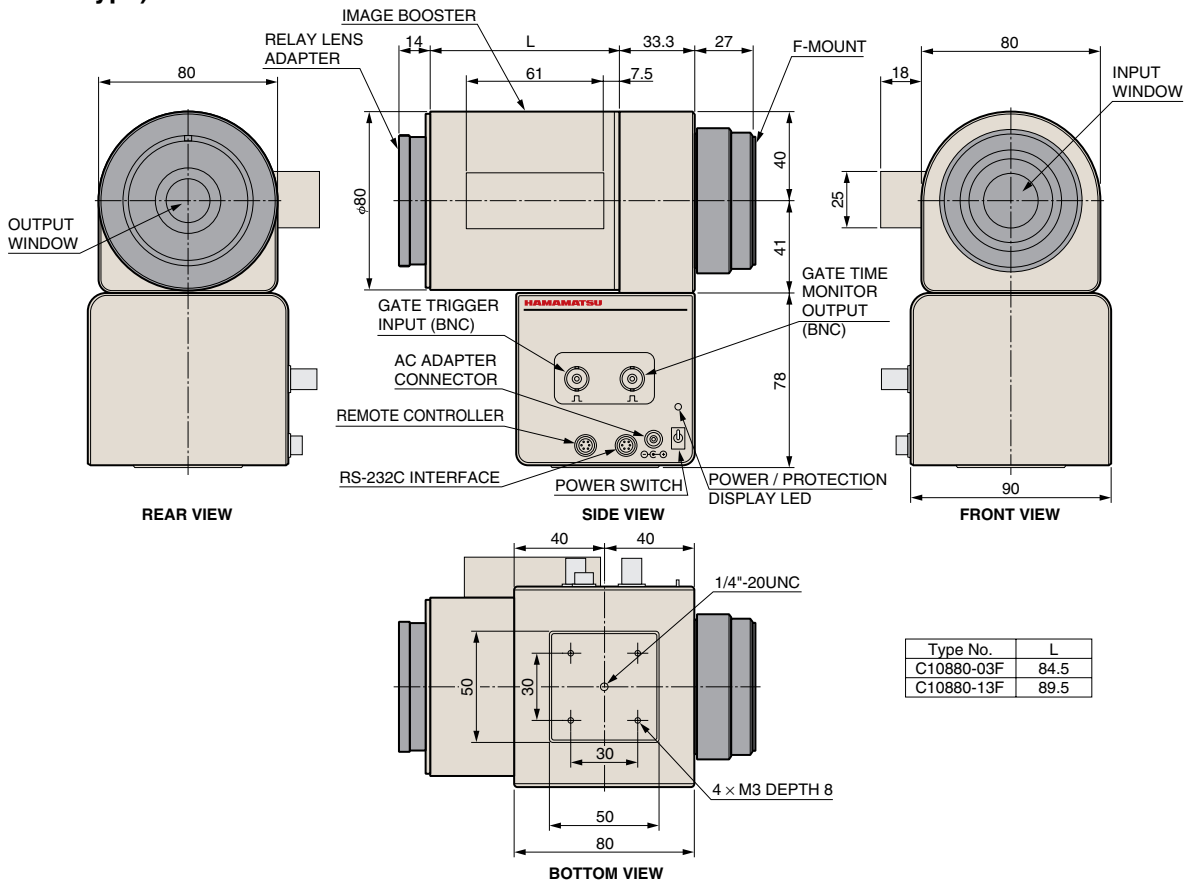
DIMENSIONAL OUTLINES (Unit: mm)

●C10880-03C, C10880-13C Head (C-mount type)



