

# EN2MP1214 | DATASHEET

Fixed focal 2 Megapixel lens, focal length 12 mm,  $f/N$  1.4 - close, C-mount



## SPECIFICATIONS

### Optical specifications

|                                 |      |             |
|---------------------------------|------|-------------|
| Focal length                    | (mm) | 12          |
| Magnification <sup>1</sup>      | (x)  | 0.071       |
| Image circle                    | (mm) | 11.0        |
| Max sensor size                 |      | 2/3"        |
| WD range <sup>2</sup>           | (m)  | 0.15 - inf  |
| $f/N$                           |      | 1.4 - close |
| Back focal length               | (mm) | 12.70       |
| Distortion on 1/3" <sup>3</sup> | (%)  | 0.78        |
| Distortion on 1/2" <sup>3</sup> | (%)  | 1.25        |
| Distortion on 2/3" <sup>3</sup> | (%)  | 1.80        |
| Iris control                    |      | Manual      |
| Focus Control                   |      | Manual      |

### Mechanical specifications

|                     |      |             |
|---------------------|------|-------------|
| Mount               |      | C           |
| Filter thread       |      | M30.5 x 0.5 |
| Length <sup>4</sup> | (mm) | 31.8        |
| Outer Diameter      | (mm) | 34.0        |
| Mass                | (g)  | 71          |

### Environment

|                             |      |         |
|-----------------------------|------|---------|
| Operating temperature range | (°C) | -10-+50 |
|-----------------------------|------|---------|

<sup>1</sup> Calculated at minimum working distance

<sup>2</sup> Working distance: distance between the front end of the mechanics and the object

<sup>3</sup> Value calculated at the corner point of the sensor diagonal. For distortion graphs see below

<sup>4</sup> Measured from the front end of the mechanics to the camera flange at infinite focusing

## KEY ADVANTAGES

### Suitable for wide range of applications

Designed to satisfy simple vision tasks.

### Wide product range

Covers the most popular focal lengths used in factory automation.

### High quality / price ratio

High performance with reasonable cost.

### Locking screws

Locking screws for fixing focus and iris.

**EN2MP series** is a series of fixed focal length lenses designed for use in factory automation. Its high quality to price ratio allows simple vision tasks to be achieved easily and efficiently.

## ANGLE OF VIEW

| Sensors                    | Diagonal (°) |
|----------------------------|--------------|
| 1/3" (4.8 x 3.6 mm x mm)   | 27.6         |
| 1/2" (6.4 x 4.8 mm x mm)   | 36.5         |
| 1/1.8" (7.1 x 5.3 mm x mm) | 41.1         |
| 2/3" (8.5 x 7.1 mm x mm)   | 49.0         |

## FIELD OF VIEW AT MINIMUM WORKING DISTANCE

| Sensors                    | (mm x mm)      |
|----------------------------|----------------|
| 1/3" (4.8 x 3.6 mm x mm)   | 67.61 x 50.70  |
| 1/2" (6.4 x 4.8 mm x mm)   | 90.14 x 67.61  |
| 1/1.8" (7.1 x 5.3 mm x mm) | 100.28 x 75.07 |
| 2/3" (8.5 x 7.1 mm x mm)   | 119.72 x 99.86 |

## COMPATIBLE PRODUCTS

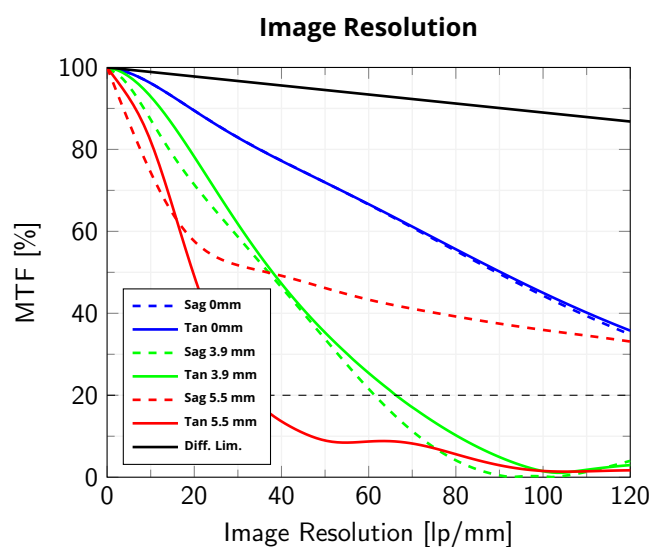
Full list of compatible products available [here](#).



