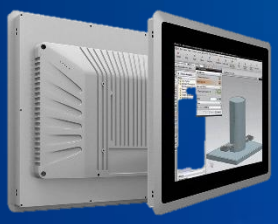
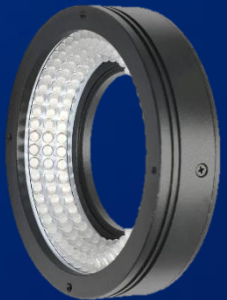
AUTOMATED OPTICAL INSPECTION

Product Catalog 2025





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Aironos

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About us

We are a German Start-Up founded by System Integrators dedicated in **2D/ 3D Machine vision and Laser Displacement technology**.

Operating in Germany and Portugal, bringing **over fifteen years of knowledge,** we design and deploy precision-engineered solutions for the automotive, food, and pharmaceutical industries, committed to Innovation and the Highest Quality Standards.

Therefore, our mission is to bring the hardware to you in the same way we wanted when we started the journey in Vision. The products included in this Catalogue bring the best in terms of quality and price. All products with warranty applicable.

Do not hesitate to contact us in case you have questions or need other vision components not included in our Catalogue.

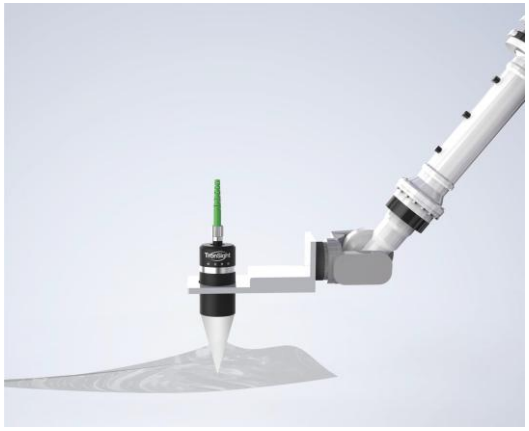
Looking forward to hearing from you!

Oscar Campillo & Rui Moreira
Founders

LASER SENSORS

Triangulation Displacement Sensor

Short-range for 3C and semiconductors, mid-range for precision manufacturing, long-range for infrastructure, with an integrated controller, 2mm-2000mm range, 160kHz sampling, and extensive customization.



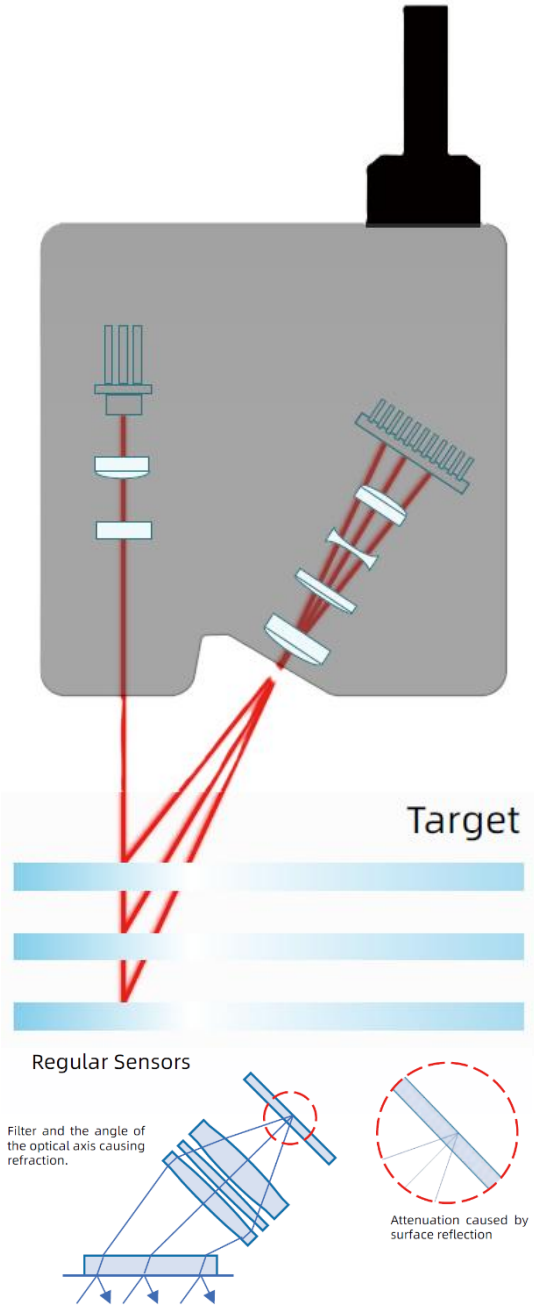
Chromatic Confocal Displacement Sensor

Designed for 3C and semiconductor precision inspection, supporting 1 to 16 synchronized channels, Sensor Head diameter φ3.8 to φ94, sampling up to 30kHz, spot size φ2.7μm to φ400μm, ±5°~60° angles, and compatibility with high-temperature vacuum environments.

Interferometric Thin Film Thickness Sensor

Specialized in coating and thin-film thickness measurement, supporting visible and near-infrared bands, thickness range 1μm~2500μm, 1nm repeatability, and 10kHz measurement speed.

Laser Triangulation Displacement Sensor



Basic Principle

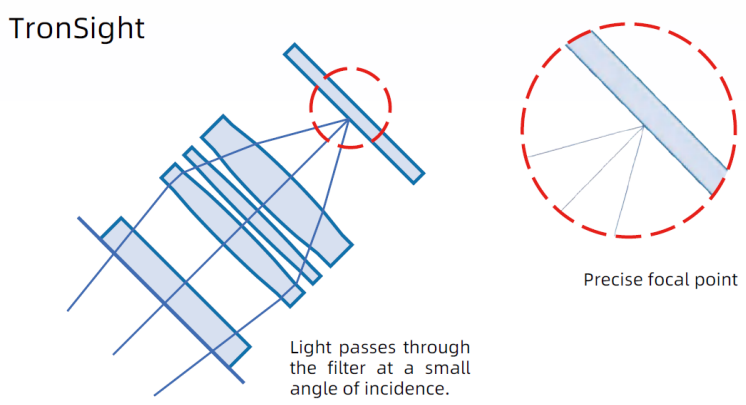
The beam of light emitted by the laser shines on the target; the receiving lens focuses the diffusely reflected / reflected light from the surface of the target and focuses it on the photosensitive element.When the distance to the target changes, the position of the light spot on the photosensitive element also changes.

Optimization of the receiving lens module

TronSight has improved the structure of the conventional laser triangulation sensor receiving lens module, which can maximize the avoidance of multiple spots caused by multiple reflections on the surface of the filter and the resulting misjudgment of the measurement position. At the same time, it improves the signal-to-noise ratio of the photoelectric data.

Semi-transparent object measurement algorithm

When the laser penetrates a semi-transparent object, it produces diffuse reflection from below the surface of the object, causing the received light waveform to slowly expand. The self-developed measurement algorithm for semi-transparent objects can eliminate the effect of the expanded waveform and detect the actual peak.



Model	Reference Distance*1	Measurement Range	Spot Diameter	Repeatability*2	Repeatability*3	Linear Error*4	Outer Diameter*Length	Weight	Sample Frequency	Light Source*5
TS-PD08	8mm	±0.8 mm	Φ20μm	0.03μm	0.01μm	＜±0.5μm	82*115*38.5mm	213 g	Max. 160 kHz	655 nm Max. 4.9mW
TS-PD15	15mm	±1.0mm	Φ35μm	0.05μm	0.01μm	＜±0.6μm	102*137*55.5mm	475 g		
TS-PD15U	15mm	±1.0mm	Approx.35*1000μm	0.05μm	0.01μm	＜±0.6μm	102*137*55.5mm	475 g	Max. 25kHz	
TS-PM80U	75.4mm	±15mm	Approx.70*2200 μm	0.25μm	0.1μm	＜±6μm	93*78*37mm	359 g		
TS-P150	150mm	±40mm	Φ110μm	1.2μm	0.25μm	＜±16μm	95*80*37 mm	374 g	Max. 160 kHz	
TS-P1000	1000mm	±500mm	Φ320μm	12μm	/	＜±500μm	180*85*40mm	785 g		
TS-P1000H	1000mm	±500mm	Φ320μm	12μm	/	＜±500μm	180*85*40mm	785 g		660 nm Max.50mW
TS-P2250H	2250mm	±650mm	Φ700μm	50μm	/	<±650μm	200*85*41mm	924 g		
Temperature Characteristics	0.01% of F.S./°C									
Industrial Interface*6	Ethernet, RS-485 serial port, analog signal output*7(Max. ±10V, 4-20mA)									
Measurement & Control Software	Comes with TSLaserStudio measurement & control software, C++&C# SDK									
Operating Mode	Operates independently without a controller. The head can be configured as a master or slave, the master controls the slave to achieve									
Supply Voltage	DC 9~36V, maximum allowable ±10% fluctuation									
Power Consumption	Approx.2.5W									
IP Grade	IP67(IEC60529)									
Operating Temperature	0 to +50°C									

*1 Calculation based on the center position of the measurement range;

*2 Measurement of standard white ceramic sample, 50kHz without averaging, taking the root mean square deviation (1 σ) of 65536 sets of measurement data; U series probes, 8kHz without averaging, taking the root mean square deviation (1 σ) of 65536 sets of measurement data;

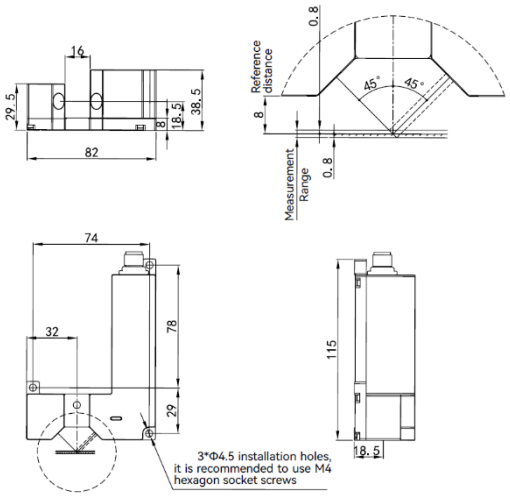
*3 Measurement of standard white ceramic sample, 50kHz with 1024 averaging times, taking the root mean square deviation (1 σ) of 65536 sets of measurement data; U series probes, 8kHz with 1024 averaging times, taking the root mean square deviation (1 σ) of 65536 sets of measurement data;

*4 Calibration and verification using nanometer-level high-precision laser interferometer;

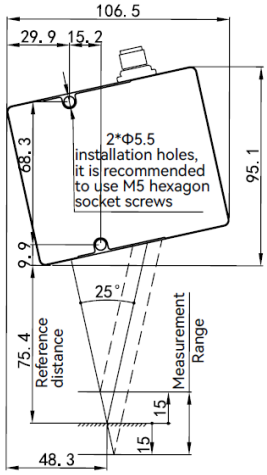
*5 Laser power can be customized according to different application requirements, some models provide 405nm blue light version;

*6 The probe can independently provide voltage, current, and RS-485 output;

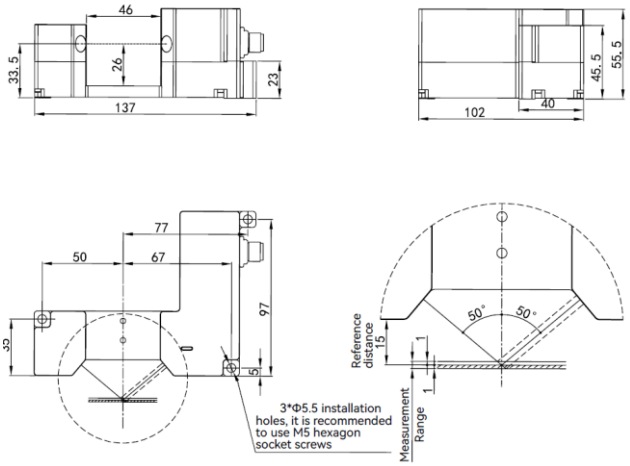
PD08



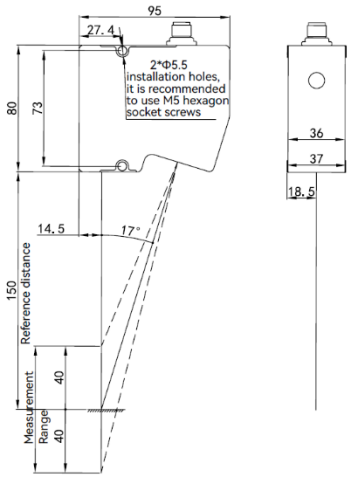
PM80U



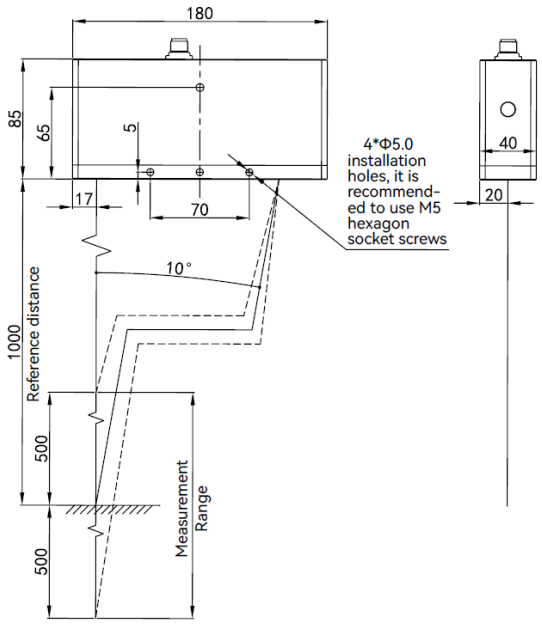
PD15_PD15U



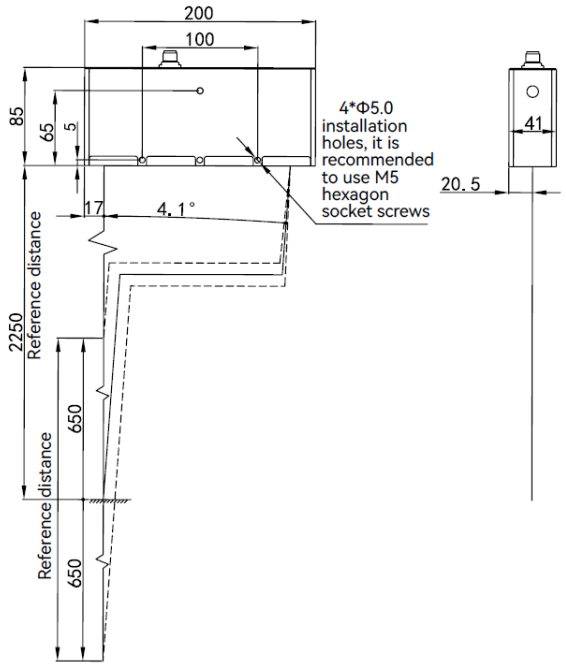
P150_150W



P1000_P1000H



P2250H

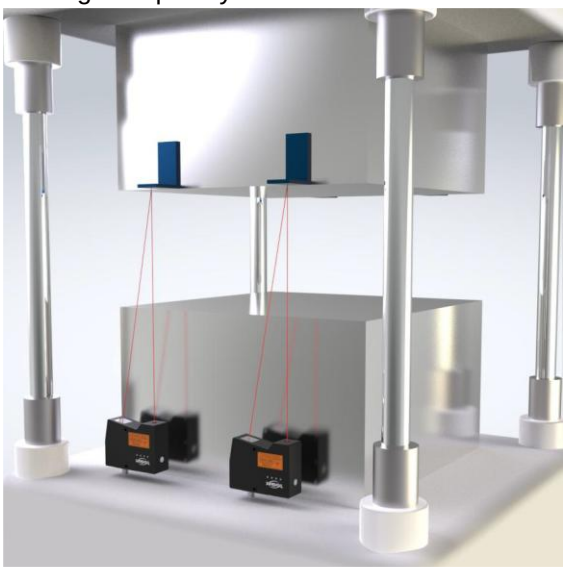


Application

Road surface smoothness measurement

High-frequency vibration measurement

Motion platform position measurement

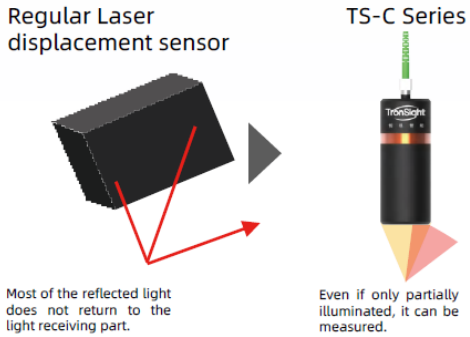


PCB component height, PCB board thickness measurement

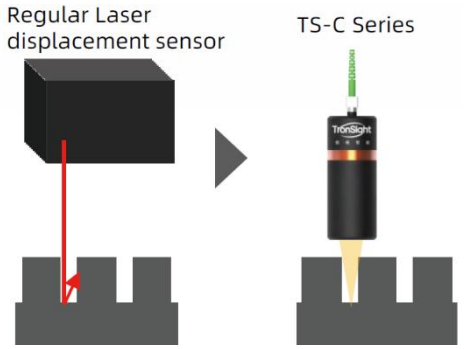
Chromatic Confocal Displacement Sensor

Basic Principle

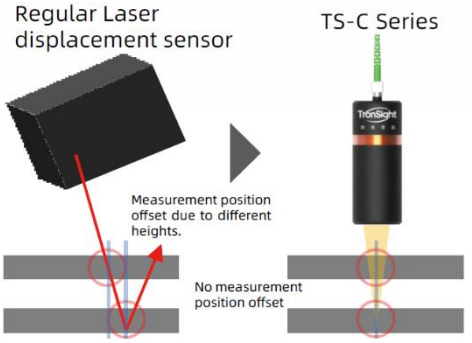
When white point light source passes through the dispersive confocal head and illuminates the target, different wavelength components of the light source form a longitudinal distribution; the light spot on the target returns through the coaxial optical path and then passes through a pinhole aperture, connecting to the spectrometer. When the distance to the target changes, the wavelength of the focused light also changes, resulting in different spectral distributions in the spectrometer.



Achieving high-precision measurement of **transparent curved surfaces.**
Even with only partial reflection, high-precision measurements can be achieved.

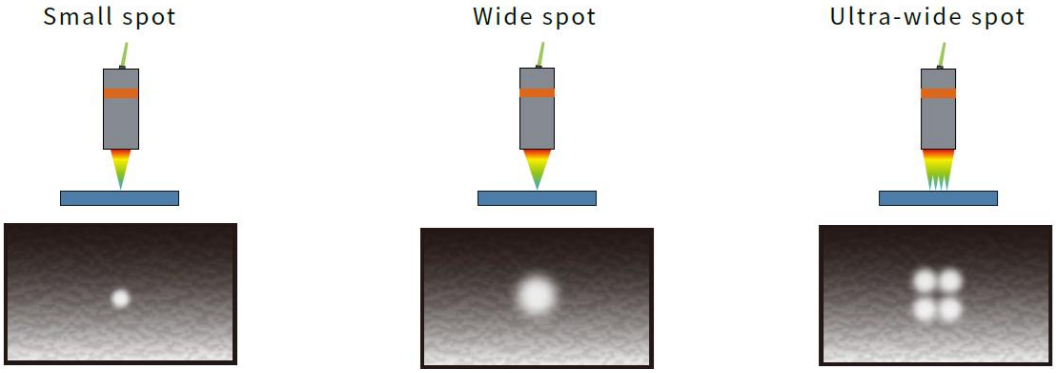


Measure **pits and steps** without blind spots.
Using a confocal coaxial method, it can measure without affecting the installation direction and movement direction of the head.



Accurate measurement of **transparent and reflective objects**.

Even if the measurement height of transparent or mirrored objects changes, it can accurately measure to the same measurement point without worrying about positional deviation.



Sensor Head

Model*8	Reference Distance*1	Measurement Range	Angle*2	Spot Diameter*3	Repeatability*4	Linear Error*5	Outer Diameter *Length	Weight	Minimum Measurable Thickness	Temperature Characteristics	IP Grade
C100B*7	8mm	±0.05mm	±46.5°	Φ2.7μm/5.4μm/43.2μm	3nm	＜±0.03μm	φ40*111.5mm	256 g	5%ofF.S.	<0.03%F.S./°C	IP40
C400	10mm	±0.2mm	±43°	Φ7μm/14μm/112μm	12nm	＜±0.12μm	φ40*99.4mm	186 g			
C2000	50mm	±1mm	±14°	Φ20μm/40μm/320μm	85nm	＜±0.6μm	φ34*90.7mm	162 g	10%ofF.S.	≈0.1%F.S./°C	
C10000	50mm	±5mm	±13°	Φ20μm/40μm/320μm	250nm	＜±2μm	φ36*84mm	203 g	5%ofF.S.	<0.03%F.S./°C	
C20000	55mm	±10mm	±15.3°	Φ15μm/30μm/240μm	300nm	＜±2μm	φ60*211.1mm	1180g			

*1 Calculated from the center position of the measurement range;

*2 Tilt test using standard flat mirror at 1kHz sample frequency;

*3 Measurement of sharp glass edges, verified with a sub-micron positioning accuracy motion platform and laser interferometer as the displacement reference, the spot diameter values correspond to the diameters of small spot/large spot/four-spot pattern;

*4 Measurement of standard silver-coated mirror, 1kHz without averaging, root mean square deviation of 10,000 continuous data sets;

*5 Calibration verification using high-precision nanoscale laser interferometer;

*6 This head model includes a 3m tail cable, and the weight in the table includes the weight of the cable;

*7 These models are new products, and the actual parameters may vary slightly. The contract shall prevail;

*8 The CR series is available in two configurations: axial and radial light emission. The different suffixes are distinguished as follows:N for near reference distance,F for far reference distance,S for small size,L for Large size,H for high-temperature version.

