

StrainMaster Compact

Lightweight and compact stereo-DIC system

The **StrainMaster Compact** is a lightweight stereo-DIC system featuring two USB3 cameras and a bright LED light source in a compact housing. The system is silent due to passive cooling. The front windows are equipped with linear polarization filters to reduce glare on shiny surfaces.



The working distance is 25 cm and the depth of field is about ± 2 cm. The field of view at the working distance is given by the table below.

Specifications

Type	Cameras	Camera Resolution	Lens	FOV ¹	Effective Spatial Resolution
SMC 2M-280	2x M-lite 2M	1936 x 1216	2x 12mm, F/2.0	180 x 280 mm ²	142 $\mu\text{m}/\text{px}$
SMC 2M-200	2x M-lite 2M	1936 x 1216	2x 16 mm, F/2.0	130 x 205 mm ²	92 $\mu\text{m}/\text{px}$
SMC 5M-180	2x M-lite 5M	2464 x 2056	2x 12 mm, F/2.0	150 x 180 mm ²	74 $\mu\text{m}/\text{px}$
SMC 5M-140	2x M-lite 5M	2464 x 2056	2x 16 mm, F/2.0	120 x 140 mm ²	52 $\mu\text{m}/\text{px}$

¹ FOV at a working distance of 25 cm, measured from the front face of the housing.

Frame rate at max. camera resolution²	2M	up to 150 Hz @ 8 bit up to 100 Hz @ 12 bit
	5M	up to 75 Hz @ 8 bit up to 50 Hz @ 12 bit
LED max. duty cycle³		16.7% (pulse-pause-ratio 1:5)
Exposure time		34 μs – 166 ms
Connectors		2x USB3 cable to camera, 5 m length 1x trigger and power cable, 5 m length
Size of measurement head (L x W x H)		195 mm x 200 mm x 60 mm
Operating temperature		10°C – 30°C
Software requirements		DaVis 10 or StrainMaster DIC 1.1

² Frame rates increase for smaller AOI's. Maximum rates may only be achieved when recording to RAM.

³ This is monitored by the electronics, wrong timings will deactivate the light source.

Mounting



The housing has two M6 and one 3/8" thread in the base plate, which facilitate mounting using standard tripods or rail mounts.

System features

- ▶ A complete system consists of at least one **StrainMaster Compact** measurement head (110540x), the device control unit (DCU) X, and StrainMaster compact software package. Optionally the system can be equipped with a remote laptop.
- ▶ If any other PC than the DCU X is used, the FL1100 USB3 card, PC-card for SMC trigger and power, internal PTU X, and optionally a USB-ADC need to be included.
- ▶ Note that measurement heads can be easily exchanged with the existing DCU X. An additional DCU X is only required, if multiple measurement heads should be used simultaneously.

Ordering information

Part number	Description
1105400	SMC 2M-280
1105401	SMC 2M-200
1105402	SMC 5M-180
1105403	SMC 5M-140
1104215	DCU X, German, includes display, mouse and keyboard
1104216	DCU X, English, includes display, mouse and keyboard
1105257	StrainMaster compact software package
1108084	A/D converter 250 kHz, USB
1011599	PC-card for SMC trigger and power connection
1108092	PTU X standard, intern
1009823	FL 1100 USB3 card, 4 ports

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