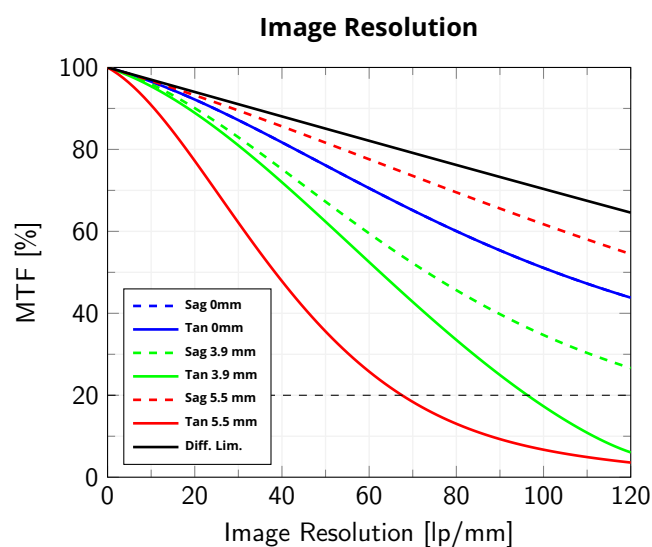
A wide selection of innovative machine vision components.

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only. Data are reported by design, actual lens performance may vary due to manufacturing tolerances.

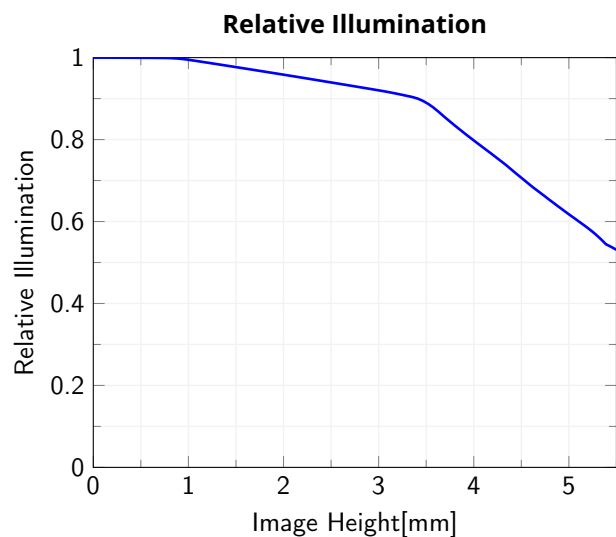
## DATA AT INFINITE WORKING DISTANCE



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at infinite working distance and maximum aperture



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at infinite working distance at  $f/4$



Relative illumination vs. Image Field Height, from the optical axis to the maximum image height at maximum aperture

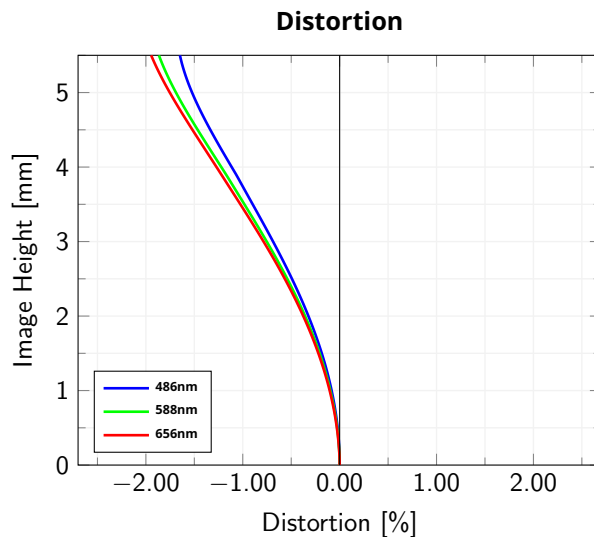
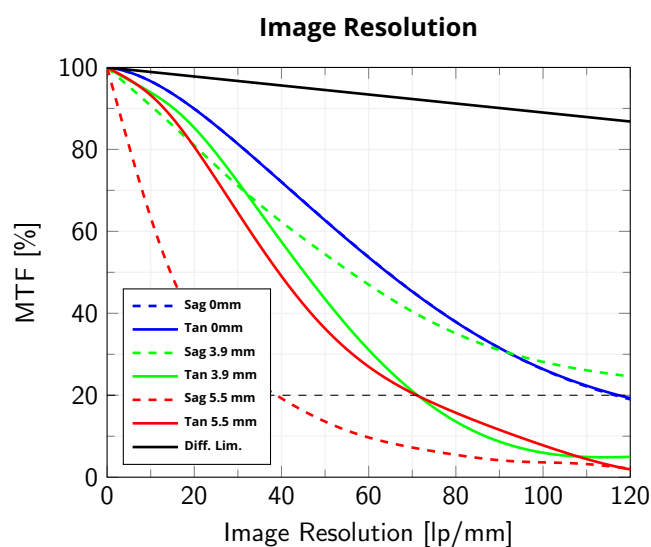
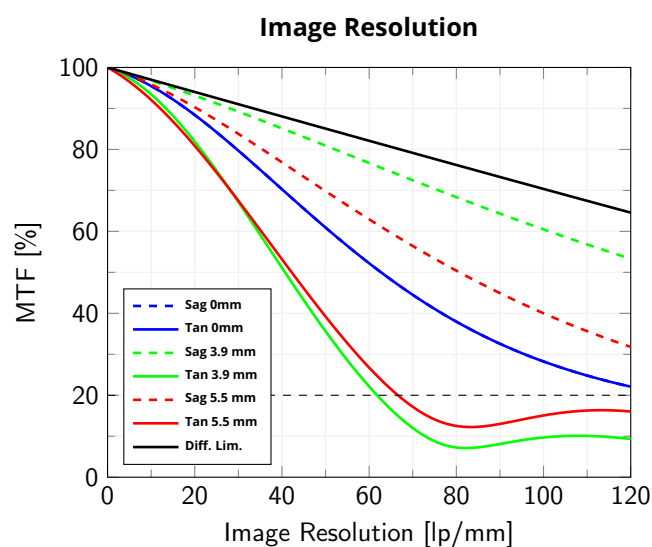