Controller (CC-)

Model		TS-CCS (L)	TS-CCF
Head Connection Capacity		1	4
Sample Frequency		1 Channel: Max. 10 kHz; 2 Channel: Max. 5 kHz; 4 Channel: Max. 2.5 kHz	
Input port	Encoder Input	AB / ABZ encoder input, configurable for trigger	
	Trigger Signal Input	Pulse / Level trigger	
Output port	Digital Signal Output	Alarm output, comparator output (configurable as comparator output or data invalid warning)	
	Analog Signal Output	Linear ±10 V analog voltage output / 4~20 mA analog current output (optional)	
Industrial Interface	Ethernet	100BASE-TX	
	USB	Complies with USB2.0 Full-speed standard	
	RS-485	Modbus protocol, 19200~115200 baud rate	
	EtherCat	\	
Measurement & Control Software	Host Computer Software	TSConfocalStudio measurement & control software	
	SDK	C++&C#SDK	
Rated Power	Supply Voltage	24 VDC±10%	
	Current Consumption	Approx.0.4 A	
Environmental Tolerance	Operating Temperature	0 to +50°C	
	Relative Humidity	20 to 85% RH(No condensation)	
Weight		Approx.2000 g	

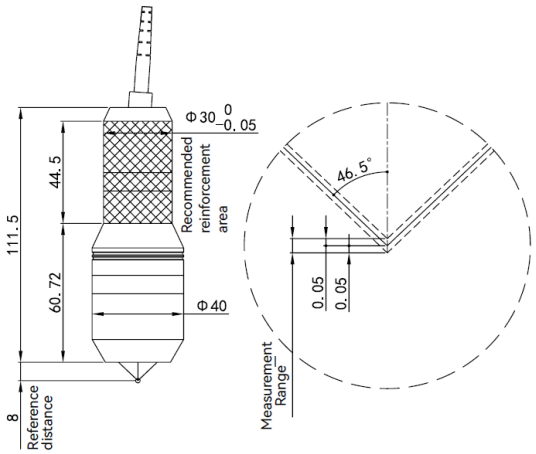
Controller (CP-*)

Model		TS-CPS / TS-CPS-L	TS-CPF
Head Connection Capacity		1	4
Sample Frequency		1 Channel: Max.32 kHz; 2 Channel: Max.16 kHz; 4 Channel: Max.8 kHz	
Input Port	Encoder Input	AB / ABZ encoder input, configurable for trigger	
	Trigger Signal Input	Pulse / Level trigger	
Output Port	Digital Signal Output	Alarm output, comparator output (Configurable as comparator output or data invalid warning	
	Analog Signal Output	Linear ±10 V analog voltage output / 4~20 mA analog current output (Optional)	
Industrial Interface	Ethernet	100BASE-TX	
	USB	USB2.0 High-speed (480Mbps)	
	RS-485	Modbus protocol, 19200~115200 baud rate	
	EtherCAT	Optional	
Measurement & Control Software	Host Computer Software	TSConfocalStudio measurement & control software	
	SDK	C++&C#SDK	
Rated Power	Supply Voltage	24 VDC±10%	
	Current Consumption	Approx.0.5 A	
Environmental Tolerance	Operating Temperature	0 to +50°C	
	Relative Humidity	20 to 85% RH(No condensation)	
Weight		Approx.3200 g	

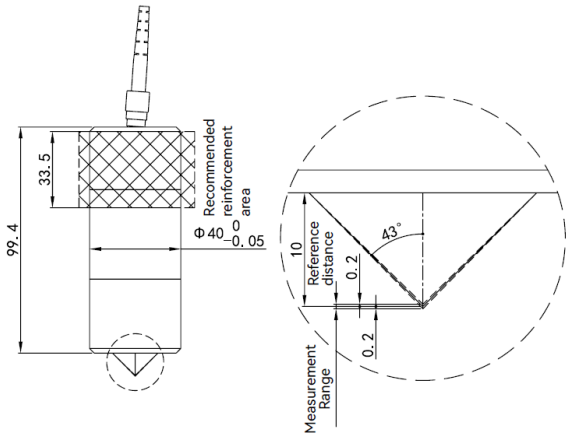
* These models are new products. The drawings are still being perfected, and the actual parameters may vary slightly. The contract shall prevail.

Sensor Head

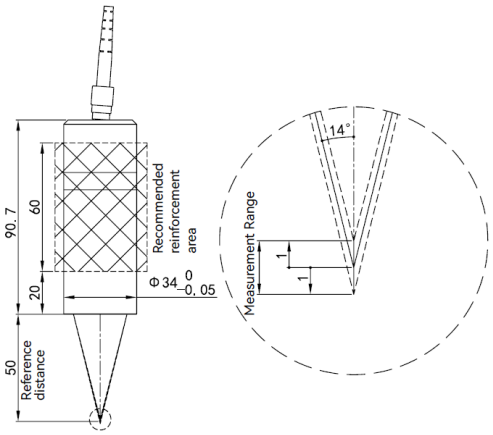
C100B



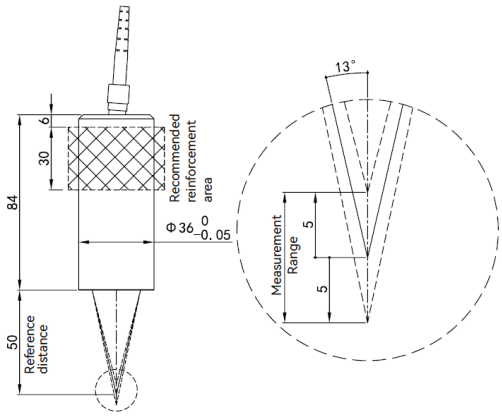
C400



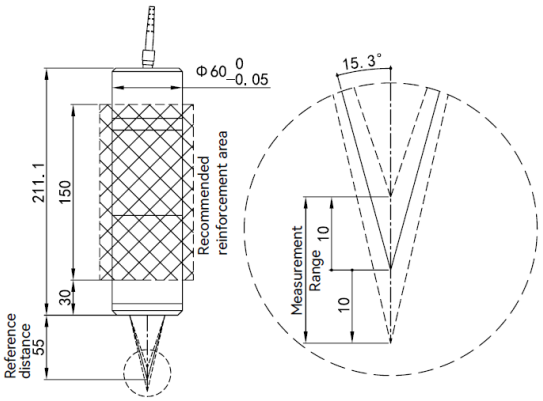
C2000



C10000_C10000H

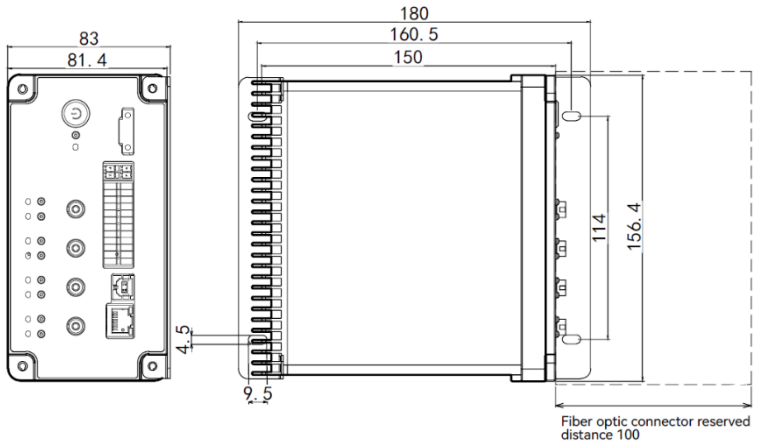


C20000

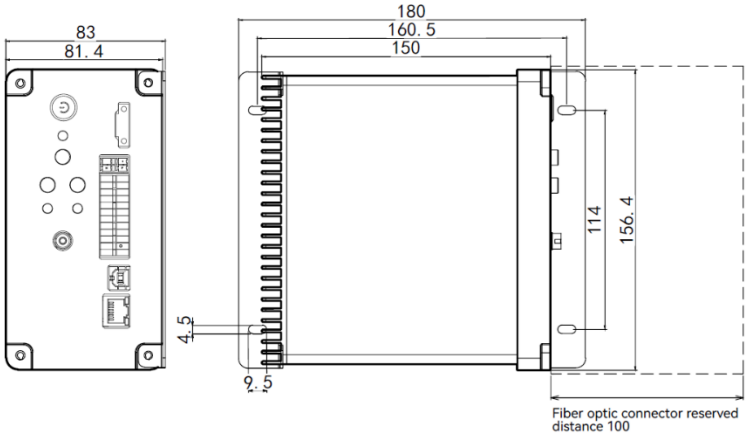


Controller

CCF(With Footpad)

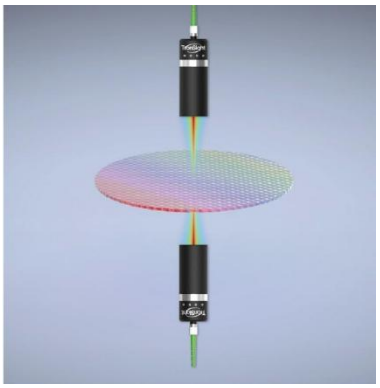


CCS(With Footpad)



Application

Metal workpiece profile measurement



Wafer Mapping Thickness Measurement

PCB component height difference measurement

Interferometric Thinkness Sensors

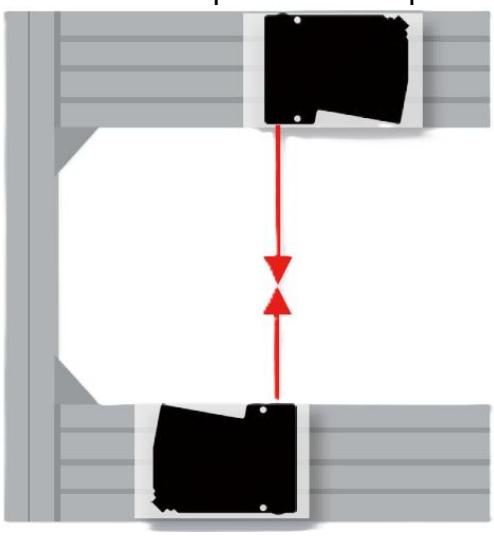
Basic Principle

The white point light spectrum passes through the interferometric probe and illuminates the surface of the sample. The reflected light from the upper and lower surfaces of the sample is simultaneously received by the interferometric probe. The phase difference between the two reflected beams is related to the film thickness, thus allowing the calculation of the film thickness value by analyzing the interference fringes.

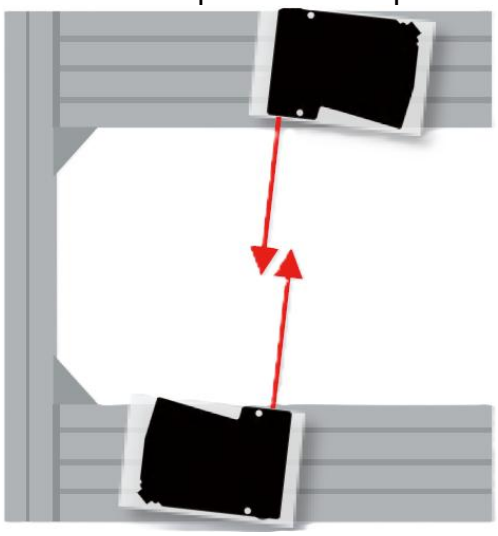
Zero heat-generating probe design

Traditional laser displacement sensors can cause deformation of the fixture and optical axis misalignment due to their own emissions, leading to measurement errors. The probe of this sensor is designed with only lens structures internally. Since there are no electronic components, it does not generate heat, thus preventing the deformation of the fixture where the probe is installed. This design allows for ideal high-precision measurements.

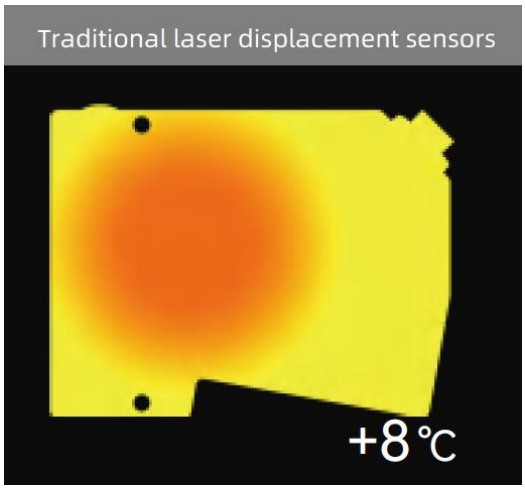
Before the probe heats up

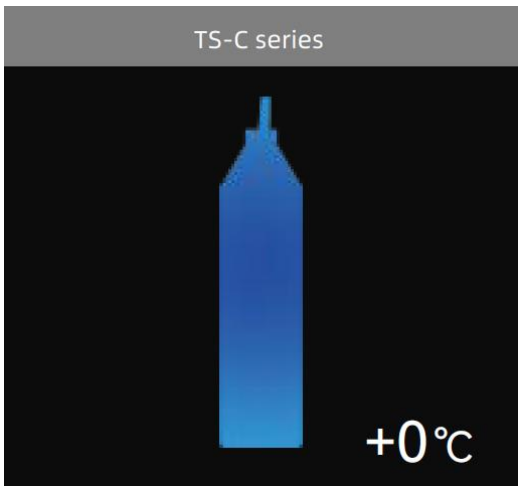


After the probe heats up



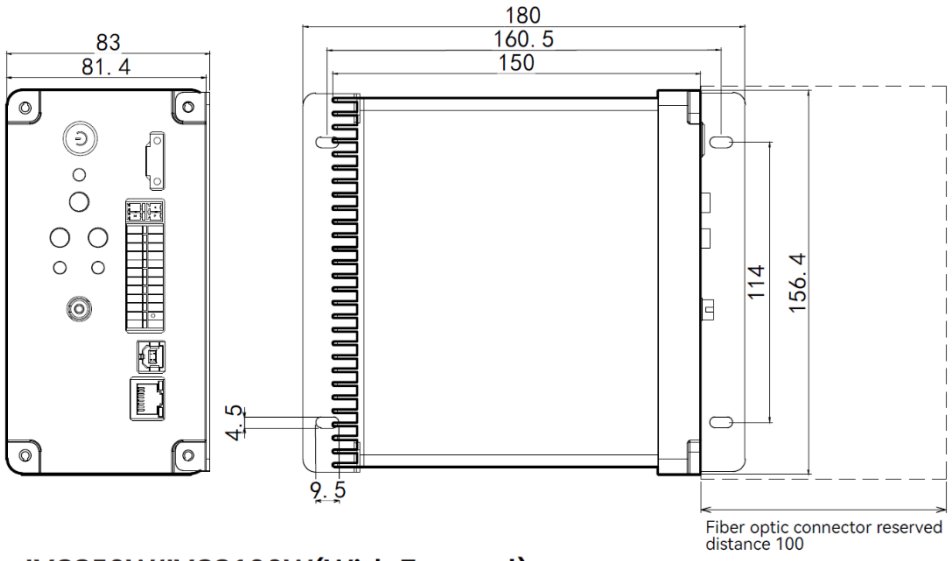
Traditional laser displacement sensors



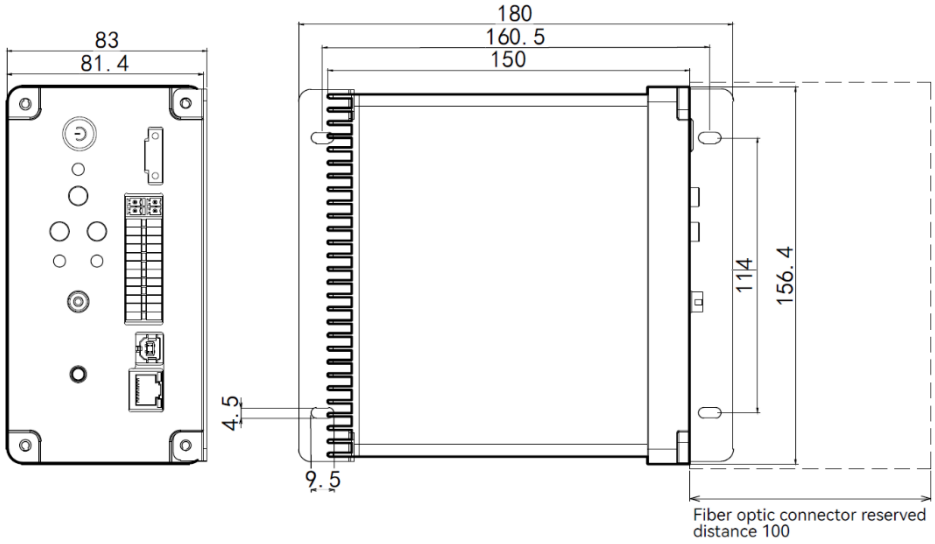


Controller

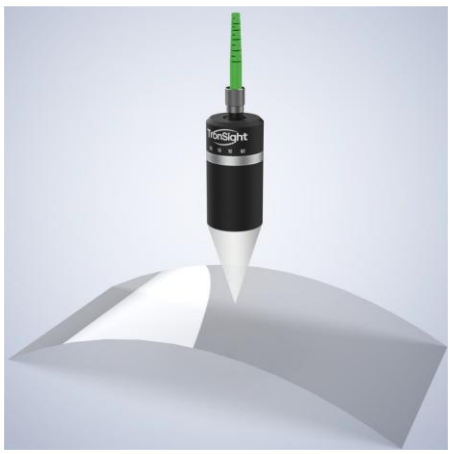
IVCS50/IVCS100(With Footpad)



IVCS50W/IVCS100W(With Footpad)



Application



Thickness Me asurement of Ultra-Thin Flexible Glass (UTG)

Thickness Me asurement of ITO Film for Touch Screens

LIGHTING

Why is it important to use a light source?

Purpose: To separate the measured object from the background and obtain high-quality, high contrasts images. Good light sources can greatly reduce irrelevant background information and highlight the characteristics of the measured object.

Importance: It directly affects processing accuracy and speed, and even the success or failure of machine vision systems. Excellent lighting engineering can reduce the difficulty of algorithm development.

The requirements of machine vision for light sources

- Contrast: The fundamental purpose of illuminating the detected object is to improve the contrast between the defect and the background, highlight the defect, and facilitate further processing by machine vision algorithms. It is one of the most important references far selecting light sources.
- Uniformity: Uneven lighting can cause inconvenience in later image processing and even render the collected images useless far processing. Far example, smooth parts will produce mirror reflection, resulting in dazzling light spots on their surface. lf the defect is just covered by the light spot, there may be missed or false detections.
- Brightness: lf the brightness is too high, defects may be submerged, and if the brightness is too low, the contrast of defects may not be obvious, and lighting will lose its original meaning. Therefore, it is necessary to choose the brightness of the light source reasonably.
- Stability: refers to the stable emission of light from a light source within a certain time range.
- Cost and lifespan: A high price may not be the most suitable, nor may it be affordable. The longer the service life of the light source, the better. On the one hand, it can reduce expenses, and on the other hand, it can reduce the system adjustments caused by replacing the light source.

Analog Controller

Product Features

The analog controller achives stepless adjustment of light source brightness through voltage control, with a simple structure and easy operation. It is the most commonly used controly used controller, suitable for most occasions, and also compatible with triggering function.

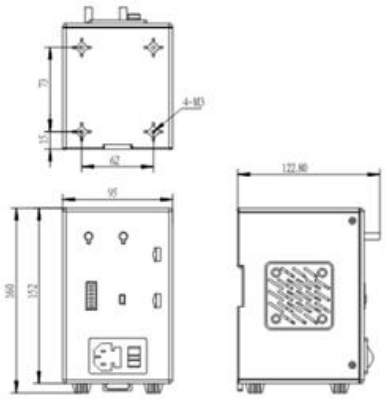
Appliaction scope

- Stempless Brightness control;
- Simple structure and good stability;
- Equipped with short-circuit protection function;
- Equipped with external triggering and high/low level switching function;
- Equipped with DIN rail buckle installation (some models) and screw fixation (remove foot pad) Two installation methods.

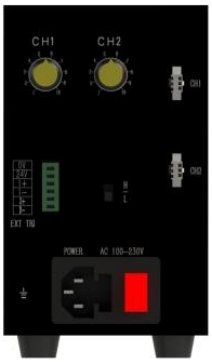
Analog Controller

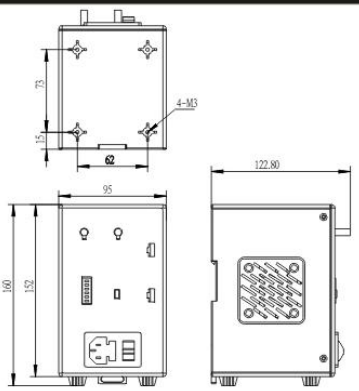
No.	Model	Input Voltage	Output Voltage	Total Power	Channel	Adjustamen Method
1	AIRON-AC 2-24V24W-2T	100-240VAC	24VDC	24W	2	Voltage regulation
2	AIRON-AC 2-24V60W-2T	100-240VAC	24VDC	60W	2	Voltage regulation
3	AIRON-AC 2-24V60W-4T	100-240VAC	24VDC	60W	4	Voltage regulation
4	AIRON-AC 2-24V120W-2T	100-240VAC	24VDC	120W	2	Voltage regulation
5	AIRON-AC 2-24V120W-4T	100-240VAC	24VDC	120W	4	Voltage regulation
6	AIRON-AC 2-24V120W-8T	100-240VAC	24VDC	120W	8	Voltage regulation

Product dimension diagram: AIRON-AC 2-24V24W-2T

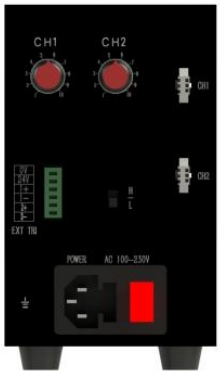


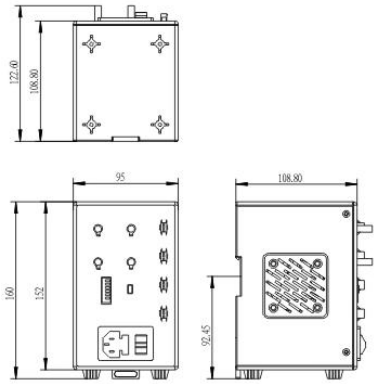
Product dimension diagram: AIRON-AC 2-24V60W-2T



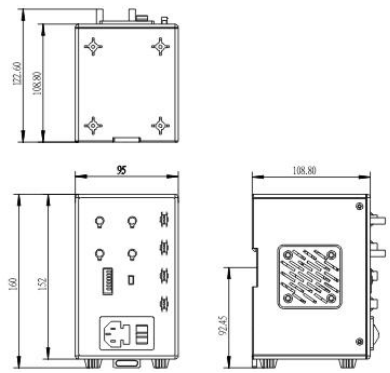


Product dimension diagram: AIRON-AC 2-24V120W-2T

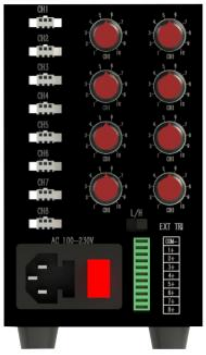


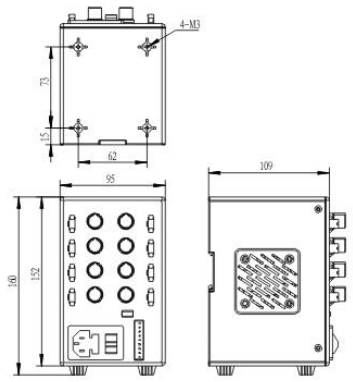


Product dimension diagram: AIRON-AC 2-24V60W-4T / AIRON-AC 2-24V120W-4T



Product dimension diagram: AIRON-AC 2-24V120W-8T





High Power Analog Controller

Product Features

The high-power analog controller achives stepless adjustment of light source brightness through voltage control, with a simple structure and easy operation. It is the most commonly used controller, suitable for most occasions, and also compatible with triggering function.

