

DSMC-100A M1

Sampling Moire Camera



Easy non-contact measurement of XY displacement by using a camera

- Captures displacement via high-speed photography (max. 500 fps)
- One camera can measure up to 16 points
- Results can be confirmed soon after measurement
- Up to 3 cameras can be synchronized
- Interval mode

This measures micro-displacement including in the depth direction of various structures, with multiple points measured simultaneously using a single camera.

Remote, non-contact monitoring is able for large infrastructures such as bridges, and so on.

*Makes use of results obtained during a project outsourced from New Energy and Industrial Technology Development Organization (NEDO).

*This method is standardized as "NDIS 4403: Displacement measurement method using phase analysis of grating."

DSMC-100A-2 M1 Specifications

Resolution	Grating pitch from 1/100 to 1/1000 (This depends on the grating's number of imaging pixels.)
Measurement Frame Rate	1 to 500 fps (This depends on the number of processing areas, area size, and exposure time.)

Camera Specifications

Image Sensor	1-inch, 4-megapixel monochrome CMOS image sensor
Effective Number of Pixels	2048 (W) × 2048 (H)
Gain Adjustment	1.0, 1.2, 1.4, 1.6, 2.0, 2.4, 2.8, 3.2
Lens Mount	F mount
Interfaces	USB3.0
Power Supply	100 VAC (12 VDC supplied by the AC adapter for camera DSMC-CP)
Dimensions	76 (W) × 63 (H) × 121 (D) mm (Excluding protrusions)
Operating Environment	Temperature: 0 to 40°C Humidity: 20 to 80% (Non-condensing)
Weight	Approx. 850 g

Image Processor Specifications

Output Data	Measured image (8-bit/pixel), Phase XY data (16-bit/pixel)
Sampling Pitch	3 to 31 pixels
Processing-area Size	64 pixels × 64 pixels to 2048 pixels × 2048 pixels
Processable Areas	Up to 16 areas
Measurement Settings	The measurement parameters are specified by using the measurement control PC while it is connected using a USB 3.0 cable.

XYZ Displacement Image Measuring Software Specifications

Main Function	• Acquiring reference images • Saving measurement data • Ongoing measurement displacement monitor (up to 9 simultaneous channels) • Measurement-result displacement monitor (up to 9 simultaneous channels)
Setting	• Measurement parameters • Area (Number of processing areas, Size) • Measurement mode (Normal measurement mode, Periodic measurement mode) • Measurement time • Synchronized measurement by using a local controller (optional accessory)

Standard Accessories	USB connection cable DSMC-3U AC adapter for camera DSMC-CP CD (Instruction manual, Measuring software) Measurement control PC
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Optional Accessories*	Grating sheet DSMC-TG Local controller DSMC-LC
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*For purchasing lenses or tripods, please contact us.
The recommended lens model is as follows.
AF-S DX NIKKOR 18-300mm f/3.5-6.3G ED VR (Nikon)

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Measurement System



Traffic System

Automotive Test System

Civil Engineering Measuring System

Test Equipment & System



Traffic System

Automotive Test System

Civil Engineering Measuring System

Test Equipment & System

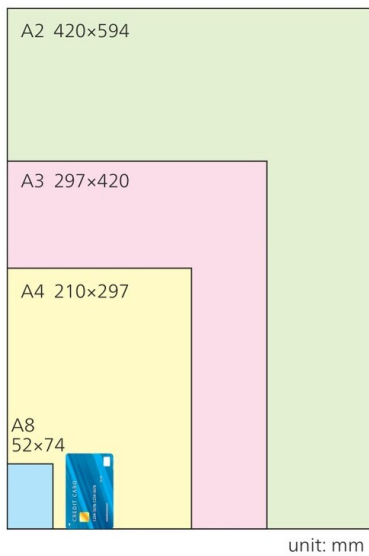
■ Grating sheet DSMC-TG



Model	Type	Size	Grating Pitch	Remarks
DSMC-TG-11	Sticker	A3	10 mm	10 sheets/set White base.
DSMC-TG-12			20 mm	
DSMC-TG-13		A2	20 mm	
DSMC-TG-14			40 mm	
DSMC-TG-15	Magnet	A3	10/20 mm	
DSMC-TG-21			10 mm	
DSMC-TG-22			20 mm	
DSMC-TG-41	Reflective sticker	A3	10 mm	10 sheets/set Black base.
DSMC-TG-42			20 mm	
DSMC-TG-51	Heat-resistant sticker up to 600°C	A8	2 mm	
DSMC-TG-52	High-temperature sticker up to 150°C	A4	2 mm	

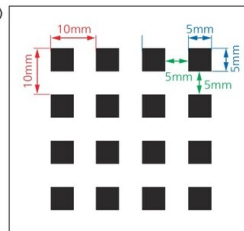
*Grating sheet selection: Please contact us.

[Grating sheet size]



[About grating pitch]

(Example)



•For example, when the 5×5 mm corners are lined up at 5 mm intervals, the grating pitch is 10 mm.
(The figure to the left)

■ System Configuration Example