Image Field Height vs. Distortion, from the optical axis to the maximum image height

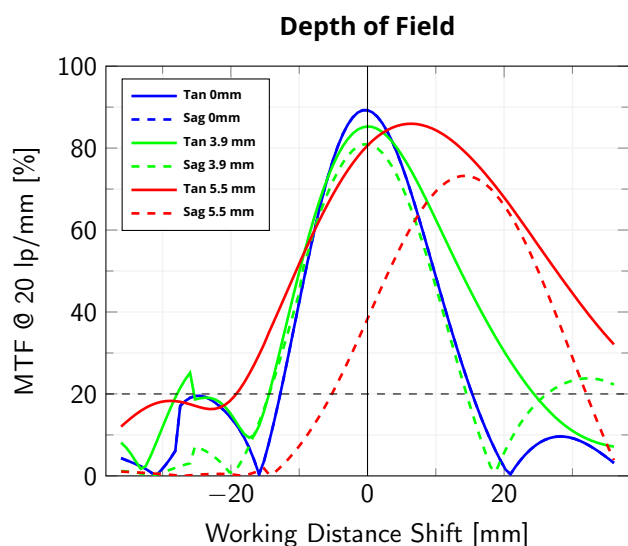
## DATA AT MINIMUM WORKING DISTANCE



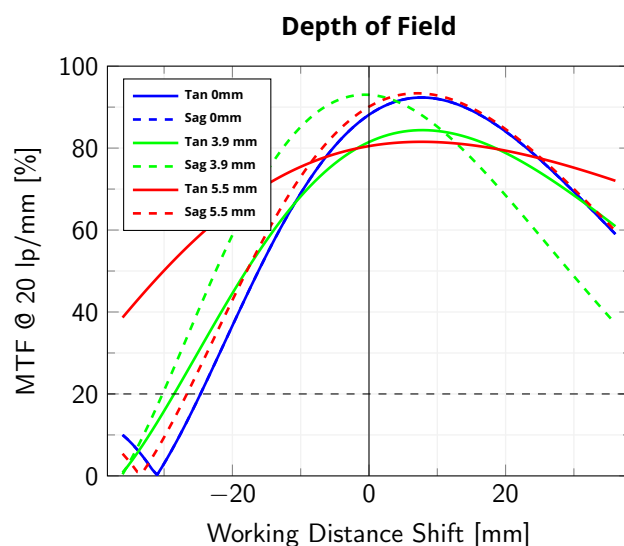
Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at minimum working distance and maximum aperture



Modulation Transfer Function (MTF) vs. Image Resolution, wavelength range 486 nm - 656 nm, at minimum working distance at  $f/4$



Modulation Transfer Function (MTF) @ 20 lp/mm vs. Working Distance Shift from the best focus at minimum working distance, wavelength range 486 nm - 656 nm, maximum aperture



Modulation Transfer Function (MTF) @ 20 lp/mm vs. Working Distance Shift from the best focus at minimum working distance, wavelength range 486 nm - 656 nm,  $f/4$