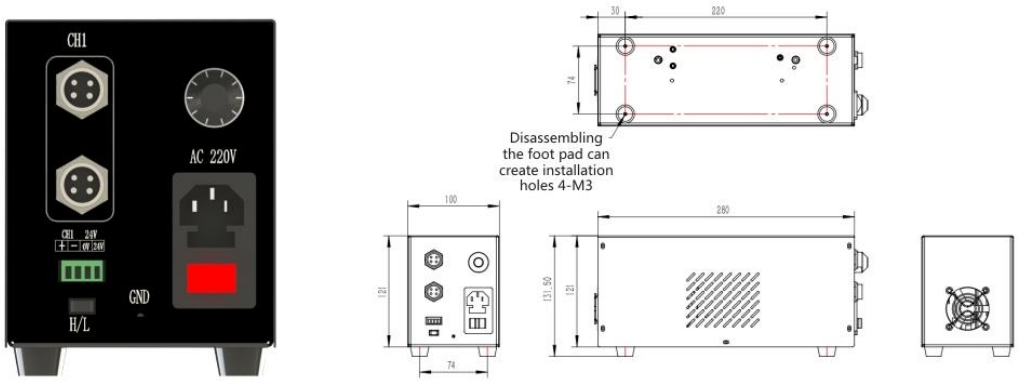
Application Scope

- Stepless brightness control;
- Simple structure and good stability;
- Equipped with short-circuit protection function;
- Equipped with external triggering and high/low level switching function;
- After removing the foot pad, it can be fixed and isntalled with screws

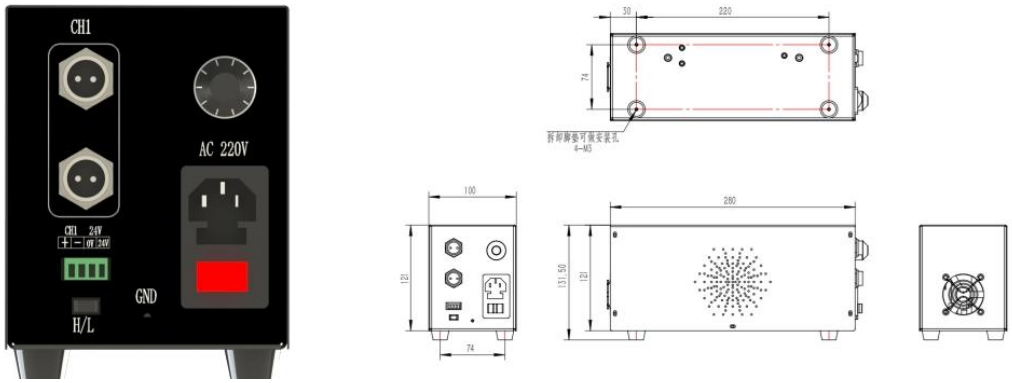
Analog Controller

No.	Model	Input Voltage	Output Voltage	Total Power	Channel	Adjustamen Method
1	AIRON-AC 2-24V150W-1T-2P	100-240VAC	24VDC	150W	1	Voltage adjust
2	AIRON-AC 2-24V150W-1T-2P-4X	100-240VAC	24VDC	150W	1	Voltage adjust
3	AIRON-AC 2-24V300W-1T-2P	100-240VAC	24VDC	300W	1	Voltage adjust
4	AIRON-AC 2-24V300W-1T-2P-4X	100-240VAC	24VDC	300W	1	Voltage adjust

Product dimension diagram: AIRON-AC 2-24V150W-1T-2P / AIRON-AC 2-24V300W-1T-2P-4X



Product dimension diagram: AIRON-AC 2-24V150W-1T-2P-4X / AIRON-AC 2-24V300W-1T-2P-4X



Backlight Series

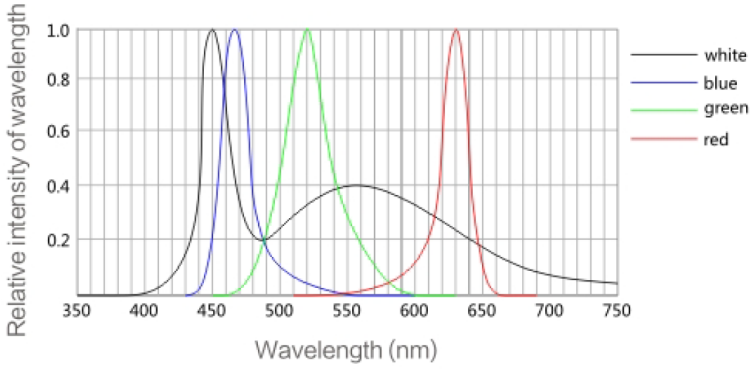
Product Features

LEDs are evenly distributed at the bottom of the light source, with high uniformity and brightness. The light source can be customized with holes to be used in conjunction with the camera.

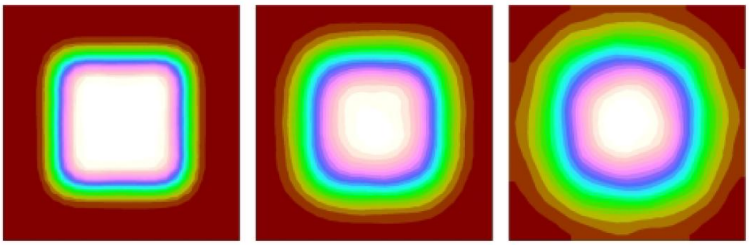
Application scope

- Appearance contour detection;
- Measurement of workpiece dimensions;
- Scratch and stain detection;
- Liquid height measurement.

Spectral diagram



Uniformity diagram

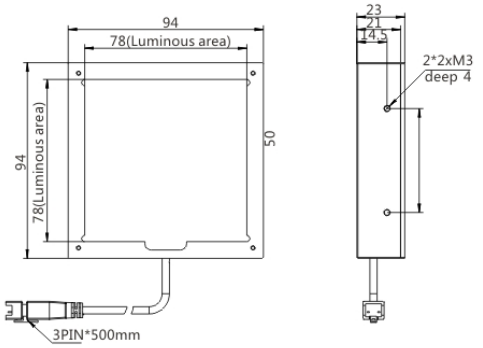


LWD=10mm LWD=50mm LWD=100mm

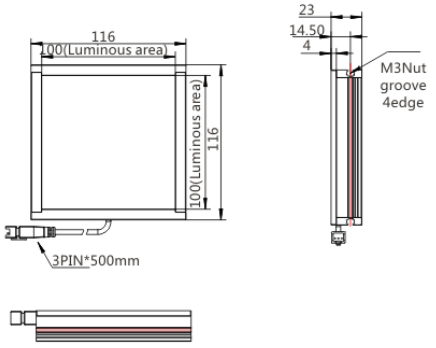
Models

Number	Model	Voltage	Power		Luminous surface
			Red	Green, Blue, White	size(mm)
1	AIRON-BACKLIGHT-78-78	24	4	4	78-78
2	AIRON-BACKLIGHT-100-100	24	6	6	100-100
3	AIRON-BACKLIGHT-120-120	24	9	9	120-120
4	AIRON-BACKLIGHT-250-150	24	26	25	250-150
5	AIRON-BACKLIGHT-250-200	24	34	34	250-200
6	AIRON-BACKLIGHT-300-300	24	60	60	300-300

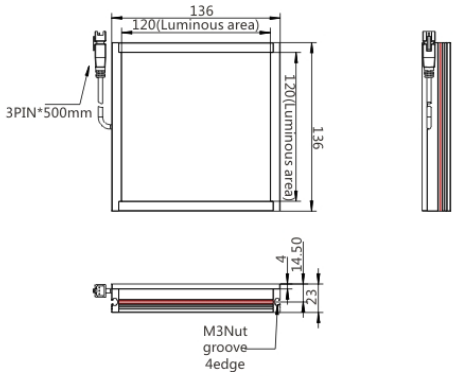
1 AIRON-BACKLIGHT-78-78



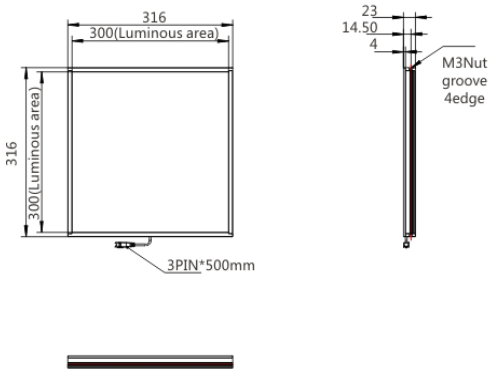
2 AIRON-BACKLIGHT-100-100



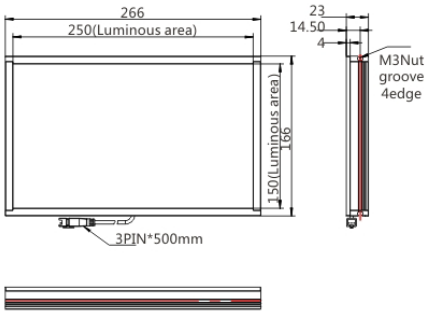
3 AIRON-BACKLIGHT-120-120



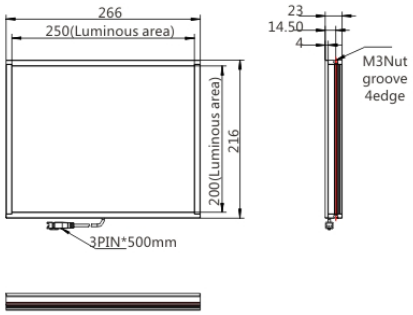
6 AIRON-BACKLIGHT-300-300



4 AIRON-BACKLIGHT-250-150



5 AIRON-BACKLIGHT-250-200



Backlight with Hole

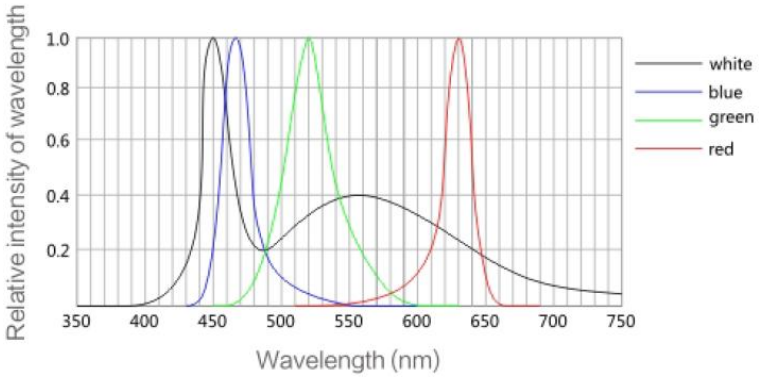
Product Features

LEDs are evenly distributed at the bottom of the light source, with high uniformity and brightness. The light source can be customized with holes to be used in conjunction with the camera.

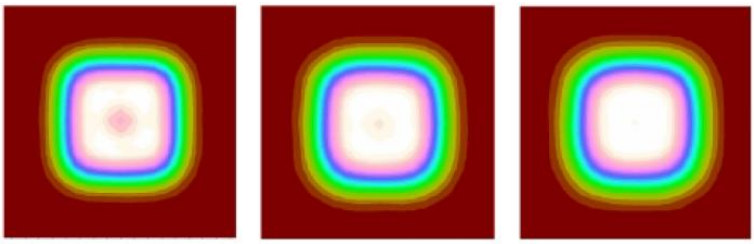
Application scope

- Appearance contour detection;
- Measurement of workpiece dimensions;
- Scratch and stain detection;
- Liquid height measurement.

Spectral diagram



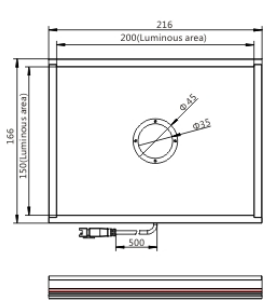
Uniformity diagram



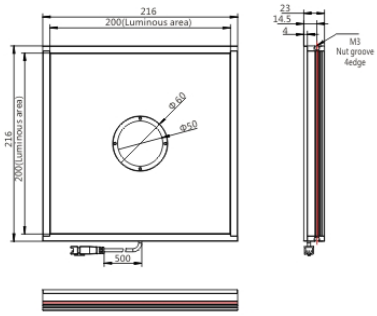
Models

Serial number	Model	Voltage	Power		Luminous surface size (mm)	Weight (g)
			R	G/B/W		
1	AIRON-CHBL-200-200	24	26	26	200-200	3
2	AIRON-CHBL-200-150	24	26	25	250-150	3
3	AIRON-CHBL-250-200	24	34	34	250-200	3
4	AIRON-CHBL-250-250	24	43	43	250-250	3
5	AIRON-CHBL-300-300	24	60	60	300-300	4
6	AIRON-CHBL-350-200	24	48	48	350-200	4
7	AIRON-CHBL-350-250	24	60	60	350-250	4
8	AIRON-CHBL-500-400	24	100	120	500-400	5
9	AIRON-CHBL-500-500	24	120	116	500-500	5
10	AIRON-CHBL-600-400	24	116	120	600-400	5

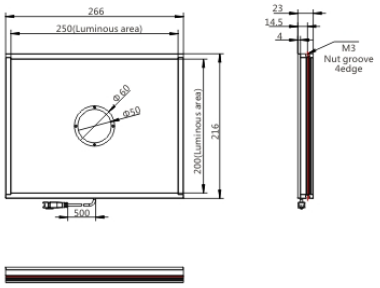
1 AIRON-CHBL-200-150



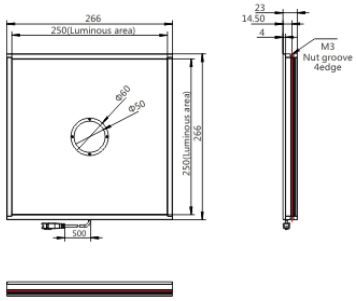
2 AIRON-CHBL-200-200



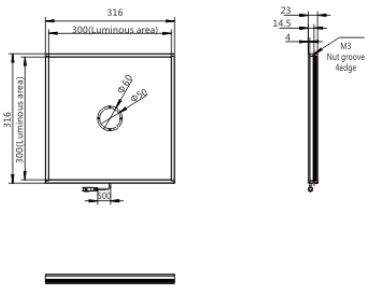
3 AIRON-CHBL-250-200



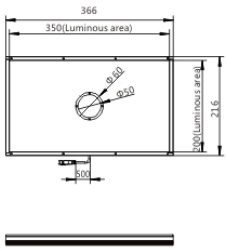
4 AIRON-CHBL-250-250



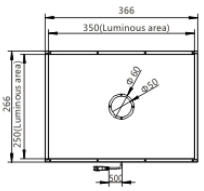
5 AIRON-CHBL-300-300



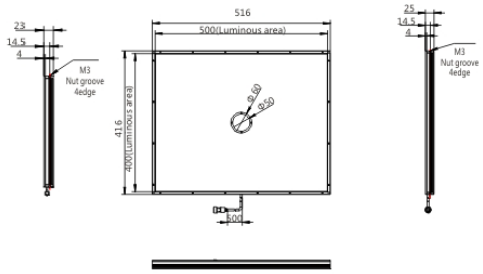
6 AIRON-CHBL-350-200



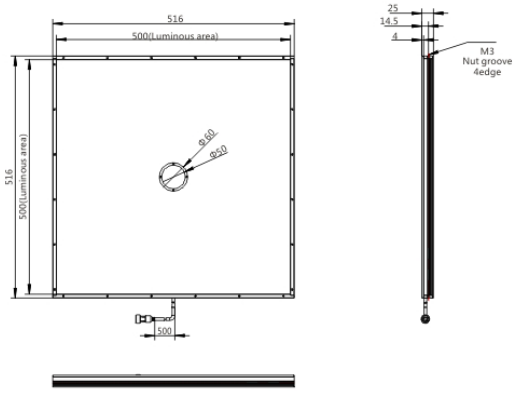
7 AIRON-CHBL-350-250



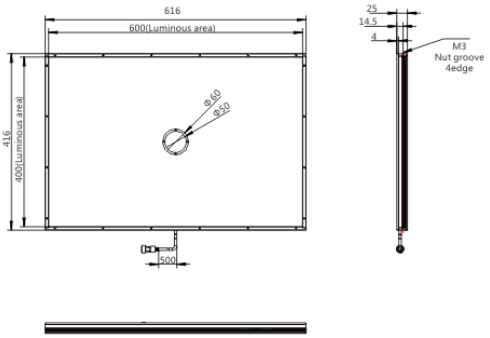
8 AIRON-CHBL-500-400



9 AIRON-CHBL-500-500



10 AIRON-CHBL-600-400



Bar Lights

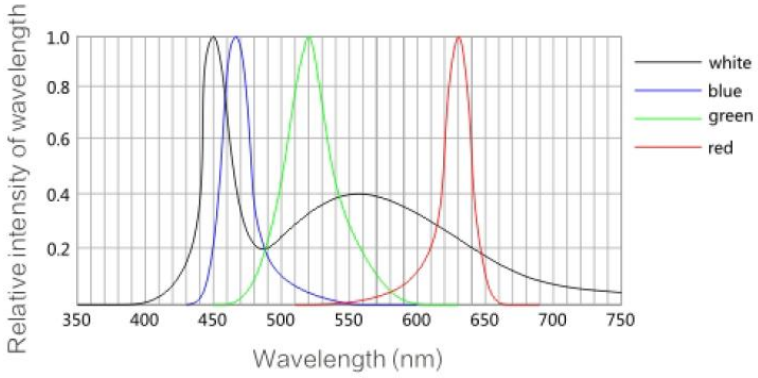
Product Features

The irradiation angle can be adjusted freely according to the the detection requirements. The color of the light source can be selected according to the detection requirements. Multiple strip light sources can be freely combined.

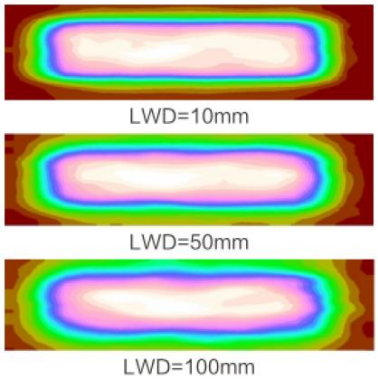
Application scope

- Wide field of vision shining.
- Character recognition.
- Appearance inspection.

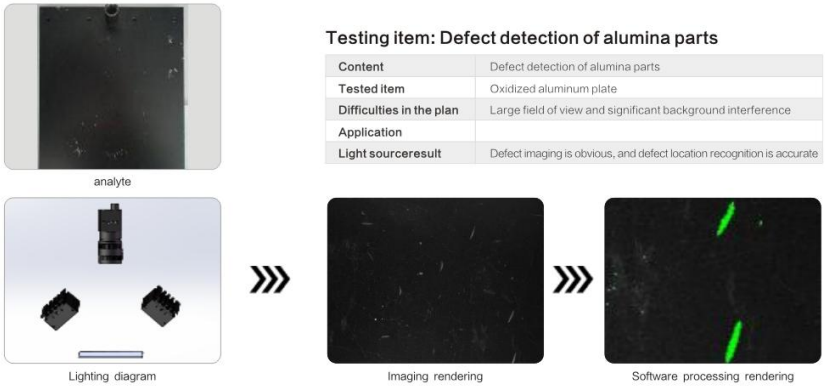
Spectral diagram



Uniformity diagram



Application case of strip light source



Testing item: Defect detection of alumina parts

Content	Defect detection of alumina parts
Tested item	Oxidized aluminum plate
Difficulties in the plan	Large field of view and significant background interference
Application	
Light sourceresult	Defect imaging is obvious, and defect location recognition is accurate

Serial number	Model	Voltage	Power			Weight (g)
			R	G/B/W	IR	
1	AIRON-BAR-45-12	24	0.7	1	0.7	60
	AIRON-BAR-45-22	24	1.4	2.1	1.4	70
	AIRON-BAR-45-32	24	2.1	3.2	2.8	90
2	AIRON-BAR-90-12	24	1.4	2	1.4	90
	AIRON-BAR-90-22	24	2.8	4.2	2.8	110
	AIRON-BAR-90-32	24	4.2	6.4	5.6	150
3	AIRON-BAR-135-12	24	2.1	3	2.1	120
	AIRON-BAR-135-22	24	4.2	6.3	4.2	150
	AIRON-BAR-135-32	24	6.3	9.6	8.4	210
4	AIRON-BAR-180-12	24	2.8	4	2.8	150
	AIRON-BAR-180-22	24	6.4	8.4	5.6	190
	AIRON-BAR-180-32	24	8.4	12.8	11.2	270
5	AIRON-BAR-225-12	24	3.5	5	3.5	180
	AIRON-BAR-225-22	24	7	10.5	7	230
	AIRON-BAR-225-32	24	10.5	16	14	330
6	AIRON-BAR-270-12	24	4.2	6	4.2	210
	AIRON-BAR-270-22	24	8.4	12.6	8.4	270
	AIRON-BAR-270-32	24	12.6	19.2	16.8	390
7	AIRON-BAR-315-12	24	4.9	7	4.9	240
	AIRON-BAR-315-22	24	9.8	14.7	9.8	310
	AIRON-BAR-315-32	24	16.8	25.6	22.4	450
8	AIRON-BAR-360-12	24	5.6	8	5.6	270
	AIRON-BAR-360-22	24	11.2	16.8	11.2	350
	AIRON-BAR-360-32	24	16.8	25.6	22.4	510
9	AIRON-BAR-405-12	24	6.3	9	6.3	300
	AIRON-BAR-405-22	24	12.6	18.9	12.6	390
	AIRON-BAR-405-32	24	18.9	28.8	25	570
10	AIRON-BAR-450-12	24	7	10	7	300
	AIRON-BAR-450-22	24	14	21	14	400
	AIRON-BAR-450-32	24	21	32	28	600
11	AIRON-BAR-495-12	24	7.7	11	7.7	400
	AIRON-BAR-495-22	24	14	21	14	500
	AIRON-BAR-495-32	24	23.1	35.2	30.8	700
12	AIRON-BAR-540-12	24	8.4	12	8.4	390
	AIRON-BAR-540-22	24	16.8	25.2	16.8	510
	AIRON-BAR-540-32	24	25.2	38.4	33.6	750
13	AIRON-BAR-585-12	24	9.1	13	9.1	420
	AIRON-BAR-585-22	24	18.2	27.3	18.2	550
	AIRON-BAR-585-32	24	27.3	41.6	36.4	810
14	AIRON-BAR-630-12	24	9.8	14	9.8	450
	AIRON-BAR-630-22	24	19.6	29.4	19.6	590
	AIRON-BAR-630-32	24	29.4	44.8	39.2	870
15	AIRON-BAR-855-12	24	13.3	15	13.3	600
	AIRON-BAR-855-22	24	26.6	39.9	26.6	790
	AIRON-BAR-855-32	24	39.9	60.9	53.2	1170
16	AIRON-BAR-990-12	24	15.4	16	15.4	690
	AIRON-BAR-990-22	24	30.8	46.2	30.8	910
	AIRON-BAR-990-32	24	46.3	70.4	61.6	1350

Dome Light

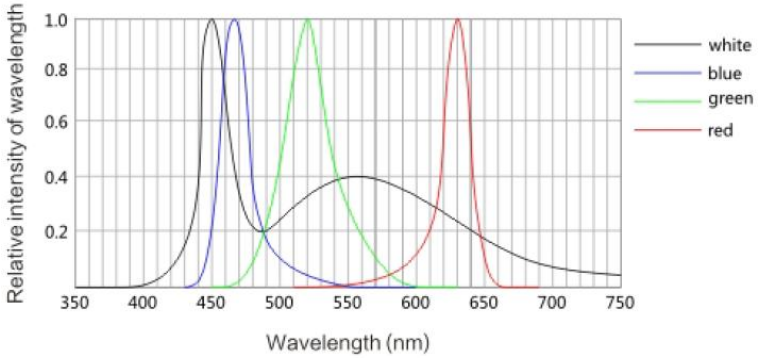
Product Features

Similar to the effect of shadowless light source, the light shines on the inner wall of the hemisphere and then diffuses on the measured object, making the light more uniform. Ehminate the problem of uneven and reflective surfaces on the illuminated object.

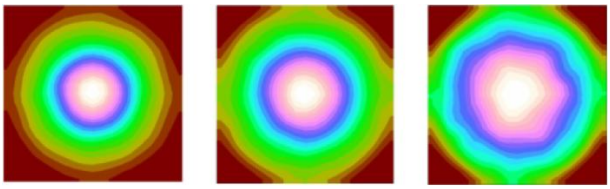
Application scope

- Surface and arc defect detection.
- Edge extraction of workpleces.
- Character detection.
- Line detection.

