



# ED-LENS-M12-170185-12 Data Sheet

1/1.7" 12 Megapixel wide range M12 lens

## Overview

ED-LENS-M12-170185-12 lens can be used with Raspberry Pi M12 High Quality camera module and other cameras with M12 interface. This 1.85mm M12 lens provides an 185° Horizontal Field of View on 1/1.7" sensors.



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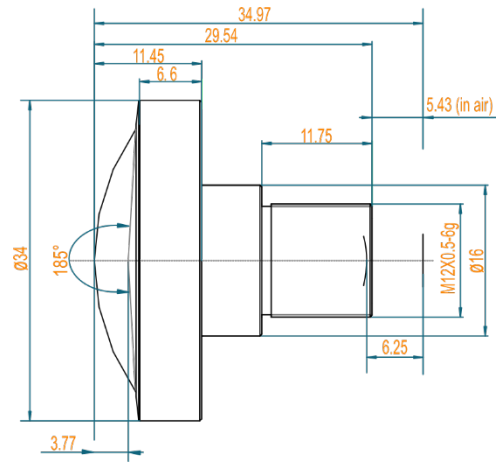
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# Specifications

|                               |                                                                                   |               |        |        |
|-------------------------------|-----------------------------------------------------------------------------------|---------------|--------|--------|
| Resolution                    |                                                                                   | 12 Megapixel  |        |        |
| Optical format                |                                                                                   | 1/1.7"        |        |        |
| TTL (Total Track Length)      |                                                                                   | 34.97mm       |        |        |
| EFL (Effective Focal Length)  |                                                                                   | 1.85mm        |        |        |
| Aperture                      |                                                                                   | F2.0          |        |        |
| Mount                         |                                                                                   | M12           |        |        |
| FOV (Field of View) DxHxV (°) |  | 1/1.7"        | 1/2"   | 1/2.5" |
|                               | D                                                                                 | 185           | 185    | 185    |
|                               | H                                                                                 | 185           | 185    | 185    |
|                               | V                                                                                 | 185           | 154.9  | 126.4  |
| Optical Distortion            |                                                                                   | -97.40%       |        |        |
| CRA (Chief Ray Angle)         |                                                                                   | ≤14.88°       |        |        |
| MOD (Minimum Object Distance) |                                                                                   | 0.15m         |        |        |
| BFL (Back Focal Length)       |                                                                                   | 6.25mm        |        |        |
| MBF (Mechanical Back Focal)   |                                                                                   | 5.43mm        |        |        |
| Structure                     |                                                                                   | 9G            |        |        |
| Operation                     |                                                                                   | Focus         | Manual |        |
|                               |                                                                                   | Iris aperture | Fixed  |        |
| Dimension (mm)                |                                                                                   | Φ34×29.54     |        |        |
| Weigh (g)                     |                                                                                   | 30.4          |        |        |
| Working Temperature           |                                                                                   | -20℃ to +60℃  |        |        |

## Mechanical Drawing



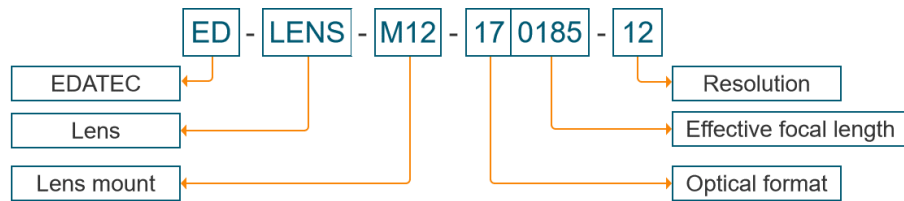
|                        |                                                   |
|------------------------|---------------------------------------------------|
| <b>Unit</b>            | mm                                                |
| <b>Size Tolerance</b>  | 0-10 $\pm$ 0.1; 10-30 $\pm$ 0.3; 30-120 $\pm$ 0.5 |
| <b>Angle Tolerance</b> | $\pm 2^\circ$                                     |

## Actual Photo

Below picture was taken by Raspberry Pi M12 HQ camera module with this lens in the lab, it just gives a reference about the Field of View and resolution of the lens, it may be different with the pictures taken in different light environment and other different conditions.



