

Making confocal imaging more accessible

**MAICO**<sup>TM</sup>  
MEMS CONFOCAL UNIT

MAICO<sup>®</sup> MEMS confocal unit C17290 series



This system is classified in Class 3B Laser product (IEC 60825-1, EN 60825-1).

This product is provided only for integrators or resellers who can make interlock circuit systems themselves.

## Features

- Confocal fluorescence unit installed in your own microscope
- High-sensitivity detectors
- High-speed scanning with MEMS mirror
- Conventional confocal optics
- Enable simultaneous multiband confocal acquisition without bleed-through (patent pending)

**HAMAMATSU**  
PHOTON IS OUR BUSINESS

## Specifications

Type number	C17290 series (C17290-1111, C17290-1110)	
Maximum effective field of view	8.0 mm × 6.0 mm	
Maximum number of pixels	1280 (H) × 960 (V)	
Image size	1280 (H) × 960 (V)	
	1280 (H) × 480 (V)	
	1280 (H) × 240 (V)	
Frame rate (Typ.)	960 scanning lines	19 frames/s
	480 scanning lines	38 frames/s
	240 scanning lines	76 frames/s
Zoom function	1×, 2×	
Excitation laser*1	C17290-1111	405 nm, 488 nm, 561 nm, 638 nm
	C17290-1110	405 nm, 488 nm, 561 nm
Laser class	Class 3B	
Detection wavelength	at 405 nm excitation	425 nm to 465 nm
	at 488 nm excitation	510 nm to 540 nm
	at 561 nm excitation	580 nm to 619 nm
	at 638 nm excitation	660 nm to 730 nm
Detector*2	PMT(405 nm), high-sensitivity GaAsP PMT (488 nm, 561 nm, 638 nm)	
Digital output	12 bit	
Image acquisition mode	Single channel measurement, multiple channel sequential measurement (frame by frame), multiple channel simultaneous measurement (up to 4 channels)	
Pinhole*3	3 manual selections (large/medium/small) for each wavelength	
Compatible objective lens*4	Magnification 20× to 100×	
Interface	USB 3.0	
Output trigger connector	SMA	
Lens mount	C-mount	
Power consumption	90 VA	
Ambient operating temperature	+18 °C to +28 °C	
Ambient operating humidity	30 % to 80 % (with no condensation)	
Ambient storage temperature	-10 °C to +50 °C	
Ambient storage humidity	85 % (with no condensation)	

\*1 The C17290-1111 is provided with 4 wavelengths of 405 nm, 488 nm, 561 nm, and 638 nm. The C17290-1110 is provided with 3 wavelengths of 405 nm, 488 nm, and 561 nm. It supports up to 4 wavelengths by adding A17291-638.

\*2 Equipped with the same number of lasers.

\*3 The pinhole size can be read out as accessory information at the time of measurement.

\*4 We recommend use of an objective lens with an image-side NA (objective lens NA/magnification) smaller than 0.0375.

## Laser safety

MAICO MEMS Confocal Unit (C17290-1111, C17290-1110) is a Class 3B laser product. Hamamatsu Photonics classifies laser diodes and provides appropriate safety measures and labels according to the classification required for manufacturers by IEC 60825-1. When using this product, follow all safety measures as specified by the IEC.



▲ Description label (sample)



▲ Caution label

MAICO is equipped with a key switch and an interlock circuit. It is necessary, connect to the safety device via the interlock connector (EIAJ RC5320A TYPE4, M04-390DJ Marushin electric mfg. Co).

- DCAM-API and MAICO are registered trademarks of Hamamatsu Photonics K.K. (EU, Japan, UK, USA)
  - The product and software package names noted in this brochure are trademarks or registered trademarks of their respective manufacturers.
  - The products described in this brochure are designed to meet the written specifications, when used strictly in accordance with all instructions.
  - The university, institute, or company name of the researchers, whose measurement data is published in this brochure, is subject to change.
  - The measurement examples in this brochure are not guaranteed.
  - Specifications and external appearance are subject to change without notice.
- © 2024 Hamamatsu Photonics K.K.

## HAMAMATSU PHOTONICS K.K. [www.hamamatsu.com](http://www.hamamatsu.com)

### Systems Division

812 Joko-cho, Chuo-ku, Hamamatsu City, 431-3196, Japan, Telephone: (81)53-431-0124, Fax: (81)53-433-8031, E-mail: [export@sys.hpk.co.jp](mailto:export@sys.hpk.co.jp)

U.S.A.: HAMAMATSU CORPORATION: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218

Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH: Arzbergerstr. 10, 82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: [info@hamamatsu.de](mailto:info@hamamatsu.de)

France: HAMAMATSU PHOTONICS FRANCE S.A.R.L.: 19 Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: [infos@hamamatsu.fr](mailto:infos@hamamatsu.fr)

United Kingdom: HAMAMATSU PHOTONICS UK LIMITED: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire, AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: [info@hamamatsu.co.uk](mailto:info@hamamatsu.co.uk)

North Europe: HAMAMATSU PHOTONICS NORDEN AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: [info@hamamatsu.se](mailto:info@hamamatsu.se)

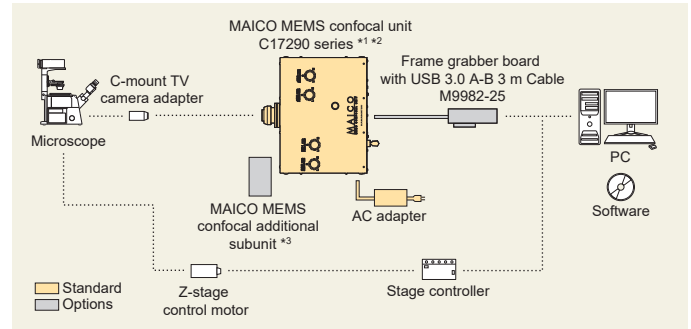
Italy: HAMAMATSU PHOTONICS ITALIA S.R.L.: Strada della Moia, 1 int. 6, 20044 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: [info@hamamatsu.it](mailto:info@hamamatsu.it)

China: HAMAMATSU PHOTONICS (CHINA) CO., LTD.: 1201 Tower B, Jianning Center, 27 Dongsanuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-8006, Fax: (86)10-6586-2866 E-mail: [hpc@hamamatsu.com.cn](mailto:hpc@hamamatsu.com.cn)

Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan(R.O.C), Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: [info@hamamatsu.com.tw](mailto:info@hamamatsu.com.tw)

Cat. No. SCAS0171E01  
NOV/2024 HPK  
Created in Japan

## System configuration example



\*1 C17290-1111, C17290-1110

\*2 Interlock circuit systems are required to use this product.

\*3 A17291-638

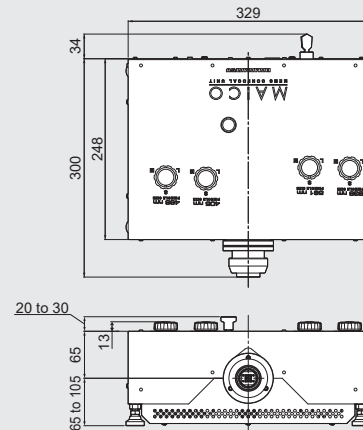
## Option

Type number	Product name
M9982-25	Frame grabber board with USB 3.0 A-B 3 m Cable

\*You are able to add these options only at the time of purchase of the main unit. These can not be added after shipping.

## Dimensional outlines (Unit: mm)

- Weight: C17290-1111 Approx. 8.7 kg, C17290-1110 Approx. 7.9 kg (with mechanical shutter and 4 subunits installed)



- Back panel components

