

Technical data sheet

Lens

Part no.: 50148545

Lens S-M12-16F4

Contents

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For illustration purposes only

Technical data

Basic data

Suitable for	IVS 1000i & DCR 1000i
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Optical data

Working range	300 ... 1,300 nm
Focal length	16 mm
Lens mount	S-Mount
F-stop (F)	4
Diaphragm type	Fixed
Wavelength	400 ... 950 nm
Resolution	2 megapixel
Sensor size	1 / 3"
Primary plane, object side	14.84 mm
Primary plane, image side	15.93 mm
Opening angle, object side	21.3 °
Opening angle, image side	14.64 °

Mechanical data

Design	Cylindrical
Thread size	M12 x 0.5 mm
Net weight	4 g
Housing color	Black

Environmental data

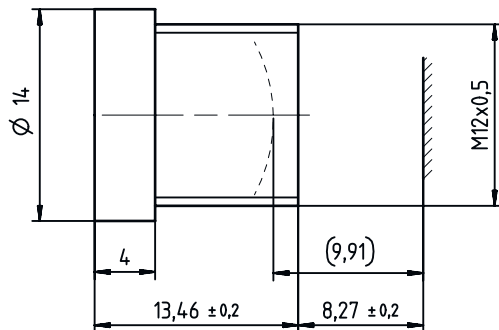
Ambient temperature, operation	-20 ... 60 °C
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Classification

Customs tariff number	90021900
ECLASS 5.1.4	27310203
ECLASS 8.0	27310203
ECLASS 9.0	27310203
ECLASS 10.0	27273603
ECLASS 11.0	27273603
ECLASS 12.0	27273603
ECLASS 13.0	27273603
ECLASS 14.0	27273603
ECLASS 15.0	27273603
ECLASS 16.0	27273603
ETIM 5.0	EC002498
ETIM 6.0	EC003015
ETIM 7.0	EC003015
ETIM 8.0	EC003015
ETIM 9.0	EC003015
ETIM 10.0	EC003015

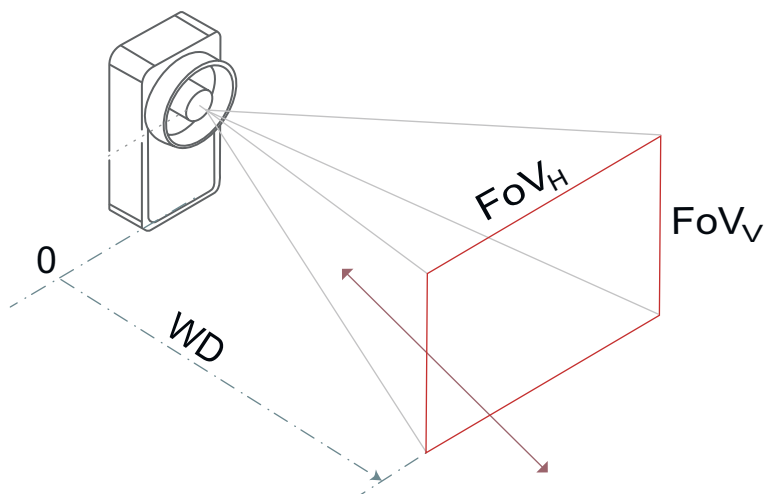
Dimensioned drawings

All dimensions in millimeters



Diagrams

Depth of field and field of view



Depth of field

A	B	C
300	304	325
400	396	434
500	487	545
600	575	658
700	662	774
800	747	894
900	831	1.016
1.000	913	1.140
1.100	993	1.269
1.200	1.072	1.400
1.300	1.149	1.535

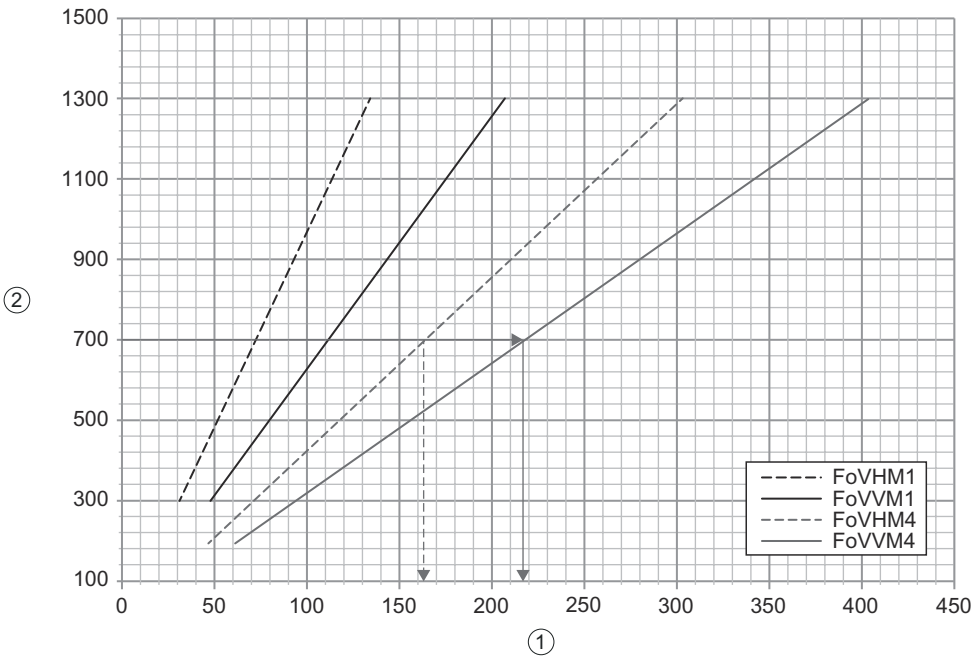
A Working distance (WD) [mm]
 B Short range
 C Distant range
 - The depth of field (DoF) is the range within which the object can move away from or closer to the camera without going out of focus. The depth of field depends on the lens aperture, the distance to the test object, the lens focal length and the pixel size of the camera.
 - Please note: During calculation, the double pixel size is used as the permissible blur.
 Example: The object should have a WD range of 662 to 774 mm.
 WD = 700 mm

Field of view (FoV)

A	B		C	
	FoV _H	FoV _V	FoV _H	FoV _V
300	47	31	93	69
400	63	41	124	93
500	79	52	155	116
600	95	62	186	139
700	111	72	217	163
800	127	83	248	186
900	143	93	279	209
1.000	158	103	310	232
1.100	174	114	341	256
1.200	190	124	372	279
1.300	206	134	403	302

A Working distance (WD) [mm]
 B Models with low resolution (-M1)
 C Models with high resolution (-M4)
 - The field of view (FoV) is the range in which the sensor can capture its surroundings. It depends on the size of the imager and its resolution, on the focal length of the lens and on the distance of the sensor to the object.
 Example: The FoV is 111 x 83 mm for devices with low resolution (-M1) and 217 x 163 mm for devices with high resolution (-M4).
 WD = 700 mm

Diagrams



- 1 Dimensions [mm]
- 2 Working distance (WD) [mm]

Modulus size [mm]

A	B	C
300	0,15	0,2
400	0,2	0,25
500	0,2	0,3
600	0,25	0,4
700	0,3	0,45
800	0,35	0,5
900	0,4	0,55
1.000	0,45	0,6
1.100	0,45	0,7
1.200	0,5	0,75
1.300	0,55	0,8

- A Working distance (WD) [mm]
- B Bar codes
- C 2D-codes