## Ordering Code



### Example

**P/N : ED-LENS-M12-170185-12**

**Configuration :** EDATEC selected a wide angle of 12 Megapixel M12-mount lens for Raspberry Pi High Quality Camera module, this 1.85mm M12 lens provides an 185° Horizontal Field of View on 1/1.7" sensors.

More details about Ordering Code, please check "[Selection Guide](#)" below.

## Selection Guide

| Model NO.             | Optical Format | EFL<br>(mm) | BFL<br>(mm) | Resolution<br>(Megapixel) | Structure | F/NO. | FOV (D/H/V)<br>(°)                                                         | MOD<br>(m) | Size<br>(mm) |
|-----------------------|----------------|-------------|-------------|---------------------------|-----------|-------|----------------------------------------------------------------------------|------------|--------------|
| ED-LENS-M12-175000-12 | 1/1.7"         | 50          | 24.2        | 12                        | 8G        | 2.8   | 1/1.7": 10.6/8.6/6.4<br>1/1.8": 10.15/8.88/4.9                             | 0.3        | Φ22×44.9     |
| ED-LENS-M12-203500-08 | 1/2"           | 35          | 7.569       | 8                         | 8G        | 2.4   | 12.6/10.1/7.6                                                              | 1          | Φ20×33.7     |
| ED-LENS-M12-202500-05 | 1/2"           | 25          | 11.98       | 5                         | 6G        | 2.4   | 1/2": 18.3/14.7/11.1<br>1/3": 13.8/11.1/8.3<br>1/4": 10.4/8.3/6.3          | 0.3        | Φ14×20.4     |
| ED-LENS-M12-201600-05 | 1/2"           | 16          | 5.75        | 5                         | 6G        | 2.0   | 1/2": 28.9/23.3/17.6<br>1/2.5": 26.1/24.7/15.8<br>1/3.6": 18.3/14.7/11.1   | 0.3        | Φ14×16       |
| ED-LENS-M12-201200-08 | 1/2"           | 12          | 5.06        | 8                         | 8G        | 2.0   | 1/2": 41.4/36.4/20.9<br>1/2.3": 36.9/29.8/22.4                             | 0.15       | Φ15×20.24    |
| ED-LENS-M12-180780-08 | 1/1.8"         | 7.8         | 6.06        | 8                         | 8G        | 2.0   | 1/1.8": 60.8/50.3/38.6<br>1/2": 55.1/45.2/34.5                             | 0.15       | Φ18.7×29.27  |
| ED-LENS-M12-180770-04 | 1/1.8"         | 7.7         | 5.37        | 4                         | 7G1P      | 1.6   | 1/1.8": 65.4/57.2/32.4<br>1/2.3": 57.6/49.5/28.6<br>1/2.5": 53.2/46.5/26.3 | 0.3        | Φ14×20       |
| ED-LENS-M12-170800-12 | 1/1.7"         | 8           | 10.02       | 12                        | 8G        | 1.8   | 1/1.7": 72.64/57.12/42.44<br>1/2.5": 50.7/44.4/32.6<br>1/3": 43/34.7/26.4  | 0.3        | Φ17×33.1     |
| ED-LENS-M12-180420-02 | 1/1.8"         | 4.2         | 6.18        | 2                         | 9G        | 1.8   | 94/86.3/54.1                                                               | 0.3        | Φ25×27.15    |
| ED-LENS-M12-180450-08 | 1/1.8"         | 4.5         | 5.9         | 8                         | 12G       | 2.0   | 98.5/90.2/54.8                                                             | 0.5        | Φ24×24.8     |
| ED-LENS-M12-180520-04 | 1/1.8"         | 5.2         | 5.21        | 4                         | 7G1P      | 1.6   | 111/92.3/48.5                                                              | 0.3        | Φ14×20.7     |
| ED-LENS-M12-170500-12 | 1/1.7"         | 5           | 6.39        | 12                        | 8G        | 2.0   | 1/1.7": 121.4/90/65<br>1/2.5": 87/68.6/49.7<br>1/3": 70.9/55.5/41.2        | 0.3        | Φ17×29.4     |