Spectral diagram



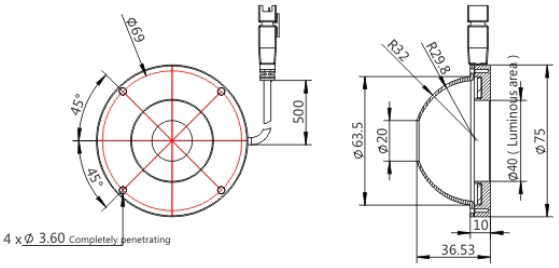
Uniformity diagram



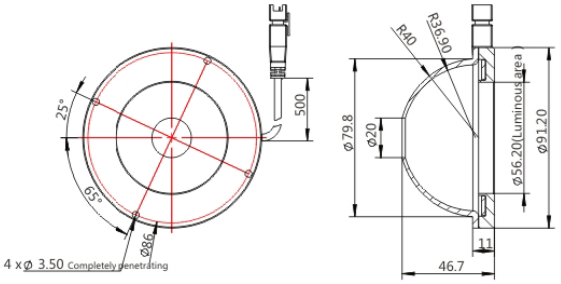
LWD=10mm LWD=50mm LWD=100mm

Serial number	Model	Voltage	Power		Weight (g)
			R	G/B/W	
1	AIRON-DOME-65	24	4	5	100
2	AIRON-DOME-80	24	6	6.4	160
3	AIRON-DOME-100	24	8	10	250
4	AIRON-DOME-120	24	9	11.6	300
5	AIRON-DOME-150	24	11	14	370
6	AIRON-DOME-175	24	12	18	450
7	AIRON-DOME-210	24	14	20	640
8	AIRON-DOME-240	24	16	24	760
9	AIRON-DOME-275	24	20	28	840
10	AIRON-DOME-320	24	22	32	900
11	AIRON-DOME-350	24	24	35	940
12	AIRON-DOME-400	24	28	40	990

1 AIRON-DOME-65



2 AIRON-DOME-80



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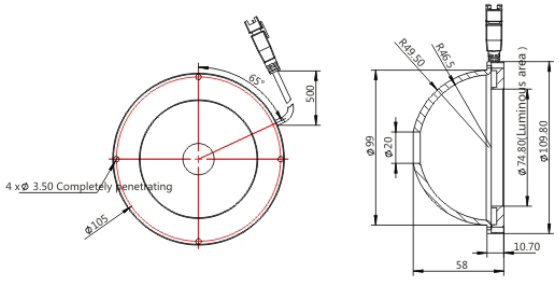
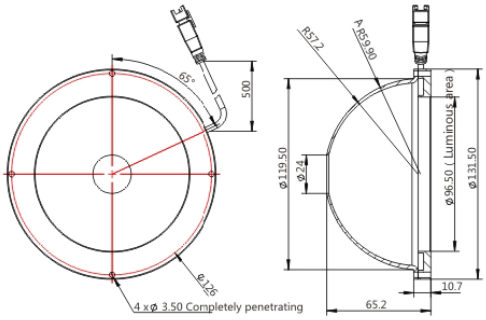
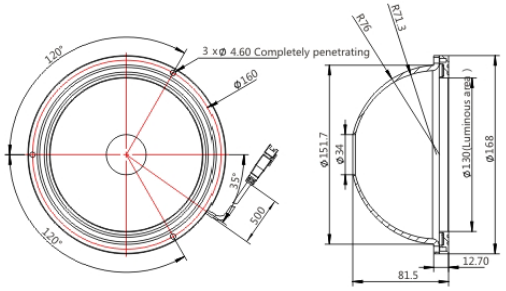


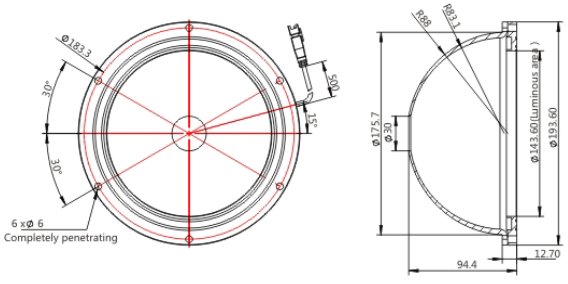
4 AIRON-DOME-120



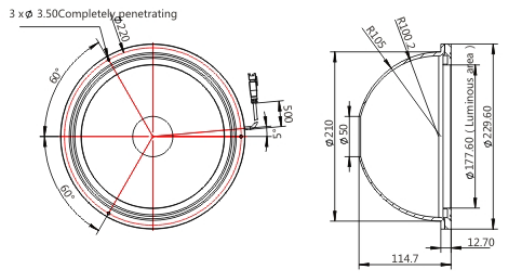
5 AIRON-DOME-150



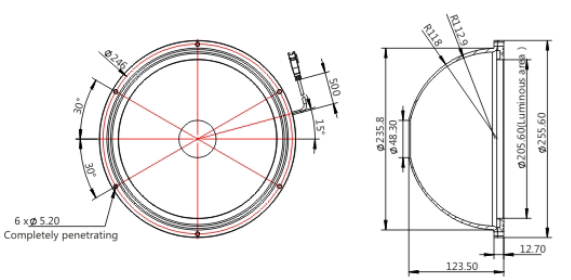
6 AIRON-DOME-175



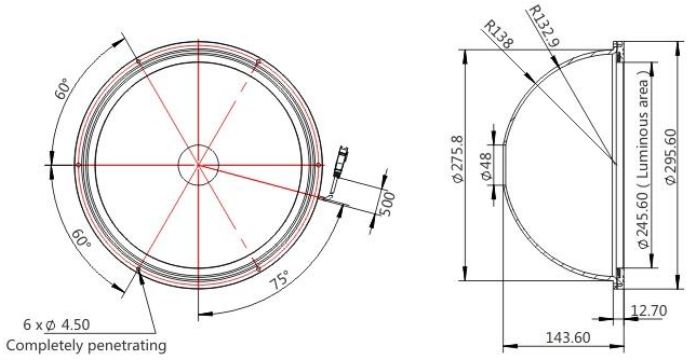
7 AIRON-DOME-210



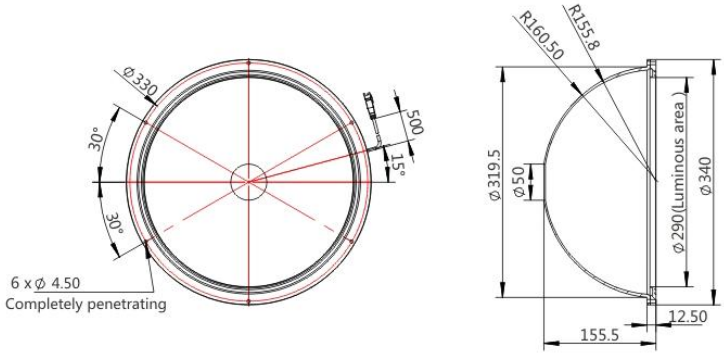
8 AIRON-DOME-240



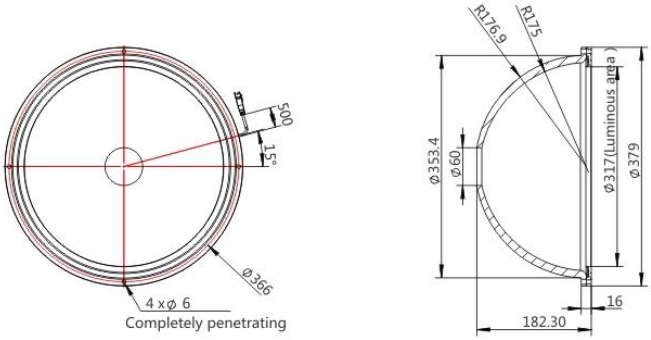
9 AIRON-DOME-275



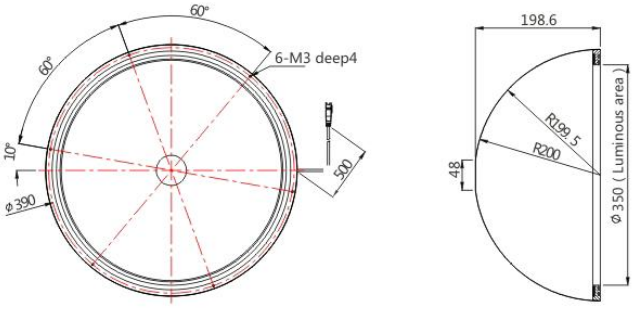
10 AIRON-DOME-320



11 AIRON-DOME-350



12 AIRON-DOME-400



Line Light

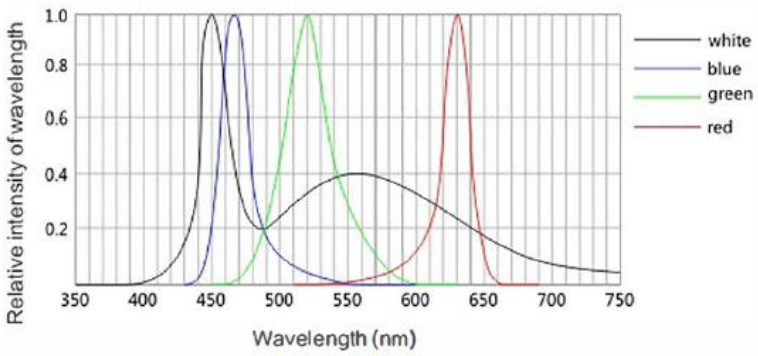
Product Features

Using high-power surface mount lamp beads with high brightness, using special optical materials for focusing, with good uniformity and consistency. Scientific heat dissipation design fully ensures the service lile of the product.

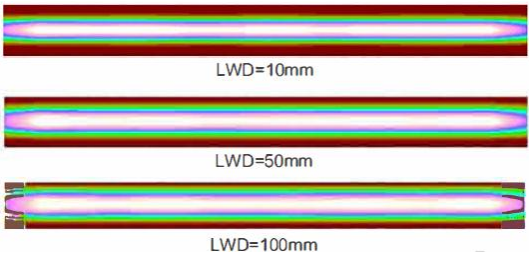
Application scope

- Mobile phone glass scratch detection.
- PCB screen printing inspection.
- Mark point positioning.
- Size measurement.
- QR and Barcode recognition.

Spectral diagram



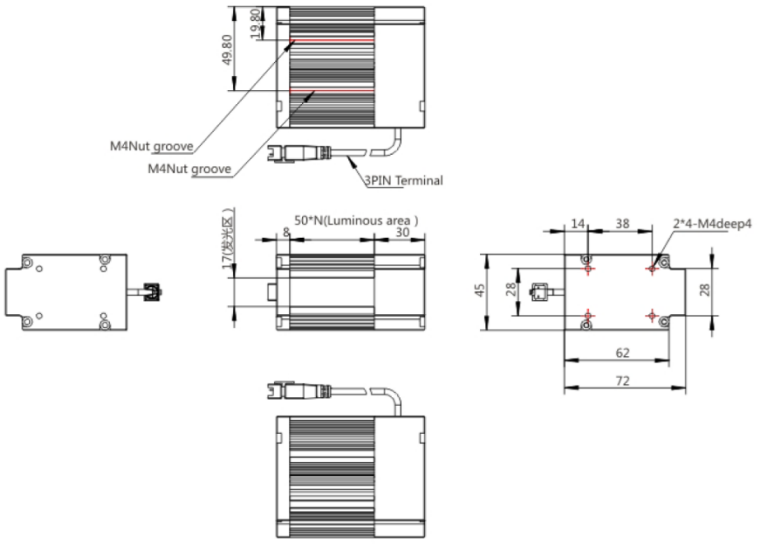
Uniformity diagram



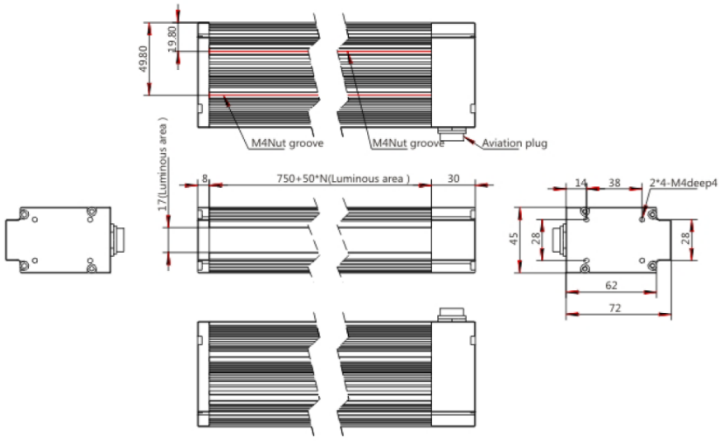
Models

Serial number	Model	Voltage	Power		Luminous surface size (mm)	Weight (g)
			R	G/B/W		
1	AIRON-LINEL-150	24	10	15	150*17	190
2	AIRON-LINEL-250	24	16.5	25	250*17	270
3	AIRON-LINEL-350	24	22	35	350*17	350
4	AIRON-LINEL-450	24	30	45	450*17	400
5	AIRON-LINEL-550	24	36	55	550*17	510
6	AIRON-LINEL-650	24	43	65	650*17	600
7	AIRON-LINEL-750	24	49	75	750*17	690
8	AIRON-LINEL-850	24	56	85	850*17	790
9	AIRON-LINEL-1600	24	85	125	1600*17	910

1 AIRON-LINEL-750 (The following product images)



2 AIRON-LINEL-750 (The following product images)



Ring Light

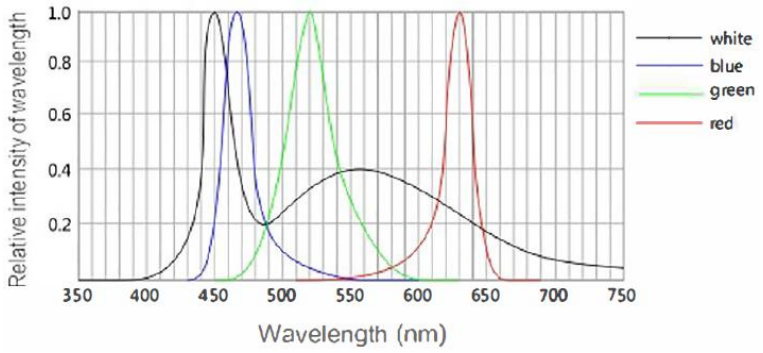
Product Features

- High density LED arrangement, scientific structural design; Illuminate from 360° direction to eliminate shadows;
- Open a middle hole to perfectly match the light source with the camera lens;
- Multiple angles to choose from, suitable for applications
- with different working distances;
- Optional diffuser plate to evenly distribute light.

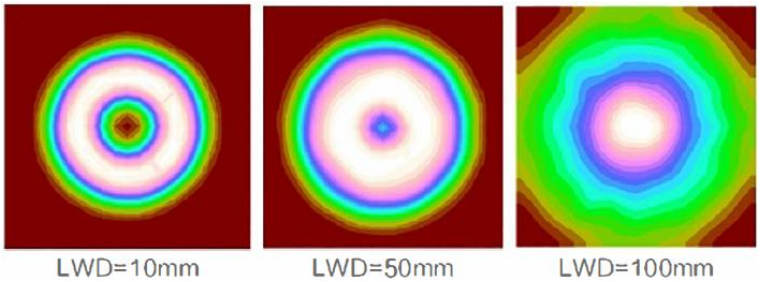
Application scope

- Character and silk screen recognition;
- Barcode and QR code reading;
- Product edge detection;
- Product size measurement;
- Product damage and defect detection;
- Identification of foreign objects on wafers;
- Detection of foreign objects mixed into liquids, etc.

Spectral diagram



Uniformity diagram



Serial number	Model	Voltage	Power			Weight (g)
			R	G/B/W	IR	
30+	AIRON-RING-30-45	24	1	1.4	1.4	40
	AIRON-RING-34-75	24	1	1.8	1.4	40
	AIRON-RING-30-90	24	1	1	1	30
70+	AIRON-RING-74-00	24	1	1.8	2.1	120
	AIRON-RING-74-20	24	2.5	3.6	3.6	120
	AIRON-RING-74-30	24	2.8	4.3	3.6	120
	AIRON-RING-74-45	24	2.5	3.6	3.6	120
	AIRON-RING-74-60	24	4.3	6.4	5	120
	AIRON-RING-74-70	24	4	5.4	5	140
	AIRON-RING-74-80	24	2.5	3.6	3	120
	AIRON-RING-70-90	24	5.4	5.4	5.4	140
	AIRON-RING-74-90	24	5.4	5.4	5.4	150
90+	AIRON-RING-90-20	24	3.6	5	5	160
	AIRON-RING-90-30	24	5.7	8.6	7.2	200
	AIRON-RING-90-45	24	6.4	10.8	8.6	250
	AIRON-RING-90-60	24	5.7	10.8	7.2	200
100+	AIRON-RING-100-70	24	5	8.6	8.6	250
	AIRON-RING-100-80	24	5	8.6	8.6	250
	AIRON-RING-100-90	24	10	10	10	320
120+	AIRON-RING-120-00	24	2.1	3.2	2.8	140
	AIRON-RING-120-20	24	7.5	10	10	260
150+	AIRON-RING-150-90	24	16	16	16	450
170+	AIRON-RING-170-20	24	11.5	17.2	13.7	380
	AIRON-RING-172-00	24	11.5	17.2	13.7	380
180+	AIRON-RING-180-00	24	4.3	5.7	5	250
200+	AIRON-RING-200-90	24	22	22	22	670
210+	AIRON-RING-213-00	24	4.3	7.2	5.7	340
250+	AIRON-RING-250-00	24	5	7.2	7.2	400

FA LENSES

In machine vision systems, lenses play a crucial role in defining image quality and precision. They are responsible for capturing light accurately and projecting a sharp, distortion-free image onto the camera sensor. The selection of the correct lens directly impacts measurement accuracy, inspection reliability, and overall system performance.

Industrial lenses are designed to operate in demanding environments, ensuring consistent optical performance under vibration, temperature variations, and continuous operation. They are used across multiple applications such as defect detection, dimensional measurement, object positioning, barcode reading, and high-speed inspection.

By offering a wide range of focal lengths, apertures, and sensor compatibilities, industrial lenses enable flexible integration into systems of varying fields of view and working distances. In any vision solution — from simple quality checks to complex metrology — the lens remains the key component that transforms light into actionable data.

Application scope

- **Surface and defect inspection:** Ensures precise visualization of textures, scratches, or defects on electronic components, wafers, metals, or plastics.
- **Dimensional measurement:** Provides high optical accuracy for measuring geometries, positions, and tolerances in industrial metrology systems.
- **Positioning and alignment:** Supports accurate object location and robot guidance in automated production and assembly lines.
- **High-speed imaging:** Delivers sharp and stable images even in fast-moving processes such as packaging or sorting.

2/3” 16 Megapixels

Product Features

- High-resolution design supporting up to 16 megapixels, ensuring precise image reproduction for inspection and automation systems.
- Optimized for 2/3" sensors, providing excellent edge-to-edge clarity and minimal distortion.
- Advanced multi-layer coating technology for superior light transmission and reduced reflection.
- Rugged, industrial-grade housing for durability in demanding environments.
- Compatible with a wide range of C-Mount cameras, ideal for machine vision setups.

Application Scope

- Automated Optical Inspection (AOI) systems for PCB and electronic components.
- Semiconductor wafer inspection and precision measurement tasks.
- Robotic vision systems for alignment, recognition, and positioning.
- Surface and defect detection in manufacturing lines.
- Metrology and quality control in high-precision industries.

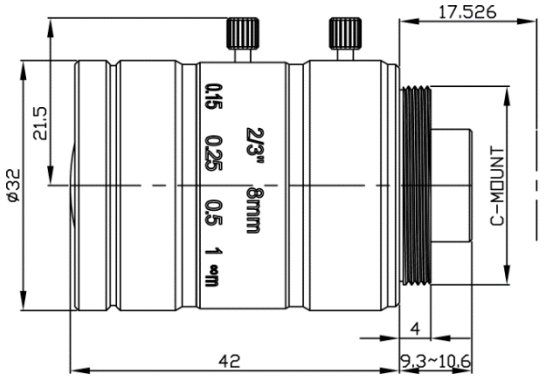
Description

Soyo’s 2/3” 16MP industrial lenses deliver outstanding optical performance for today’s demanding machine vision applications. Designed for precision, durability, and clarity, these lenses provide consistent image quality even under challenging lighting or vibration conditions, making them a reliable choice for advanced inspection and automation systems.

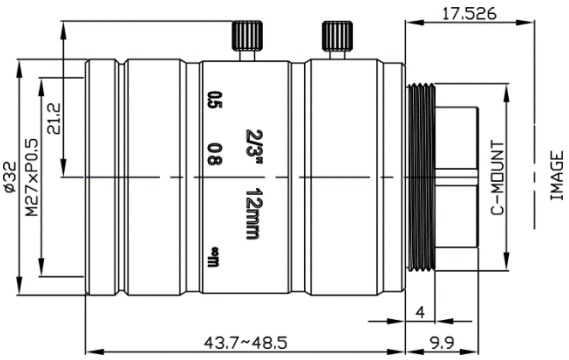
Models

2/3” 16 Megapixels							
Model	Focal Lenght	Image Format	Iris Range	FOV(H×V)	Filter Size	Dimensions	Weight
SMV0828AQ	8 mm	2/3"	F2.8 ～ F16	57.84°× 45.02°	-	Φ32×42mm	89.8±2g
SMV1228AQ	12 mm			40.44°× 30.89°	M27 , P=0.5mm	Φ32×43.7mm	79.4±2g
SMV1628AQ	16 mm			30.89°× 23.41°		Φ32×46mm	75.0±2g
SMV2528AQ	25 mm			20.05°× 15.11°		Φ32×40mm	63.4±2g
SMV3528AQ	35 mm			14.40°× 10.82°		Φ32×43mm	71.9±2g
SMV5028AQ	50 mm			10.10°× 7.59°		Φ32×46mm	74.8±2g
2/3” 10 Megapixels							
SMV7528AQ	75 mm	2/3"	F2.8 ～ F16	6.45°× 5.40°	M30.5 ,P=0.5mm	Φ35x68.8mm	124±2g

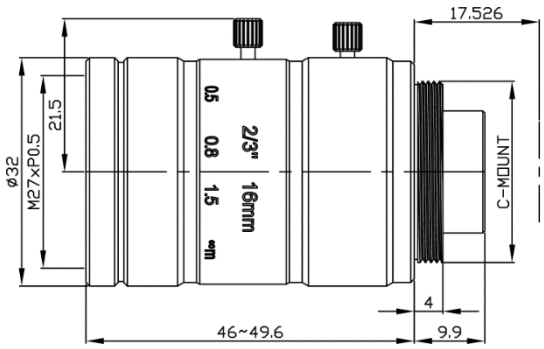
2/3” 8mm SMV0828AQ



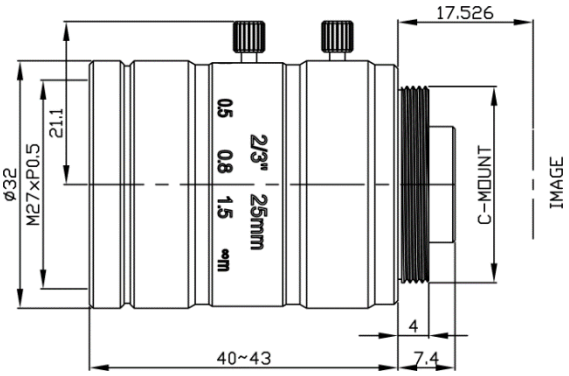
2/3” 12mm SMV1228AO



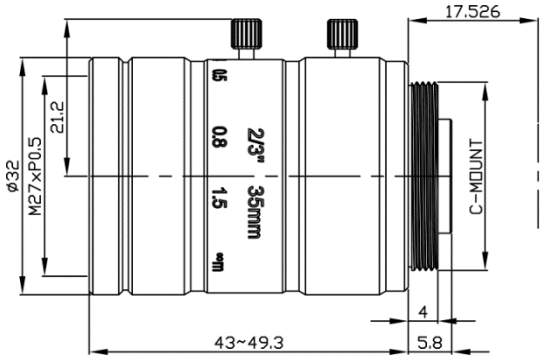
2/3” 16mm SMV1628AO



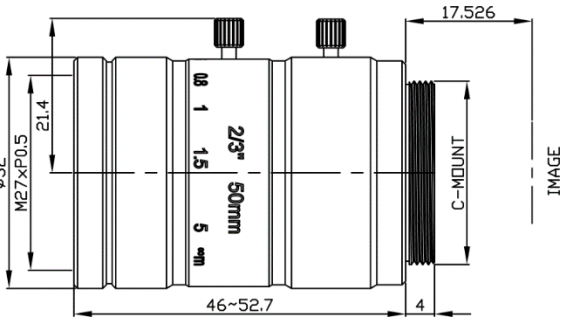
2/3” 25mm SMV2528AO



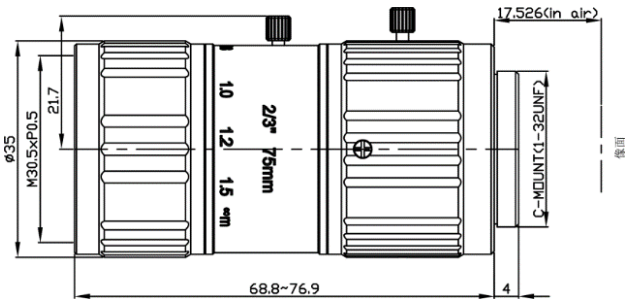
2/3” 35mm SMV3528AO



2/3” 50mm SMV5028AO



2/3” 75mm **10MP** SMV7528AQ-10M



1.1” 20 Megapixels

Product Features

- Ultra-high resolution design supporting up to 20 megapixels, delivering outstanding image fidelity for next-generation machine vision systems.
- Optimized for 1.1" large-format sensors, providing superior corner-to-corner sharpness and minimal chromatic aberration.
- Advanced low-distortion optical design ensures precise dimensional measurements and defect detection.
- Multi-layer anti-reflection coating enhances light efficiency and color accuracy under complex lighting conditions.
- Durable metal housing and mechanical stability designed for 24/7 industrial operation.
- Compatible with C-Mount and select high-end cameras for precision imaging applications.