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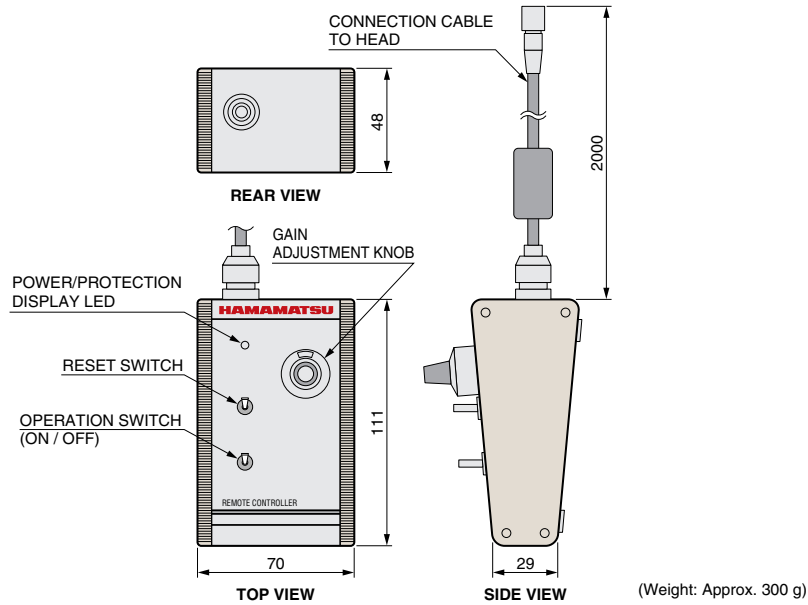
●C10880-03F, C10880-13F Head (F-mount type)



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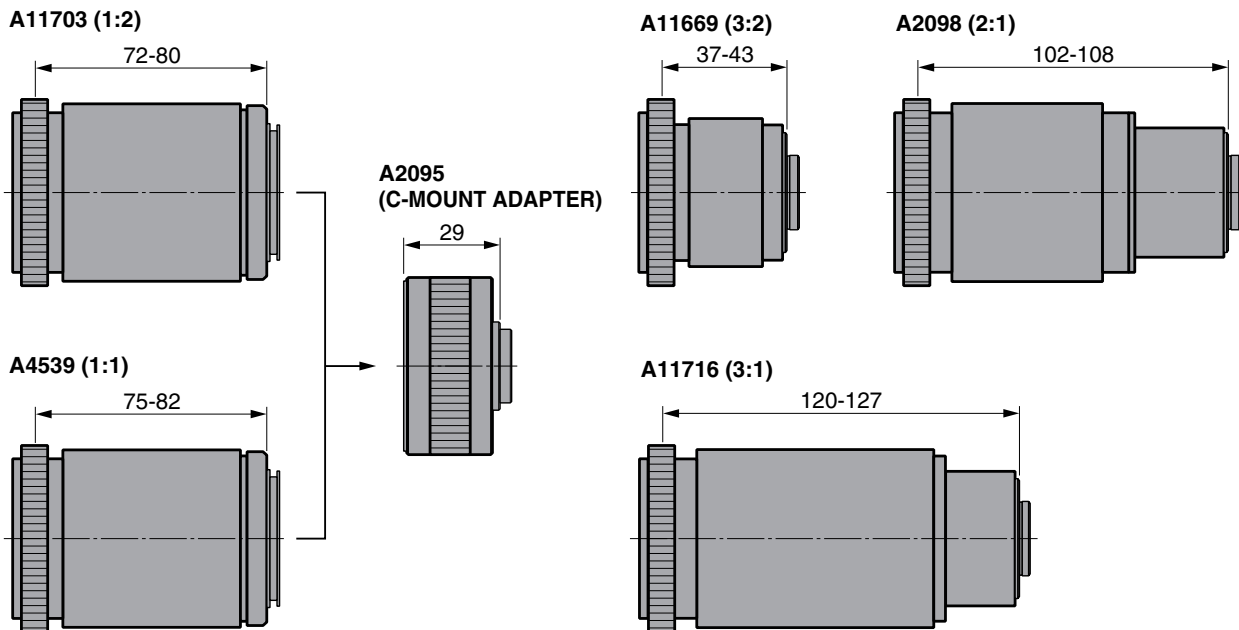
DIMENSIONAL OUTLINES (Unit: mm)

Remote controller



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RELAY LENS (Unit: mm) (Sold separately)



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Type No. (ratio)	Output mount	Weight (g)
A11703 (1:2)	F-mount	450
A4539 (1:1)	F-mount	400
A2095 (-)	C-mount	80

Type No. (ratio)	Output mount	Weight (g)
A11669 (3:2)	C-mount	200
A2098 (2:1)	C-mount	460
A11716 (3:1)	C-mount	540

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TII 1055E03
NOV. 2016 IP