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**ED-LENS-M12-170185-12**

| Model NO.             | Optical Format | EFL<br>(mm) | BFL<br>(mm) | Resolution<br>(Megapixel) | Structure | F/NO. | FOV (D/H/V)<br>(°)                                                          | MOD<br>(m) | Size<br>(mm) |
|-----------------------|----------------|-------------|-------------|---------------------------|-----------|-------|-----------------------------------------------------------------------------|------------|--------------|
| ED-LENS-M12-230347-08 | 1/2.3"         | 3.47        | 5.34        | 8                         | 4G2P      | 2.2   | 137/106.8/79                                                                | 1.11       | Φ14×15.05    |
| ED-LENS-M12-230325-13 | 1/2.3"         | 3.25        | 5.61        | 13                        | 7G        | 2.7   | 154.2/117.6/85.8                                                            | 0.89       | Φ17.5×19.7   |
| ED-LENS-M12-170320-12 | 1/1.7"         | 3.2         | 6.14        | 12                        | 8G        | 2.0   | 1/1.7": 160/131/99<br>1/1.8": 153.6/129/88<br>1/2.3": 136/113.5/83          | 0.3        | Φ28×38.9     |
| ED-LENS-M12-180250-08 | 1/1.8"         | 2.5         | 5.59        | 8                         | 8G        | 2.2   | 1/1.8": 180/142.4/106.8<br>1/2": 180/147.8/106.8<br>1/2.3": 180/142.4/106.8 | 0.3        | Φ22×22.19    |
| ED-LENS-M12-180160-05 | 1/1.8"         | 1.6         | 4.88        | 5                         | 6G        | 2.0   | 1/1.8": 180/180/180<br>1/2.3": 180/180/180<br>1/3": 180/180/132             | 0.3        | Φ20×16       |
| ED-LENS-M12-170185-12 | 1/1.7"         | 1.85        | 6.25        | 12                        | 9G        | 2.0   | 1/1.7": 185/185/185<br>1/2": 185/185/154.9<br>1/2.5": 185/185/126.4         | 0.15       | Φ34×29.54    |
| ED-LENS-M12-170183-08 | 1/1.7"         | 1.83        | 5.03        | 8                         | 8E        | 2.07  | 186/186/186                                                                 | 0.2        | Φ21×21.97    |
| ED-LENS-M12-280167-08 | 1/2.8"         | 1.67        | 4.36        | 8                         | 5G2P      | 2.0   | 1/2.8": 190/190/120<br>1/2.7": 190/190/115.9                                | 0.3        | Φ22×19.6     |
| ED-LENS-M12-230155-12 | 1/2.3"         | 1.55        | 4.63        | 12                        | 8G        | 2.0   | 1/2.3": 195/195/195<br>1/2.5": 195/195/172<br>1/2.7": 195/195/157           | 0.15       | Φ26×23.16    |
| ED-LENS-M12-250150-05 | 1/2.5"         | 1.5         | 3.31        | 5                         | 6G        | 2.0   | 1/2.5": 210/210/210<br>1/3.2": 210/210/210                                  | 0.3        | Φ16×13.58    |
| ED-LENS-M12-230130-12 | 1/2.3"         | 1.3         | 2.96        | 12                        | 8G        | 2.0   | 240/240/240                                                                 | 0.25       | Φ22×18.24    |
| ED-LENS-M12-230112-04 | 1/2.3"         | 1.12        | 3.01        | 4                         | 4G2P      | 2.2   | 225/225/225                                                                 | 0.17       | Φ17×18.19    |

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