Application Scope

- High-resolution inspection in semiconductor, display, and microelectronic manufacturing.
- Metrology and measurement applications requiring sub-micron accuracy.
- Robotic guidance and positioning in high-precision assembly systems.
- Surface and defect analysis of materials, wafers, and precision components.
- Scientific imaging and research, where clarity and optical fidelity are critical.

Description

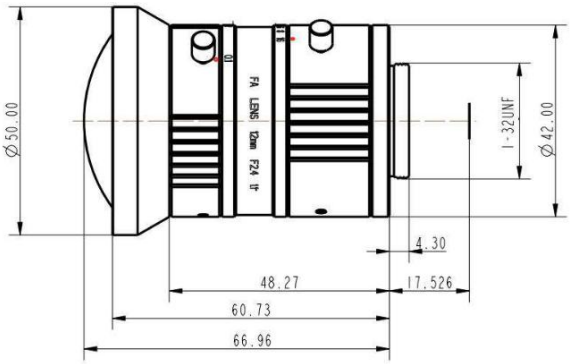
The Soyo 1.1" 20MP industrial lenses are engineered for excellence in high-definition imaging. Designed to meet the stringent requirements of modern automation and inspection, these lenses deliver ultra-sharp, distortion-free images with exceptional light efficiency. Perfect for advanced optical systems, they empower industrial users to capture every detail with precision and consistency.

Models

1.1” 20 Megapixels								
Model	Focal Lenght	Image Format	Pixel Size	FOV			Effective Focal Lenght	Max. Image Circle
				D	H	V		
S11MV1224	12 mm	1.1"	2.74µ	71.14º	60.75º	46.52º	12mm±5%	Φ17.5mm
S11MV1624	16 mm			57.03º	47.47º	35.66º	16mm±5%	
S11MV2524	25 mm			37.31º	30.47º	22.53º	25mm±5%	
S11MV3524	35 mm			28.86º	21.82º	16.06º	35mm±5%	
S11MV5024	50 mm			18.74º	15.18º	11.14º	50mm±5%	

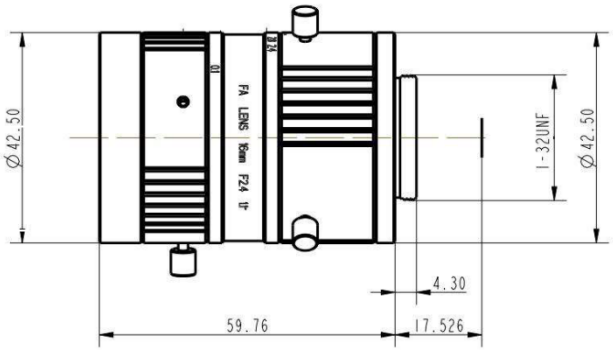
1.1” 12mm

S11MV1224-20M



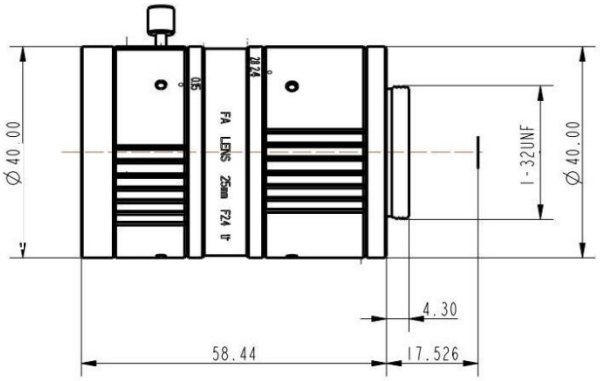
1.1” 16mm

S11MV1624-20M



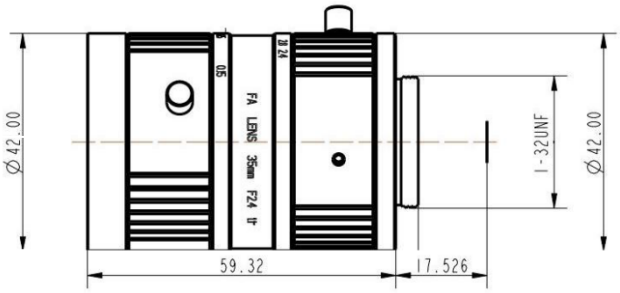
1.1” 25mm

S11MV2524-20M



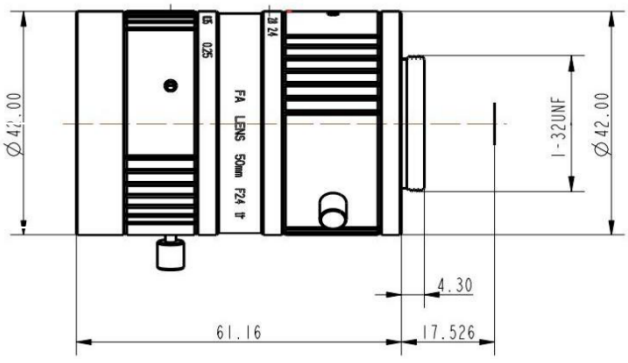
1.1” 35mm

S11MV3524-20M



1.1” 50mm

S11MV5024-20M



1.2” 25 Megapixels

Product Features

- Ultra-high-definition optical design supporting up to 25 megapixels for unparalleled image precision.
- Engineered for 1.2-inch large-format sensors, ensuring excellent corner-to-corner sharpness and minimal distortion.
- Low-dispersion glass elements minimize chromatic aberrations and deliver superior color consistency.
- High-precision floating focus mechanism guarantees stable performance from close-up to infinity.
- Rugged all-metal construction provides vibration resistance and long operational life in industrial environments.
- Optimized for C-Mount cameras and ideal for integration in demanding machine vision and metrology systems.

Application Scope

- High-precision inspection in semiconductor, electronics, and optical component manufacturing.
- 3D measurement and metrology requiring ultra-high accuracy and minimal image distortion.
- Microscopic imaging and surface defect detection in scientific and industrial laboratories.
- Robotics and automation, providing reliable visual input for alignment and guidance systems.
- Industrial R&D and optical testing, where consistency and optical fidelity are crucial.

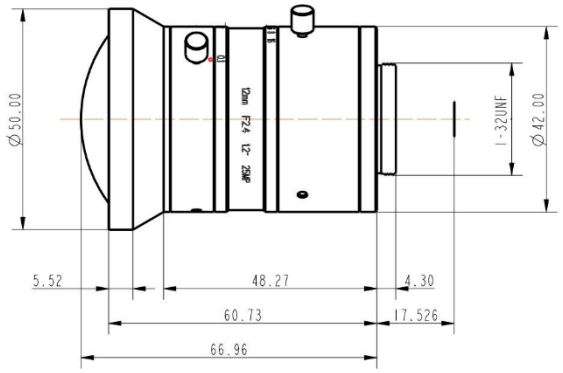
Description

The Soyo 1.2" 25MP industrial lenses represent the pinnacle of optical performance, meeting the demands of ultra-high-resolution imaging. With exceptional sharpness, color accuracy, and stability, these lenses enable precise inspection and measurement for the most advanced vision systems. Built for performance and durability, they are the perfect choice for engineers and integrators seeking unmatched clarity and reliability in every frame.

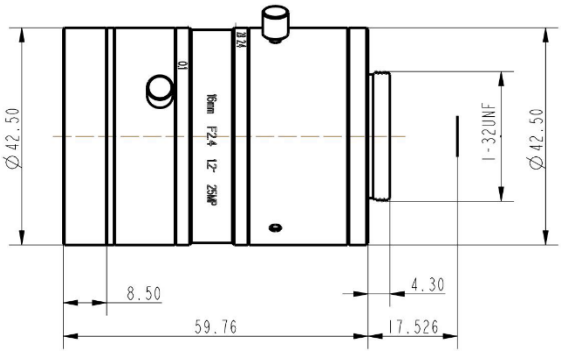
Models

1.2” 25 Megapixels								
Model	Focal Lenght	Image Format	Pixel Size	FOV			Effective Focal Lenght	Max. Image Circle
				D	H	V		
S12MV1224	12 mm	1.2"	2.74µ	76.12º	62.33º	55.33º	12mm±5%	Φ19.3mm
S12MV1624	16 mm			61.36º	48.83º	42.86º	15.96mm±5%	
S12MV2524	25 mm			41.19º	31.42º	27.32º	25.25mm±5%	Φ19.5mm
S12MV3524	35 mm			29.33º	22.51º	19.53º	35.19mm±5%	Φ19.3mm
S12MV5024	50 mm			20.50º	15.66º	13.57º	49.5mm±5%	

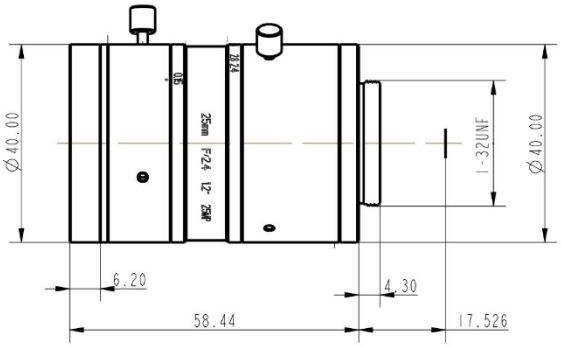
1.2” 12mm S12MV1224-25M



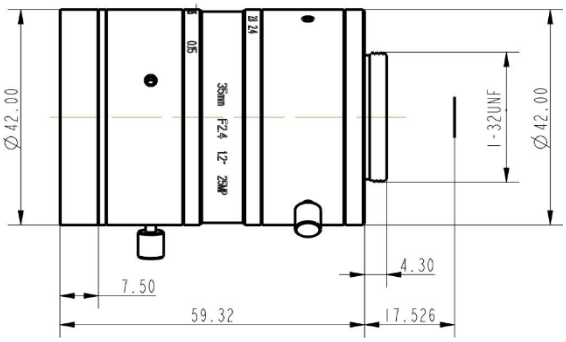
1.2” 16mm S12MV1624-25M



1.2” 25mm S12MV2524-25M



1.2” 35mm S12MV3524-25M



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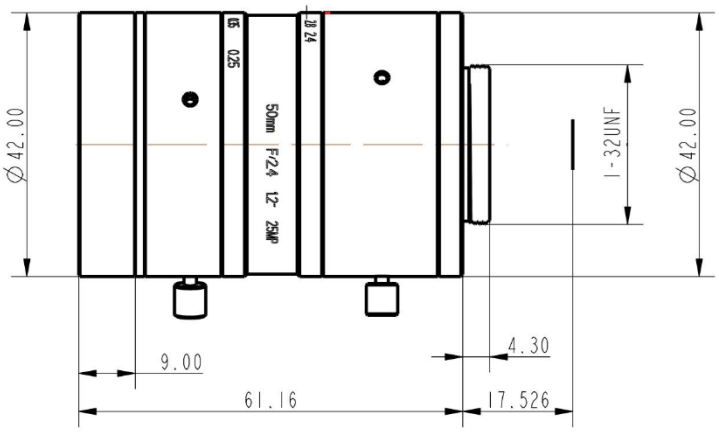


Industrial PC

Industrial PCs are the core of modern automation, providing the computing power, durability, and connectivity required to operate under harsh industrial conditions. Unlike conventional computers, Industrial PCs are designed for continuous operation, stable performance, and precise control in mission-critical environments.

At Airon, our **Industrial PC line** is divided into two key segments:

- **High-Performance PCs**, engineered for complex data processing, machine vision, and AI-driven automation, delivering maximum computational efficiency for demanding industrial tasks.
- **Modular/Expandable PCs**, offering flexibility for customization and scalability, ideal for integrators and OEMs who require adaptable systems for evolving applications.

These systems ensure long-term reliability, wide temperature resistance, and industrial-grade I/O interfaces, making them suitable for diverse environments—from production lines and smart factories to AI-based inspection and robotics. Industrial PCs by Airon are built to empower intelligent automation, enabling seamless control, monitoring, and data management for the next generation of industrial innovation.

High-Performance Box PCs

High-Performance Box PCs are designed to deliver outstanding computing power for complex industrial and AI-based applications. Built with advanced processors, powerful GPUs, and large memory capacities, these systems ensure real-time performance, reliability, and precision for demanding automation environments. Engineered for 24/7 operation, they maintain stable performance even under high-temperature or vibration-intensive conditions.

Product Features

- Equipped with Intel® Core processor, supporting multi-threaded and parallel computing tasks.
- GPU acceleration capability for AI inference, deep learning, and vision processing.
- Fanless or active cooling designs, ensuring thermal stability in harsh environments.
- Multiple high-speed I/O interfaces (USB 3.0, LAN, HDMI, COM, PCIe, etc.) for system expansion and peripheral connectivity.
- Rugged metal chassis and wide operating temperature range (-20°C to 70°C) for industrial durability.
- Long-term component availability and industrial-grade reliability for consistent performance.

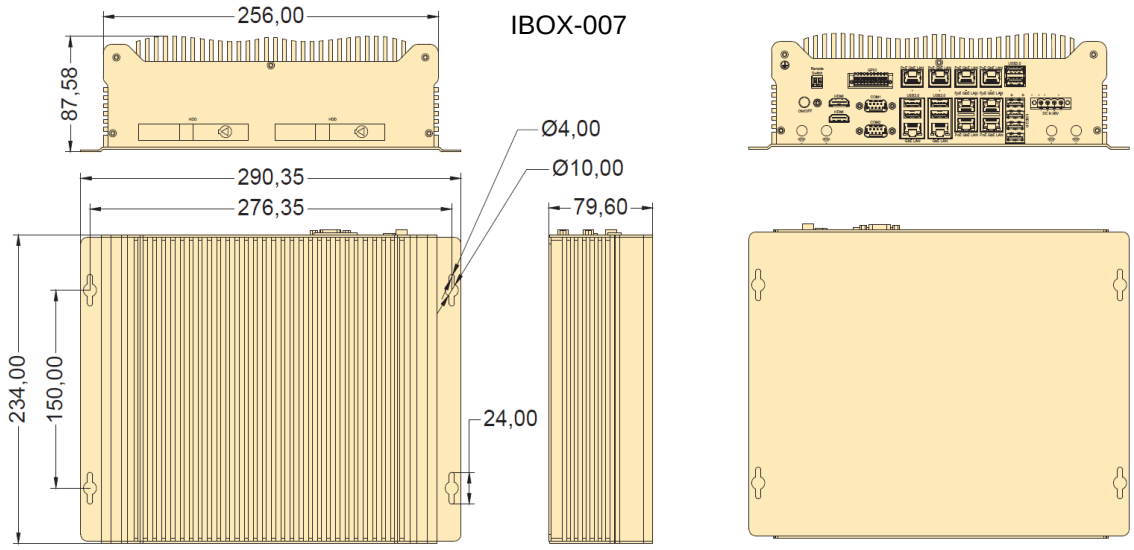
Application Scope

High-Performance Box PCs are ideal for applications that require intensive data processing and precise control, such as:

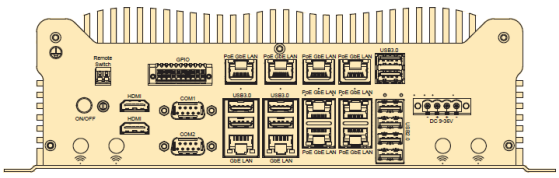
- Machine Vision & AI Inspection Systems
- Industrial Automation and Robotics Control
- Smart Manufacturing and Predictive Maintenance
- High-Speed Data Acquisition and Image Processing
- Edge Computing and IIoT (Industrial Internet of Things)

Models

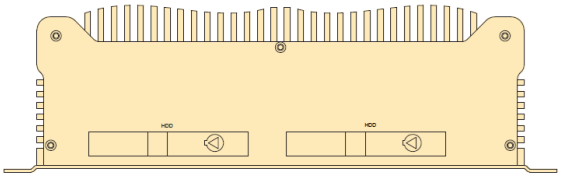
High Performance Box PCs						
Model	CPU Proccesor		RAM		Storage	Supported OS
	Model	Chipset	DDR	Up to		
IBOX-007	Core i3, i5, i7 & i9 Gen. 12, 13 &14	Intel® Q670 Chipset, Intel® Alder Lake-S, TDP 6W	DDR4 3200 MHz	8GB 16GB 32GB 64GB	128GB, 256GB, 512GB, 1TB	Win 10 (IoT) & Win11 Linux (Ubuntu, Debian, Kali, CentOS, etc.)
IBOX-601-9L2C6P	Core i3, i5, i7 & i9 Gen. 9	Intel® Z370 Chipset	DDR4-2400/2666 MHz	8GB 16GB 32GB	128GB, 256GB, 512GB	Win 7, Win 8, Win 10 (IoT), Win 11, Linux (Ubuntu, Debian, Kali, CentOS, etc.); WES 7;
IBOX-602-5C3L						
IBOX-604-5L2C2P						

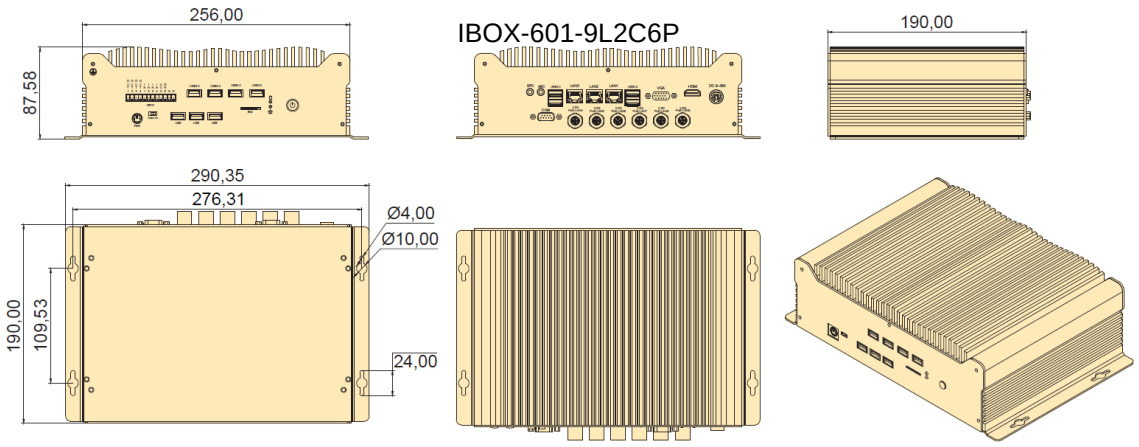


Front Panel External I/O Mechanical Layout/Drawing

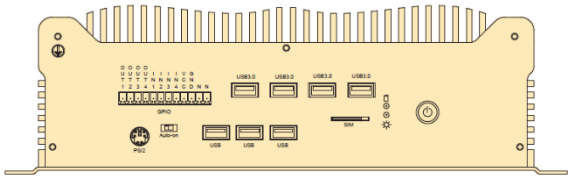


Rear Panel External I/O Mechanical Layout/Drawing





Front Panel External I/O Mechanical Layout/Drawing



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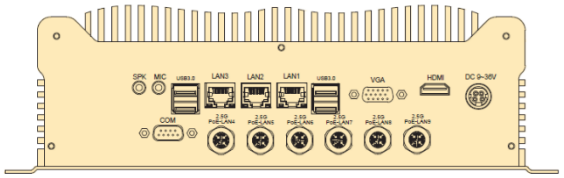
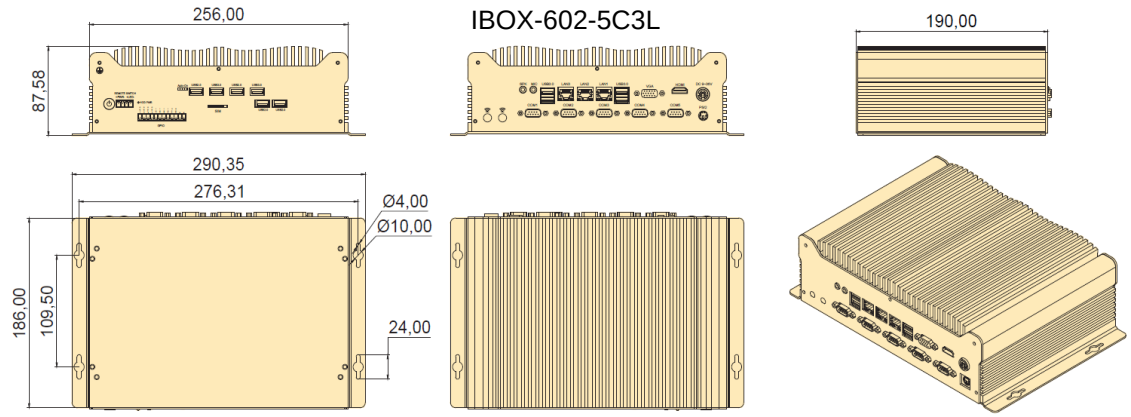
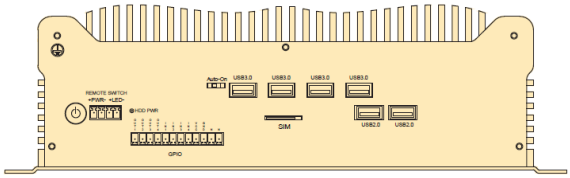




Front Panel External I/O Mechanical Layout/Drawing



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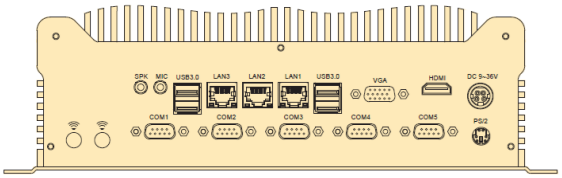

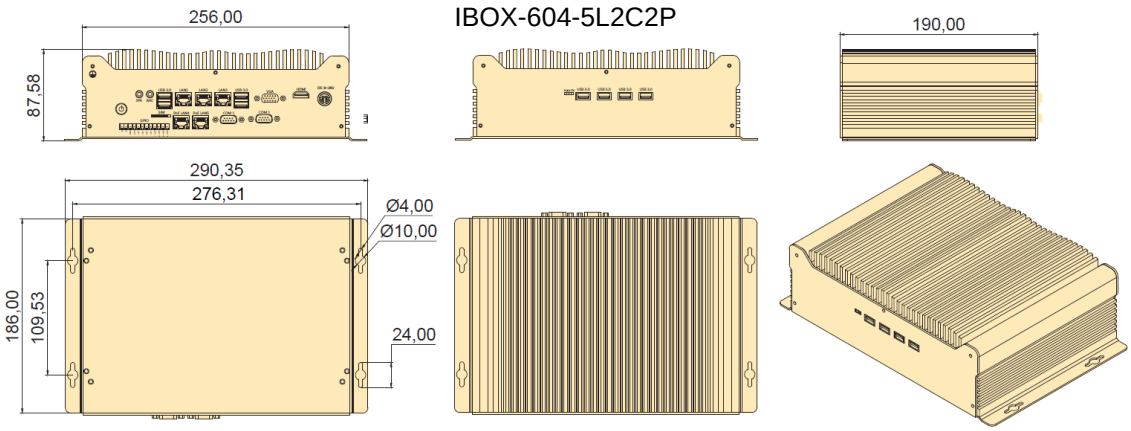

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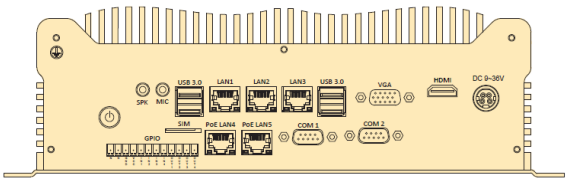
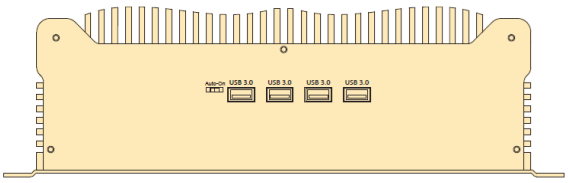


Rear Panel External I/O Mechanical Layout/Drawing



Modular / Expandable PCs

Modular and Expandable Box PCs are designed for flexibility and scalability in industrial computing environments. With 1 to 4 expansion slots, they allow users to easily integrate additional I/O cards, GPUs, or communication modules, adapting the system to evolving production and automation needs. Their modular design simplifies system upgrades, reduces maintenance time, and enhances long-term investment value for industrial applications.

Product Features

- 1 to 4 PCI/PCIe expansion slots, supporting GPU cards, data acquisition cards, motion control, or fieldbus communication modules.
- Modular structure for easy system customization and rapid configuration changes.
- Compact and robust aluminum chassis, designed for industrial reliability and space optimization.
- High compatibility with a wide range of industrial protocols and peripheral devices.
- Flexible mounting options for diverse installation environments.
- Rich connectivity with multiple LAN ports, USB, serial interfaces, and video outputs.

Application Scope

- Machine Vision and Industrial Inspection Systems
- Automation and Motion Control Systems (integrating I/O or PLC communication cards)
- Edge Computing and Data Processing Gateways
- Smart Factories and Custom Industrial Solutions
- Test Benches and Measurement Systems

Models

<table>
<tr><th colspan="7">Modular / Expandable PCs</th></tr>
<tr><th rowspan="2">Model</th><th colspan="2">CPU Proccesor</th><th colspan="2">RAM</th><th rowspan="2">Storage</th><th rowspan="2">Extended Capabilities</th></tr>
<tr><th>Model</th><th>Chipset</th><th>DDR</th><th>Up to</th></tr>
<tr><td>IBOX-007PRO</td><td>Core i3, i5, i7 & i9
Gen. 12, 13 &14</td><td>Intel® Q670 Chipset,
Intel® Alder Lake-S,
TDP 6W</td><td>DDR4
3200 MHz</td><td>8GB
16GB
32GB
64GB</td><td>128GB,
256GB,
512GB,
1TB</td><td>4 Slots</td></tr>
<tr><td>IBOX-602-5C3L-1P</td><td rowspan="3">Core i3, i5, i7 & i9
Gen. 9</td><td rowspan="3">Intel® Z370 Chipset</td><td rowspan="3">DDR4-
2400/2666 MHz</td><td rowspan="3">8GB
16GB
32GB</td><td rowspan="3">128GB,
256GB,
512GB,
1TB</td><td>1 Slot</td></tr>
<tr><td>IBOX-602-5C3L-2P</td><td>2 Slots</td></tr>
<tr><td>IBOX-602-5C3L-3P</td><td>3 Slots</td></tr>
<tr><td>E550</td><td>Core i5, i7
Gen. 9</td><td>H420E/Q470/H470</td><td>DDR4</td><td rowspan="4">8GB
16GB
32GB</td><td rowspan="4">128GB,
256GB,
512GB</td><td rowspan="2">2 Slots</td></tr>
<tr><td>E552</td><td>Core i3, i5, i7 & i9
Gen. 10</td><td>H110</td><td>DDR4</td></tr>
<tr><td>E521-A</td><td>Core i3, i5, i7
Gen. 10</td><td>Q470/H470/H420E</td><td>DDR4</td><td rowspan="2">4 Slots</td></tr>
<tr><td>E521-C</td><td>Core i3, i5, i7
Gen. 12</td><td>H610/H670/Q670</td><td>DDR5</td></tr>
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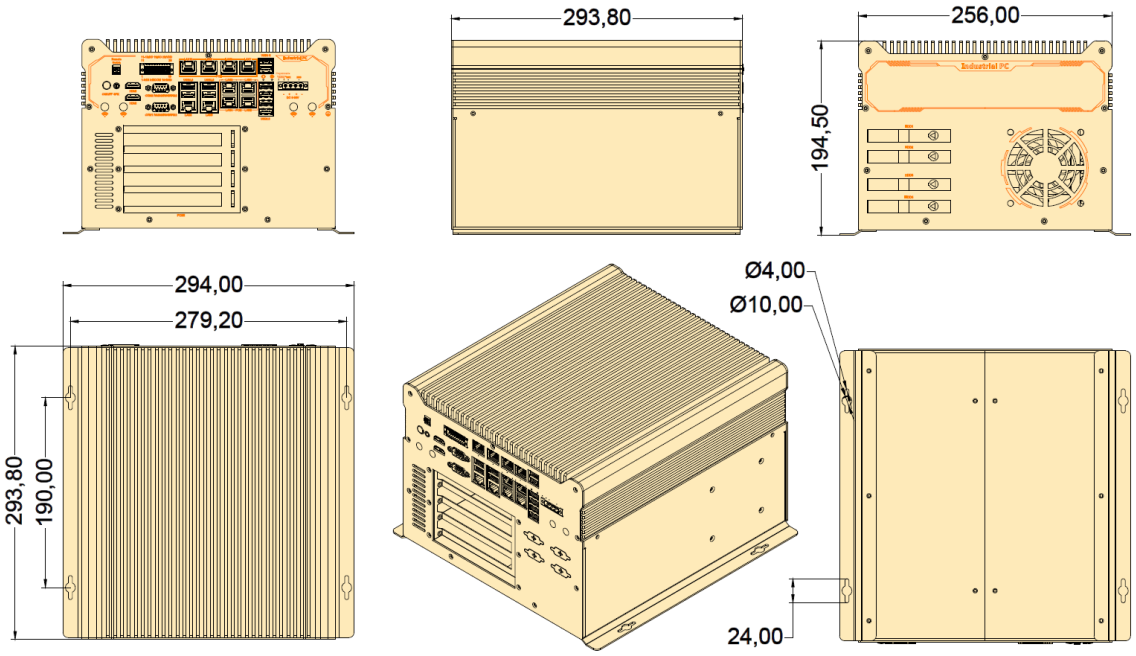
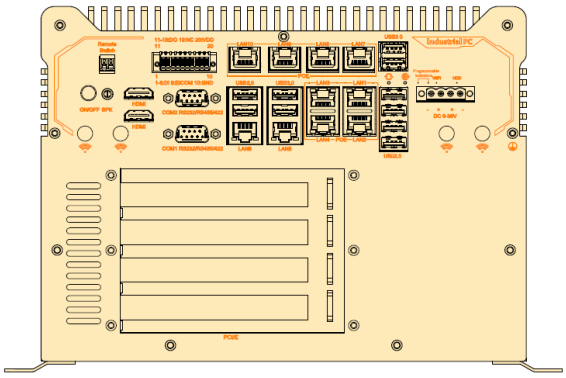
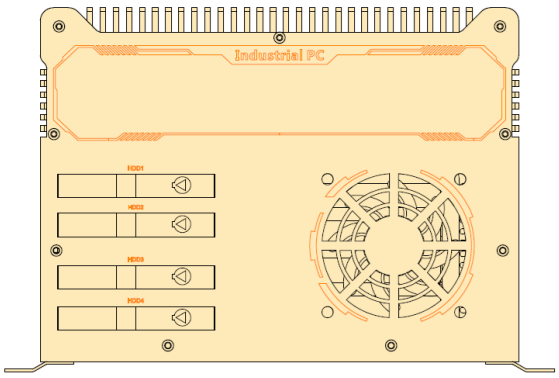
IBOX-007PRO



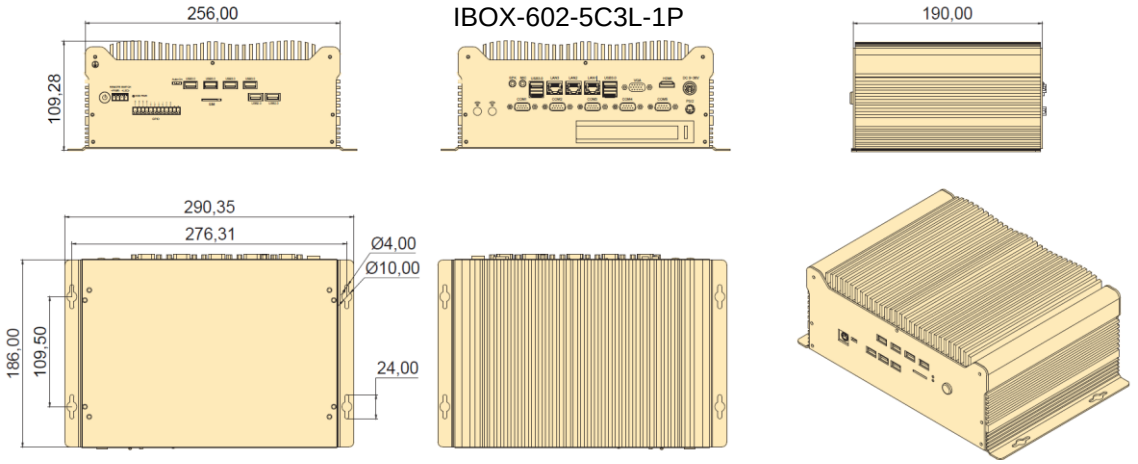
Front Panel External I/O Mechanical Layout/Drawing



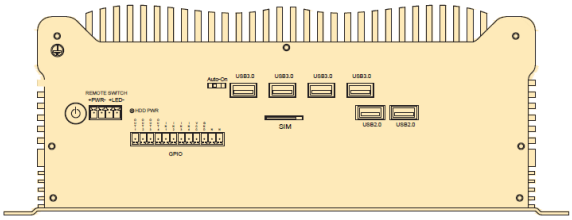
Rear Panel External I/O Mechanical Layout/Drawing



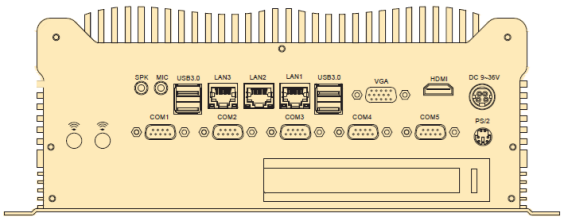
IBOX-602-5C3L-1P

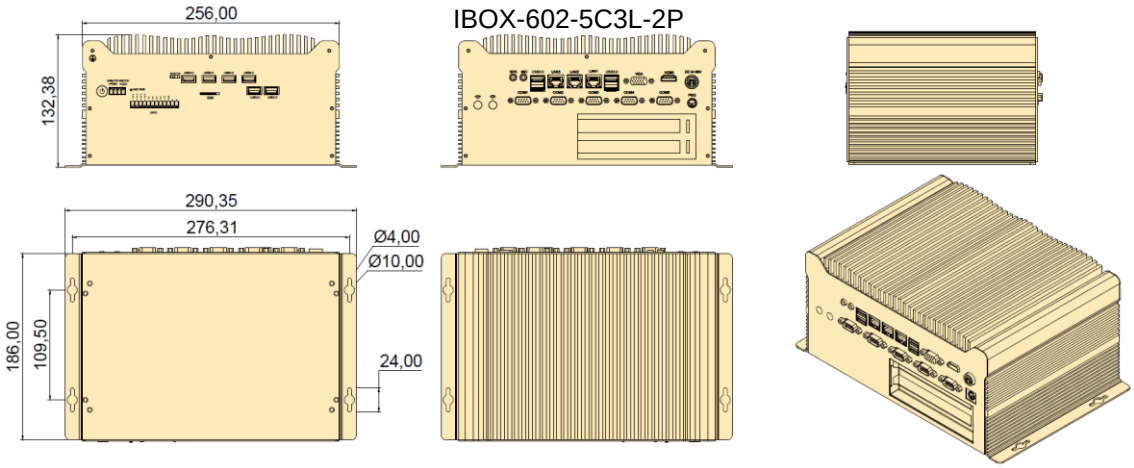


Front Panel External I/O Mechanical Layout/Drawing

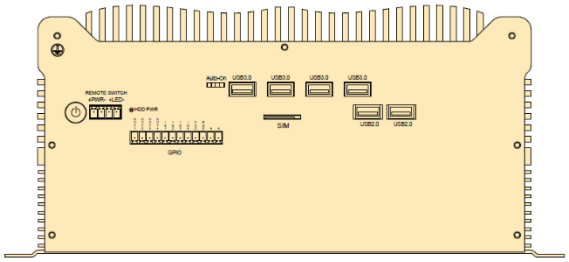


Rear Panel External I/O Mechanical Layout/Drawing

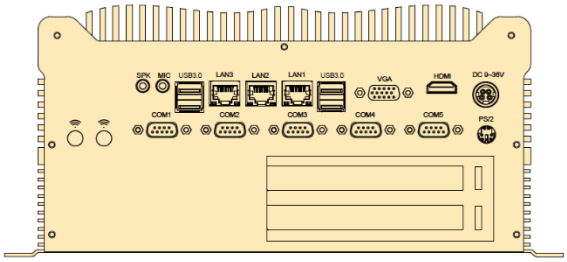


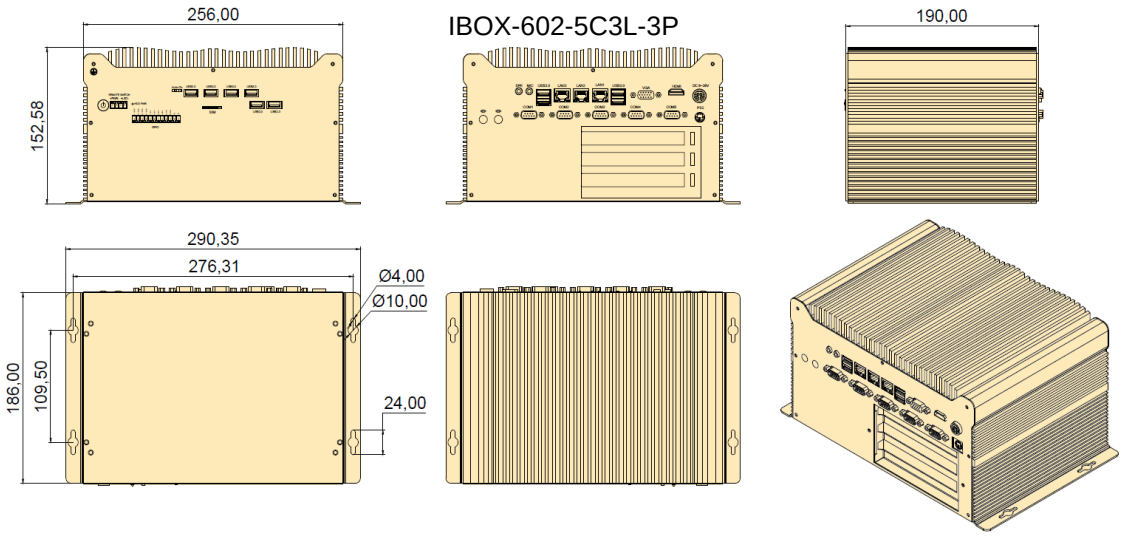


Front Panel External I/O Mechanical Layout/Drawing

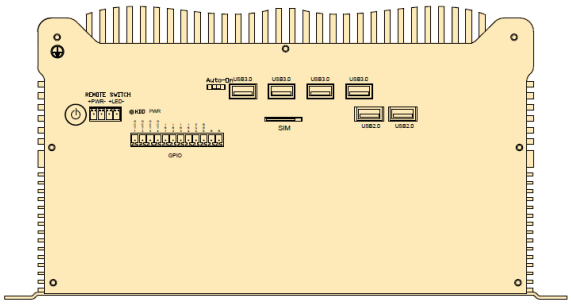


Rear Panel External I/O Mechanical Layout/Drawing

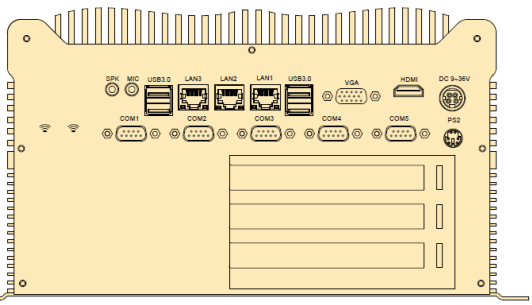




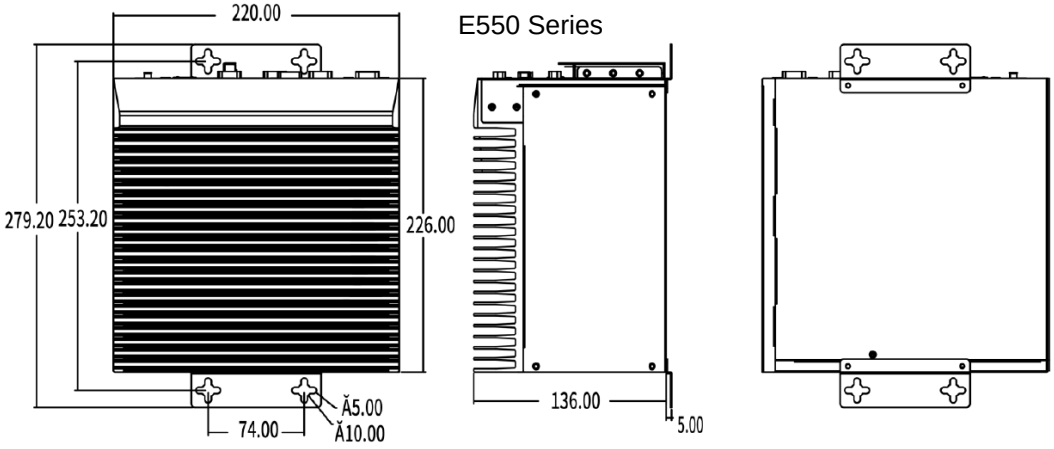
Front Panel External I/O Mechanical Layout/Drawing

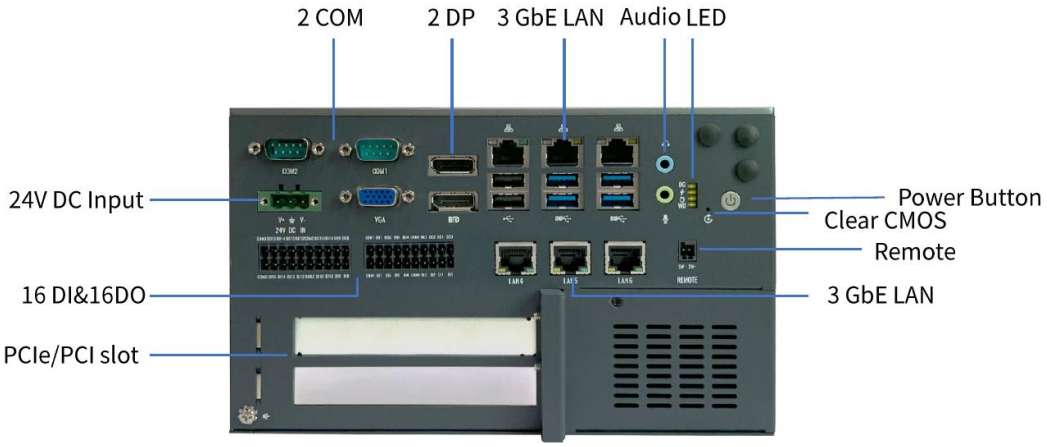


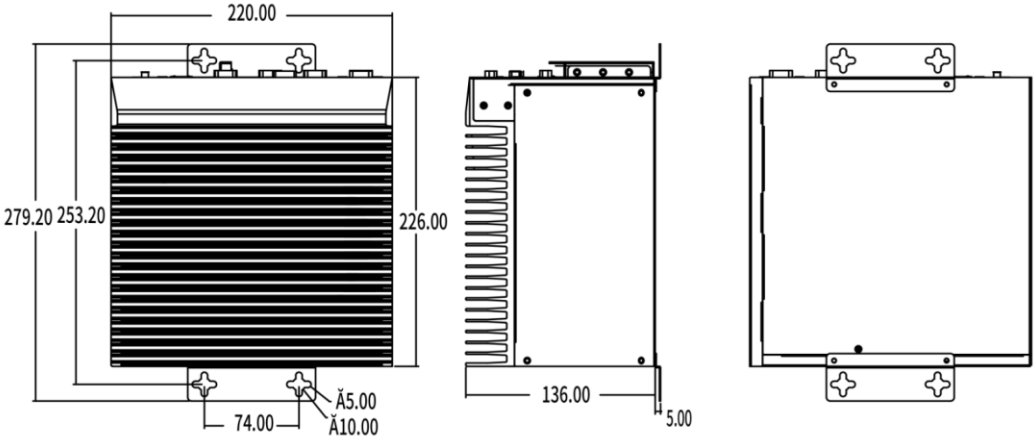
Rear Panel External I/O Mechanical Layout/Drawing

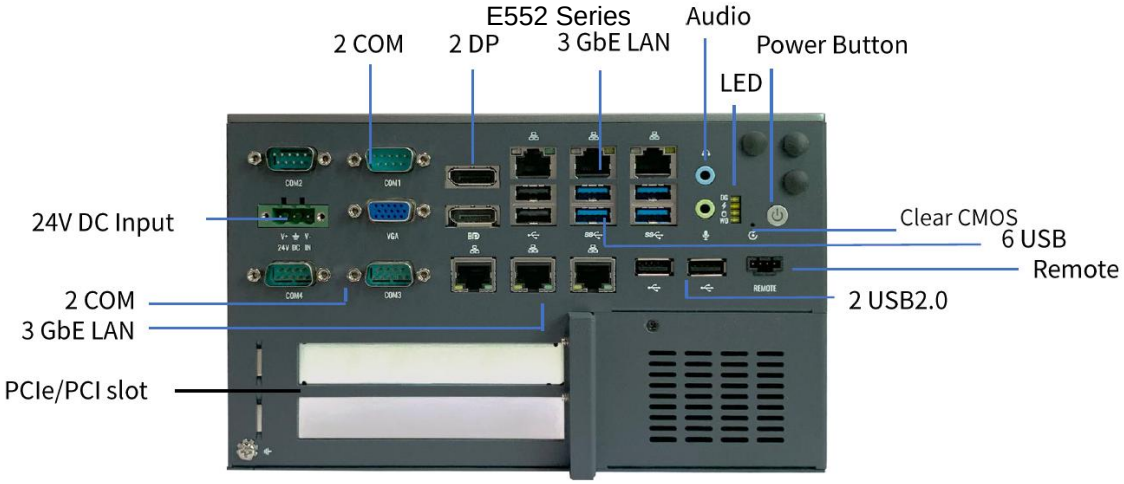


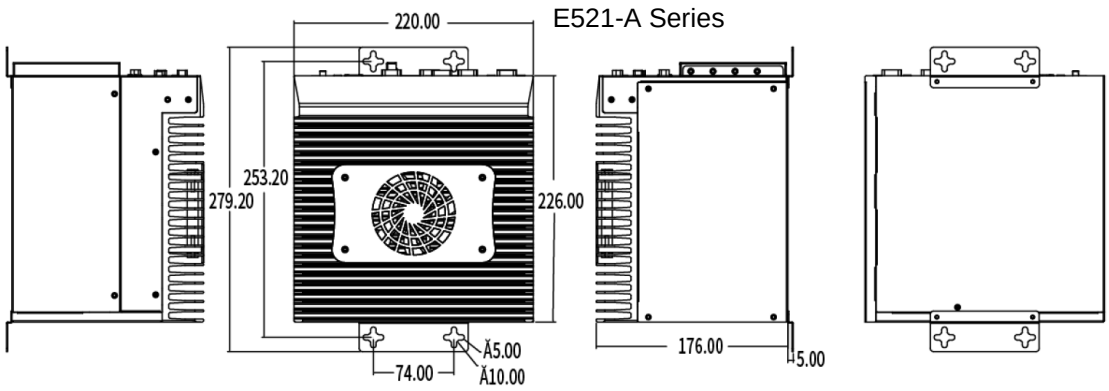
E550 Series

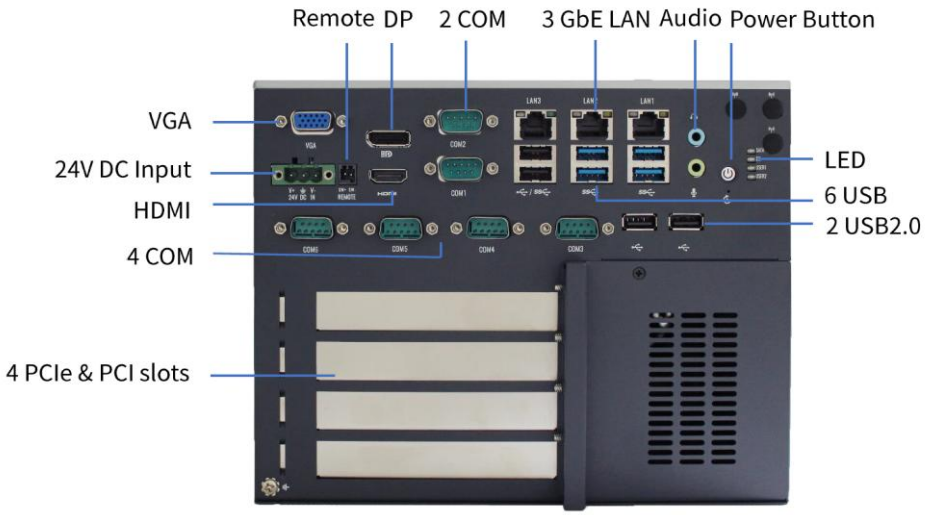




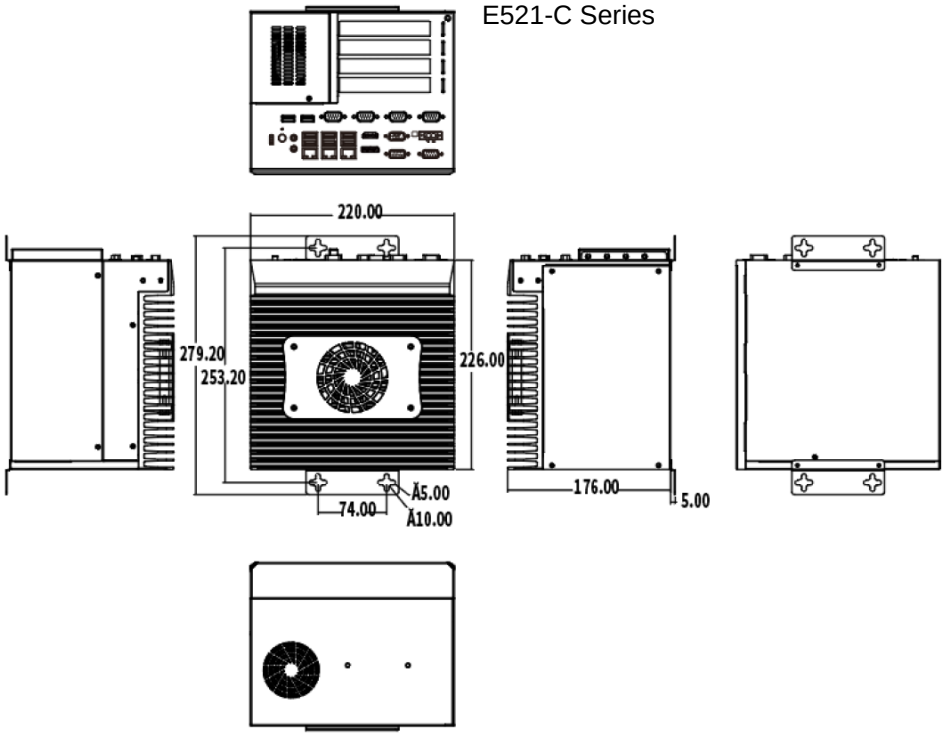


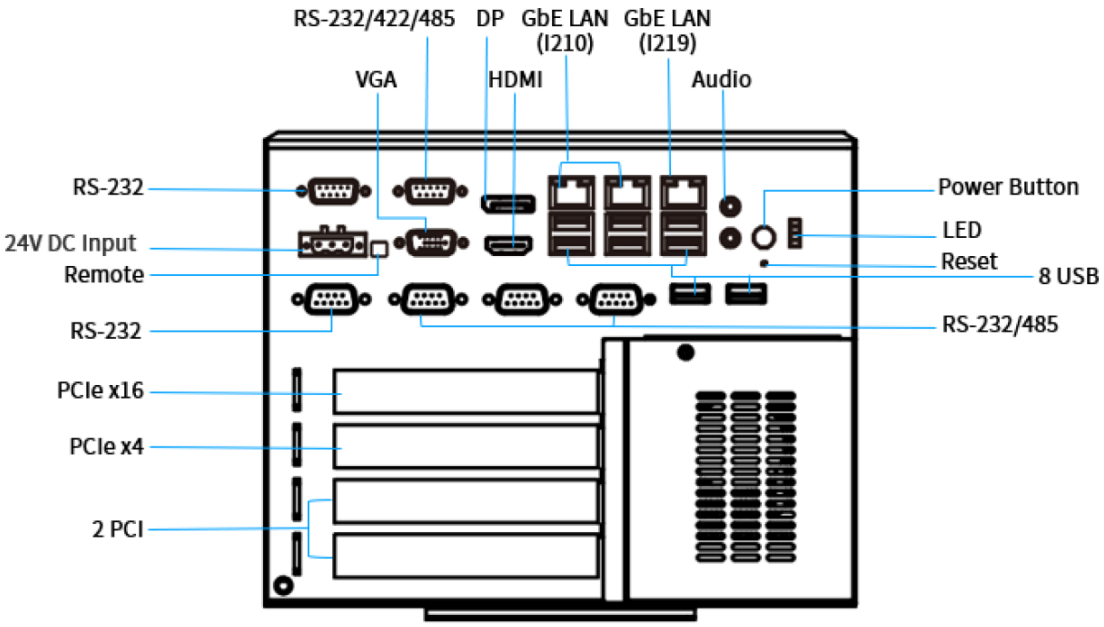

E552 Series
2 COM
2 DP
3 GbE LAN
Audio
Power Button
LED
24V DC Input
Clear CMOS
6 USB
Remote
2 COM
3 GbE LAN
2 USB2.0
PCIe/PCI slot


E521-A Series
220.00
253.20
279.20
226.00
Ă5.00
Ă10.00
74.00
176.00
5.00


Remote DP
2 COM
3 GbE LAN
Audio
Power Button
VGA
24V DC Input
HDMI
4 COM
4 PCIe & PCI slots
LED
6 USB
2 USB2.0

E521-C Series





Industrial Cameras

Industrial cameras are at the core of modern vision systems, providing the precision, reliability, and performance required for automated inspection, measurement, and process control. Whether integrated into high-speed production lines, laboratory setups, or robotic applications, these cameras deliver consistent image quality under demanding industrial conditions. Camera families combine cutting-edge sensor technology, high data transfer rates, and flexible connectivity to meet the needs of today's intelligent manufacturing environments.

Key Features and Application Scope

- High-resolution imaging: Delivers clear and detailed images for applications such as defect detection, quality control, and dimensional analysis.
- Versatile connectivity: Options like GigE and USB3.0 interfaces ensure fast and stable data transmission for diverse setups.
- Smart processing: Integrated processors in Smart Cameras enable real-time image analysis without external PCs, ideal for compact or embedded systems.
- 3D vision capability: The 3D Industrial Camera family provides accurate depth perception and surface profiling for applications such as robotics guidance, bin picking, and object reconstruction.
- Reliability and durability: Built to operate in challenging environments with strong resistance to vibration, dust, and varying temperatures.
- Easy integration: Compatible with most vision software and hardware platforms, allowing seamless adaptation to existing systems.

GigE Area Scan Camera

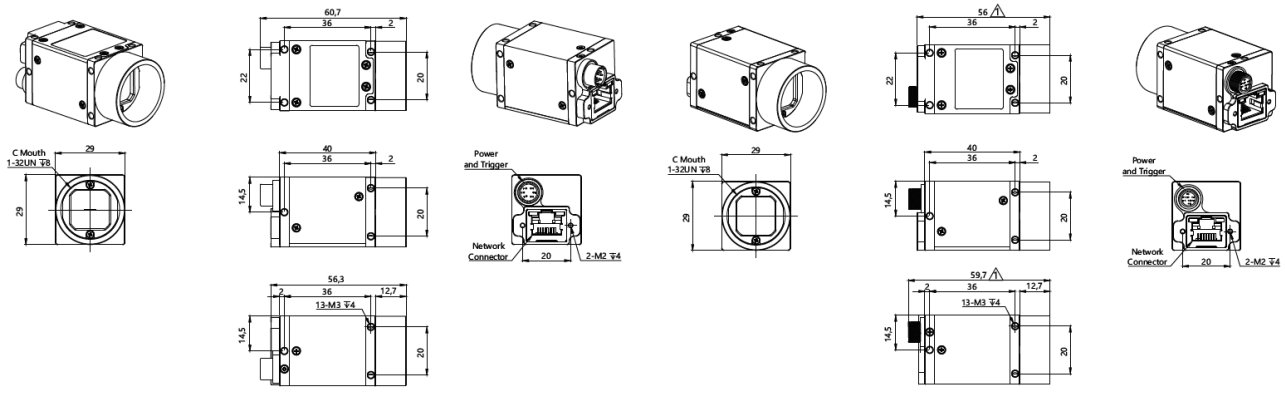
Product Features

- Unique packet retransmission technology to ensure reliable data transmission.
- Built-in hardware image processing speed, reduce the host CPU usage.
- Pixels from 0.3MP to 20MP, CCD and CMOS are optional.
- Support multi-camera work at the same time, unlimited number, and arbitrary networking.
- Support external trigger and flash synchronization, up to seven channels of GPIO, all photoelectric isolation.
- Excellent SDK design, as simple as using a USB camera,plug and play.
- Compatible with the Vision standard, drive free and directly support Halcon, VisionPro and other software.
- Gigabit network interface, 100m long-distance stable transmission, supporting POE power supply (optional).

Models

GigE Area Scan Camera								
Model	**Sensor Size**	**Pixel Size**	**Pixels**	**Resolution**	**Frame Rate**	**Exposure time**	**Sensor Model**	**Shutter**
MV-GE202GC/M	2/3"	4.8um	2MP	1920X1200	51fps	0.005~327.7ms	PYTHON2000	GLOBAL
MV-GE501GC/M	2/3"	3.45um	5MP	2448X2048	24fps	0.001~1048.6ms	IMX264L	GLOBAL
MV-GE502C/M	1/2.5"	2.2um	5MP	2592X1944	24fps	0.02~155.5ms	AR0522	ROLLING
MV-GE630C/M	1/1.8"	2.4um	6.3MP	3088X2064	18.75fps	0.025~14448ms	IMX178	ROLLING
MV-GE800C/M	1/1.8"	2.0um	8MP	3840X2160	14.25fps	0.062~2031.6ms	MindVision	ROLLING
MV-GE2000C/M	1"	2.4um	20MP	5488X3672	6fps	0.044~11534.3ms	IMX183	ROLLING

Mechanical Specification (mm)



Smart Camera

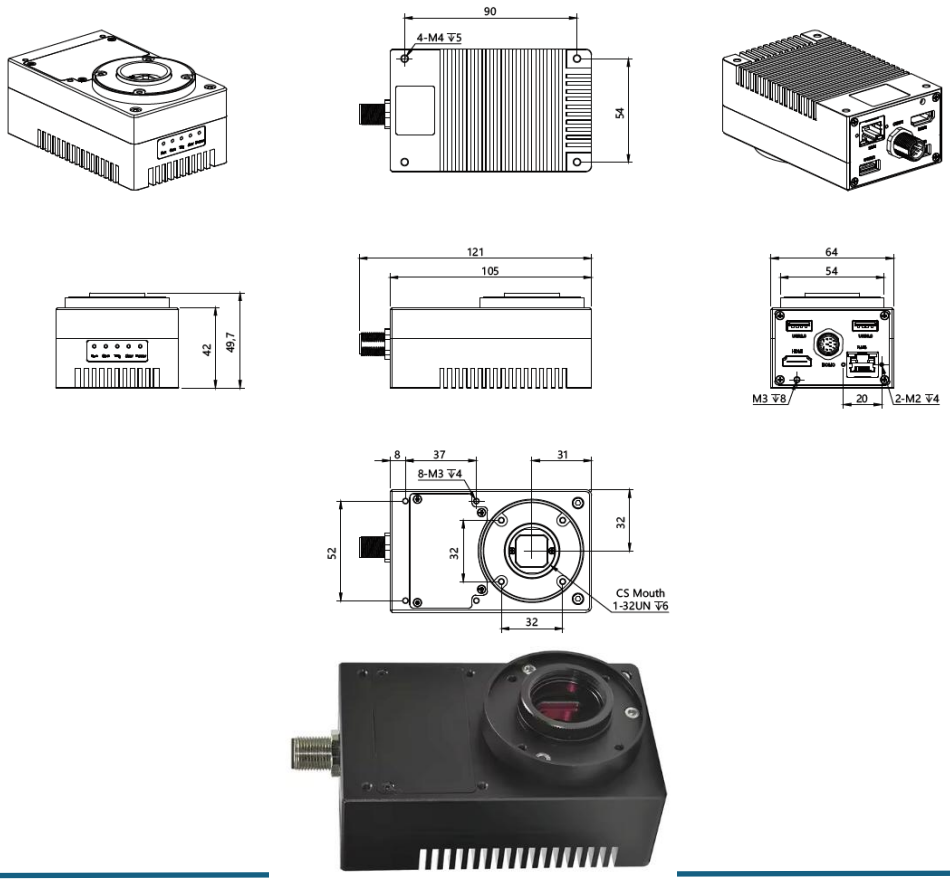
Product Features

- ITA: CPU-Intel Atom Z8350 (1 .44-1 .92GHZ), 2G/32G 4G/64G (Memory/Disk).
- ITAE：CPU-Intel N4120 (1.1-2.6GHZ), 4G/32G 4G/64G (Memory/ Disk)
- Display HDMI × 1 supports 1920 × 1080 resolution, Ethernet 1000M × 1, and supports GigE Vision cameras.
- Integrated light source controller, optional LED lighting component, supporting strobe synchronization function.
- ITA: Supports external USB 2.0 x 2 ports; ITAE: Supports USB2.0 × 1, USB3.0 × 1, supports triggering x1, Flash x1, supports RS232 x1.
- M12 12 core threaded aviation connector, supporting 12V/2ª power input.
- One input and two output interfaces can set output delay, without the need for processing in the program.
- Supports Windows 10 64bit and Ubuntu 16.04 64bit systems.

Model

X86 Smart Camera								
Model	Sensor Size	Pixel Size	Pixels	Resolution	Frame Rate	Exposure time	Sensor Model	Shutter
MV-ITA/ITAE134GC/M	1/2"	4.8um	1.3MP	1280X1024	211fps	0.0045~584ms	PYTHON2000	GLOBAL
MV-ITA/ITAE500GC/M	1/2.5"	2.2um	5MP	2592X1944	15fps	0.0582~905.1ms	MT9P006	ROLLING
MV-ITA/ITAE1201GC/M	1/1.7"	1.85um	12MP	4000X3000	32fps	0.0102~2665.1ms	IMX226	ROLLING

Mechanical Specification (mm)



3D Industrial Camera

Product Features

- Ultra-large measuring range, ultra-high scanning rate, ultra-high precision measurement.
- Adopting Sham structure to increase Z-direction (depth) measurement range and maintain clear imaging in full range.
- HDR function effectively solves the interference caused by different reflectivity and different colors.
- Utilizing high frame rate high resolution CMOS, each contour contains up to 2048 measurement points and the contour scanning speed is up to 10kHz.
- Uses 450/405nm blue laser or 638nm red laser with narrow band filter.

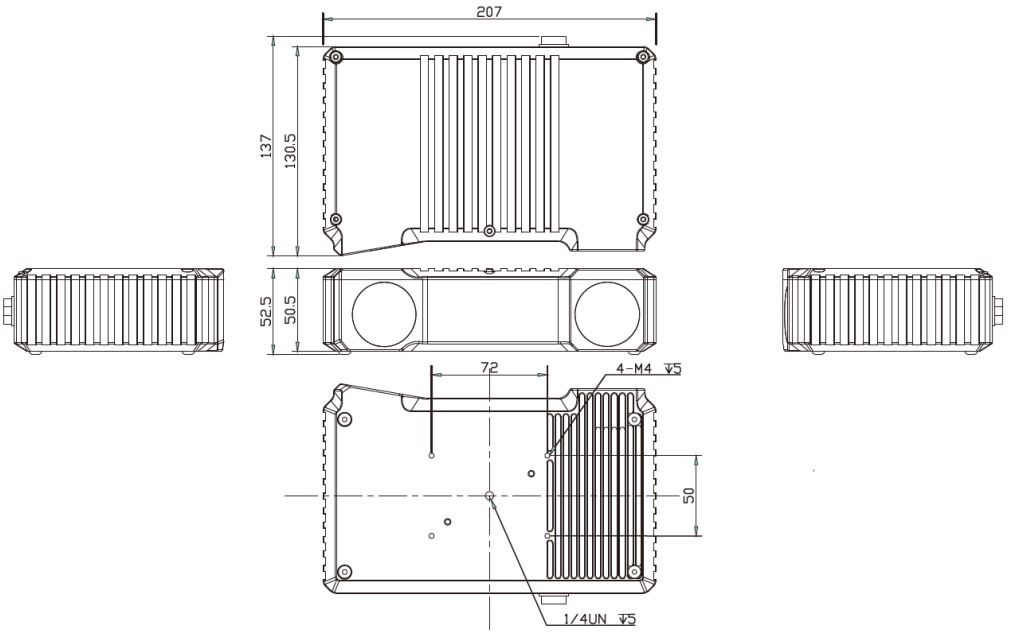
Models

3D Industrial Camera							
Model	**Data points**	**Frame Rate**	**Linearity Z**	**Z-Axis Repeatability accuracy**	**X-axis resolution**	**Z-axis resolution**	**Laser wavelength**
MV-3DL2048G-AB/AB1	2048	1200 FPS	±0.015%	0.05um	28.125~43.96um	0.3um	AB: 450nm AB1: 405nm
MV-3DL2048G-BB/BR	2048	2000 FPS	±0.03%	3um	84.85~241.89um	1.5um	BB: 450nm BR: 638nm
MV-3DL2048G-CB	2048	2000 FPS	±0.03%	2um	215.5~393.8um	1um	405nm

3D Industrial Camera							
Model	**Near field of view**	**Far field of view**	**Working Distance**	**Z-Axis Repeatability accuracy**	**Z-Axis accuracy**	**Baseline Length**	**Resolution**
MV-3DD240-S45	390×220mm	770×430mm	500-1000mm	max@20.3m	0.05mm@0.8m	145mm	2048×1200

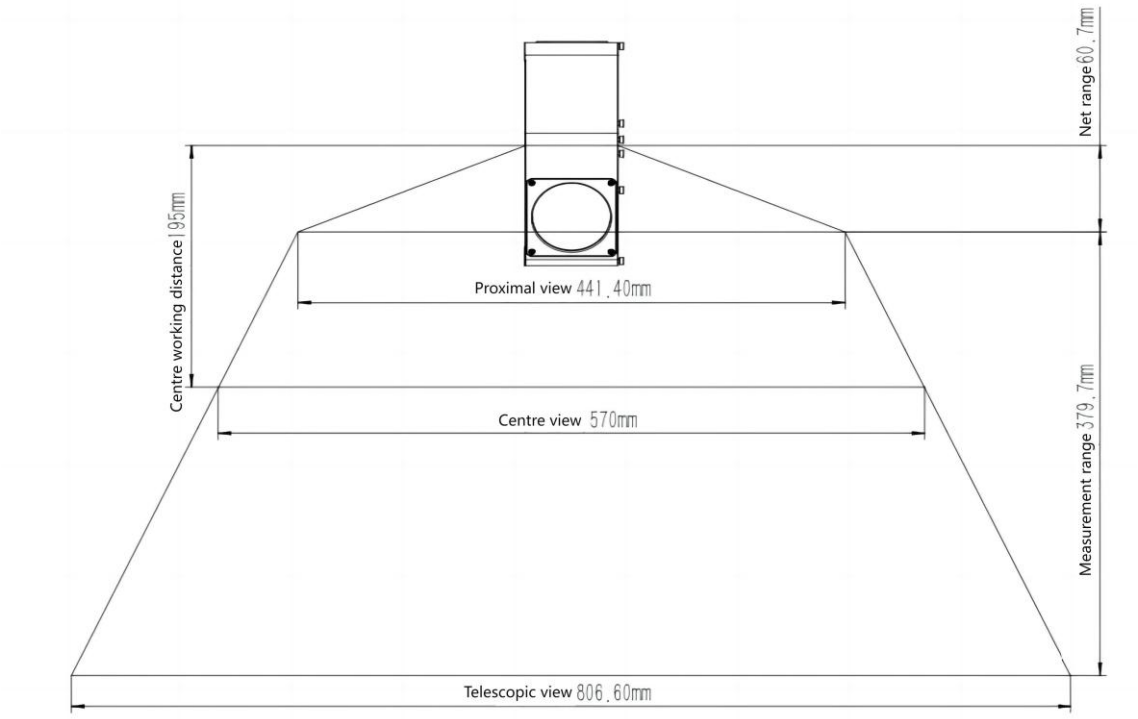
Mechanical Specification (mm)

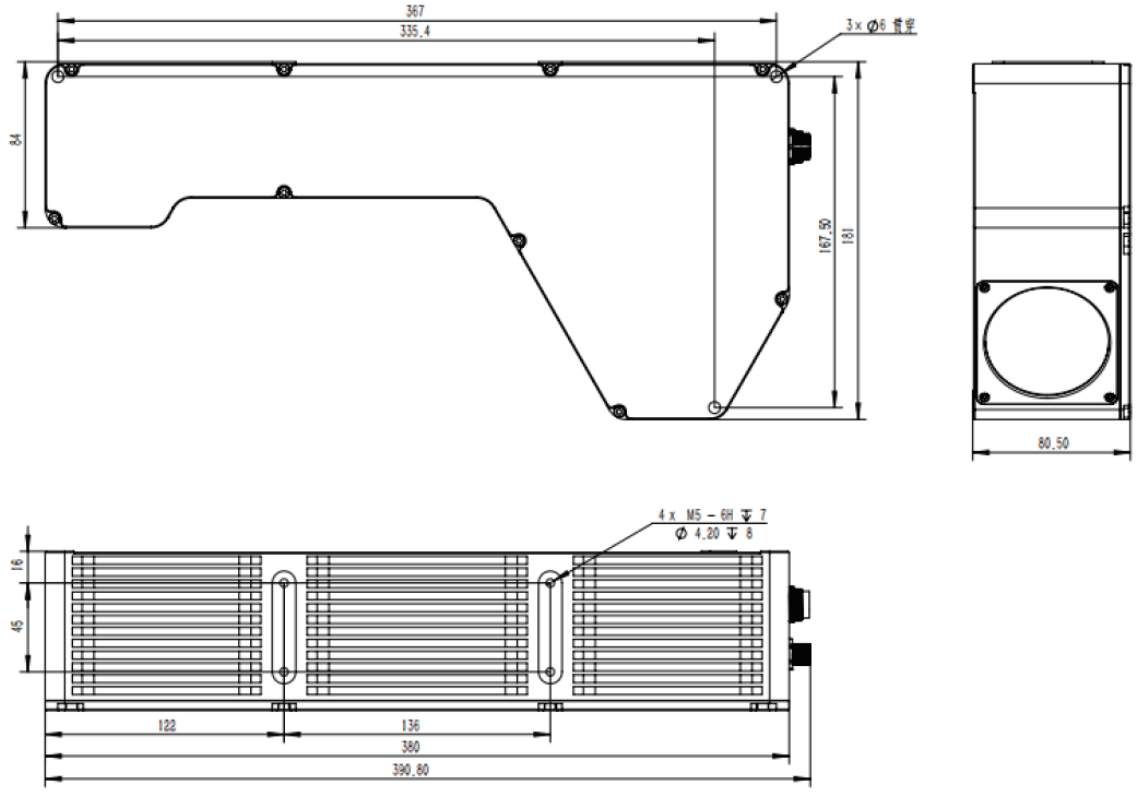
MV-3DD240-S45



MV-3DL2048G-CB

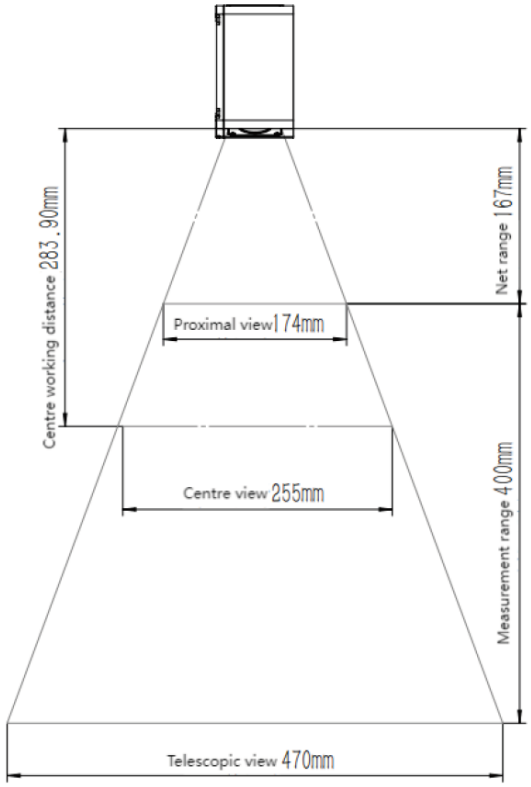
Field of View

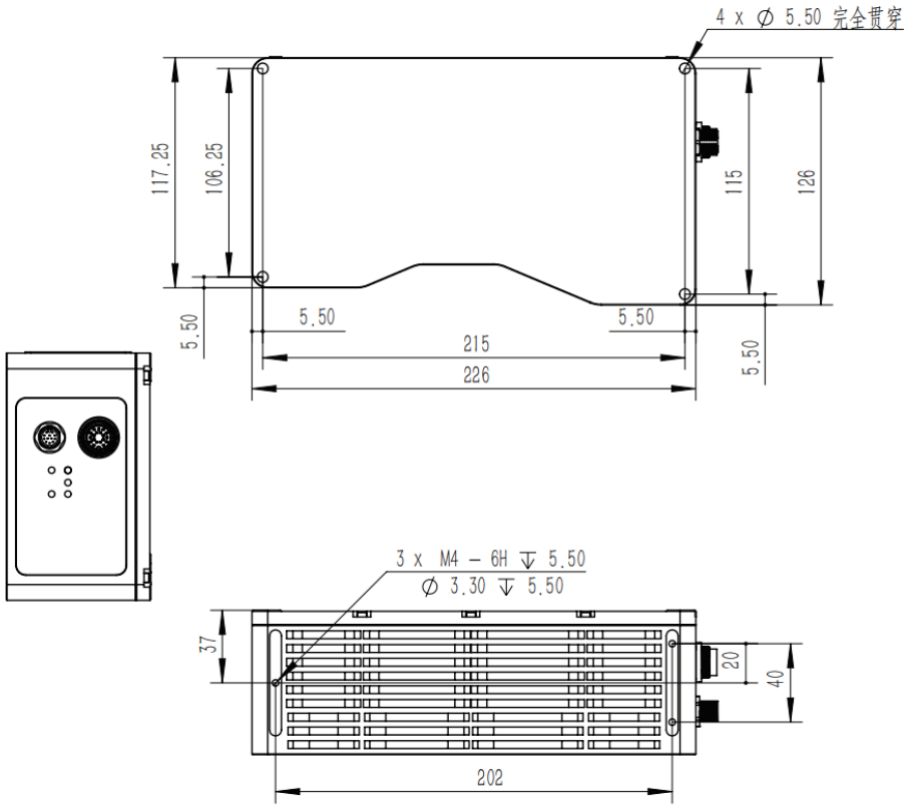




MV-3DL2048G-AB

Field of view





Touch Panels (HMI)

Product Features

Touch Panels, or Human-Machine Interfaces (HMI), play a crucial role in connecting operators with industrial equipment, ensuring efficient monitoring and control of complex processes. Designed for versatility and performance, these panels combine high-resolution displays with responsive touch technology, enabling intuitive operation and real-time visualization in industrial environments. Available in sizes ranging from **7 to 27 inches**, Airon's HMI solutions offer flexibility for various automation scenarios—from compact control stations to large production systems.

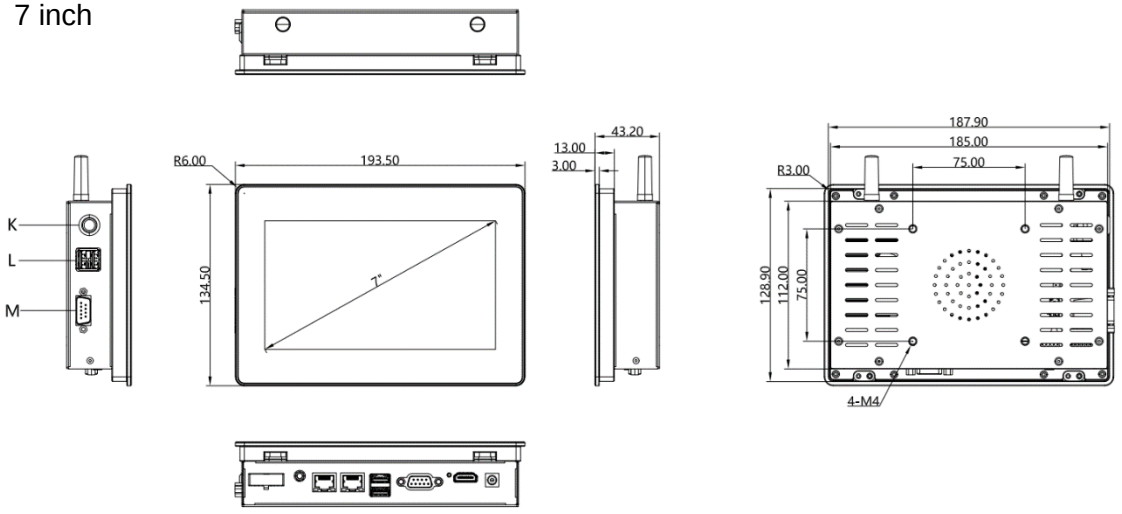
Key Features and Benefits

- High-Resolution Display: Provides sharp and vivid graphics for detailed process monitoring and clear visualization of data.
- Durable Industrial Design: Built to withstand vibration, dust, moisture, and temperature variations common in industrial settings.
- Responsive Touch Technology: Capacitive and resistive options available for precise operation, even when wearing gloves.
- Flexible Mounting Options: Supports panel, wall, and VESA mounting for easy integration into diverse setups.
- Connectivity and Compatibility: Supports Ethernet, USB, serial communication, and industrial protocols for seamless system integration.
- Customizable Interface: Allows tailored UI design for specific workflows, improving efficiency and reducing operator errors.

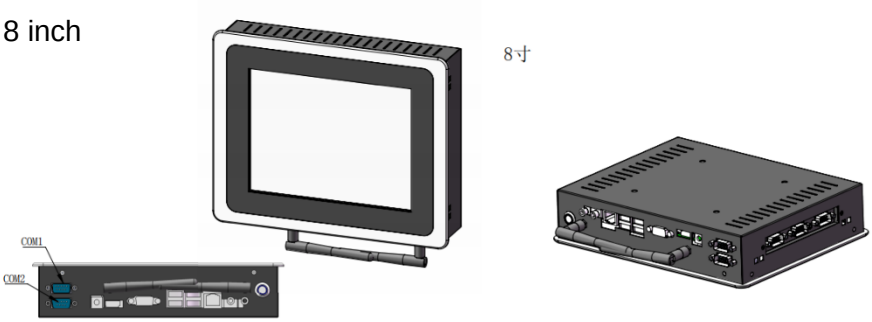
Models

Touch Panels (HMI)				
Model	Size screen (inch)	Processor (7th generation)	RAM memory	Storage (SSD)
YPC-070AZ	7	Core i3 Core i5 Core i7	8GB 16GB	128GB 256GB 512GB
YPC-080AZ	8			
YPC-101-AZ	10.1			
YPC-104AZ	10.4			
YPC-121AZ	12.1			
YPC-133AZ	13.3			
YPC-150AZ	15			
YPC-156AZ	15.6			
YPC-170AZ	17			
YPC-185WD	18.5			
YPC-190AZ	19			
YPC-215AZ	21.5			
YPC-236WD	23.6			
YPC-270WD	27			

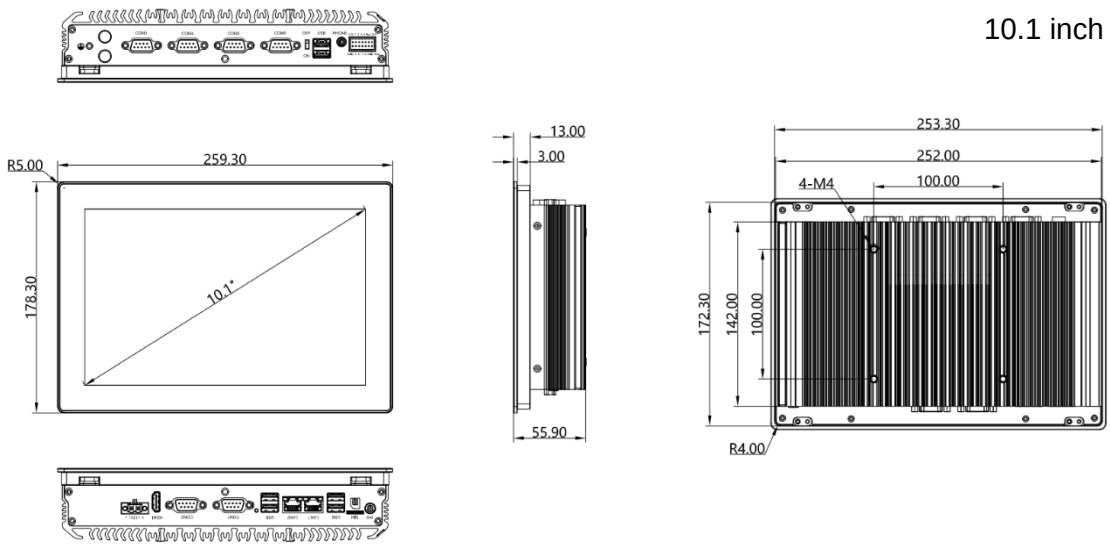
7 inch



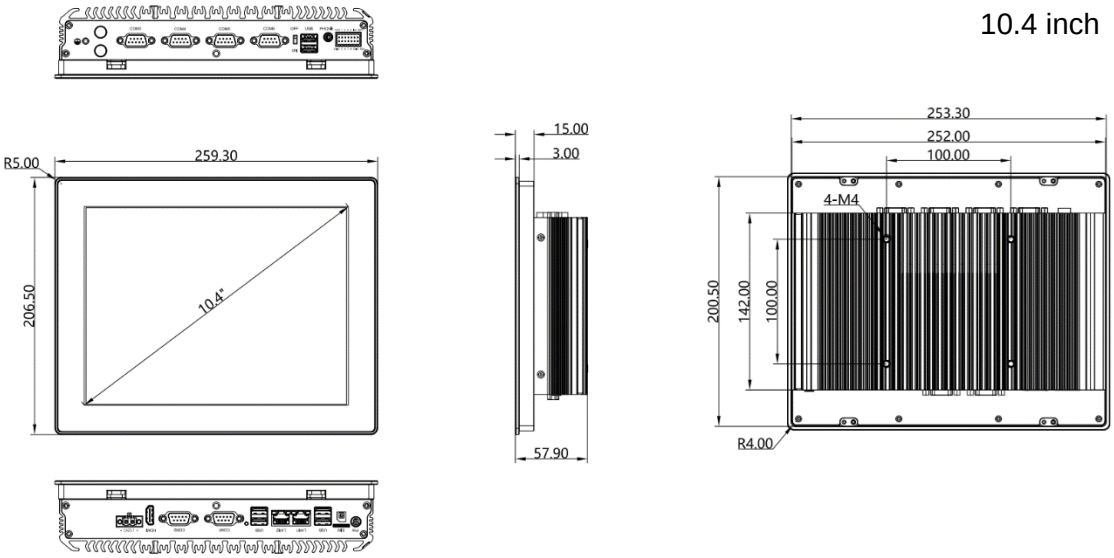
8 inch



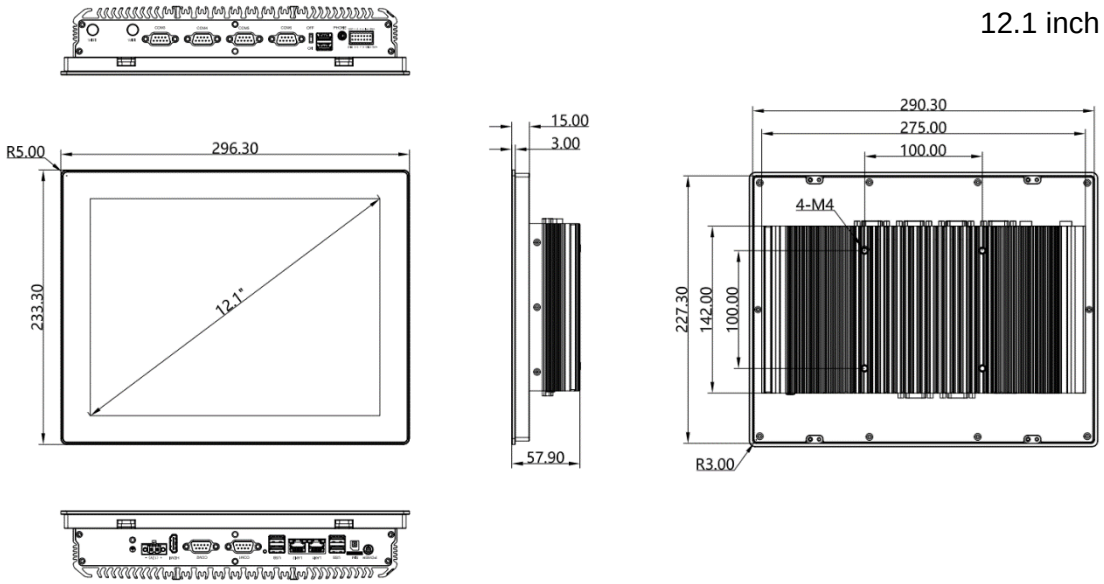
10.1 inch



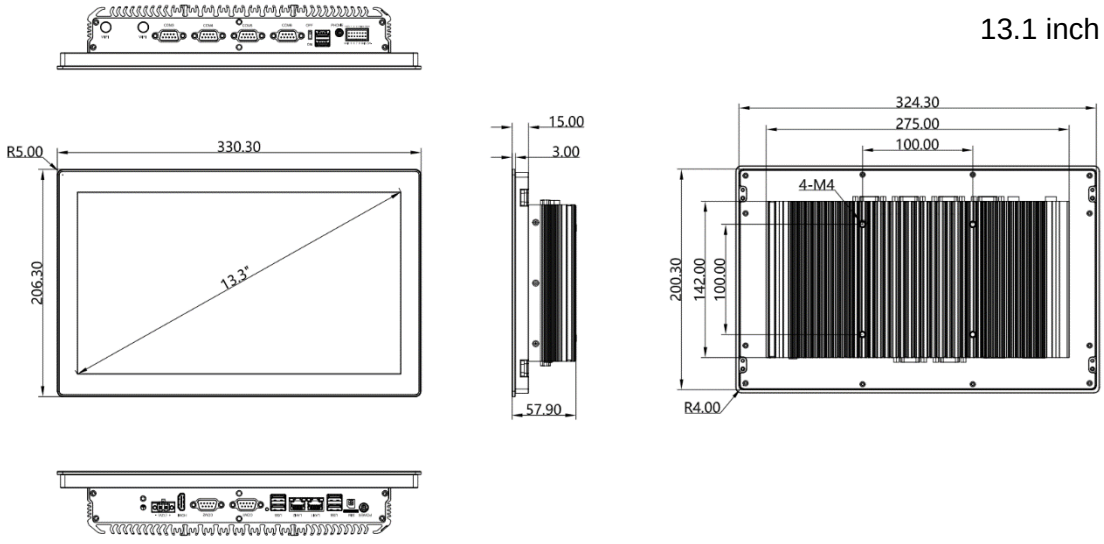
10.4 inch



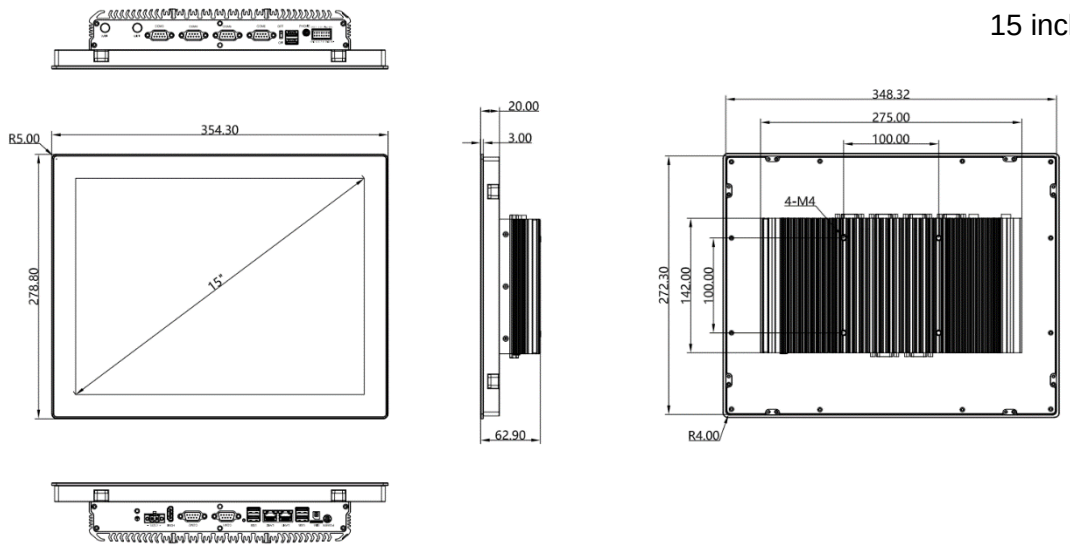
12.1 inch



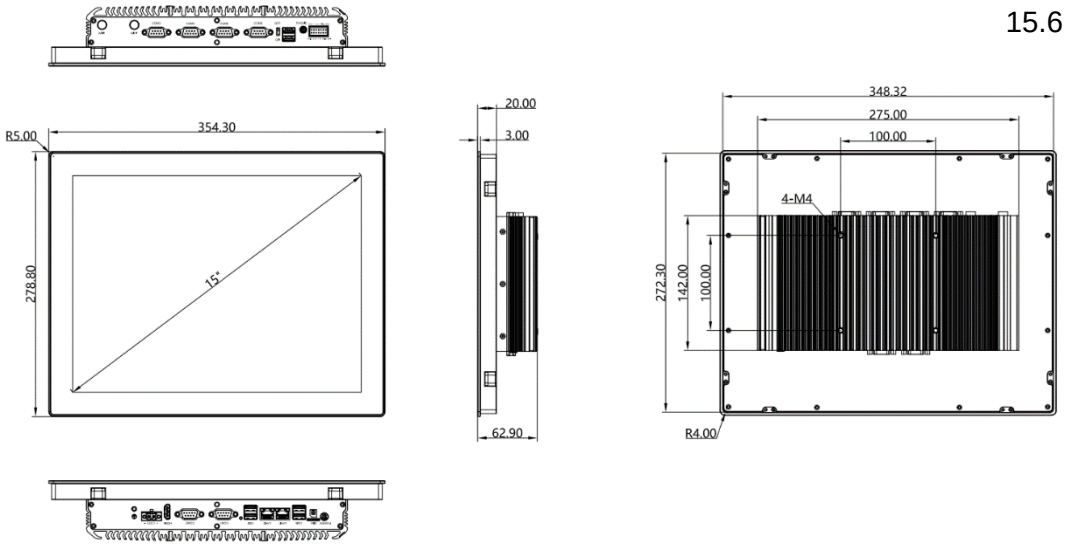
13.1 inch



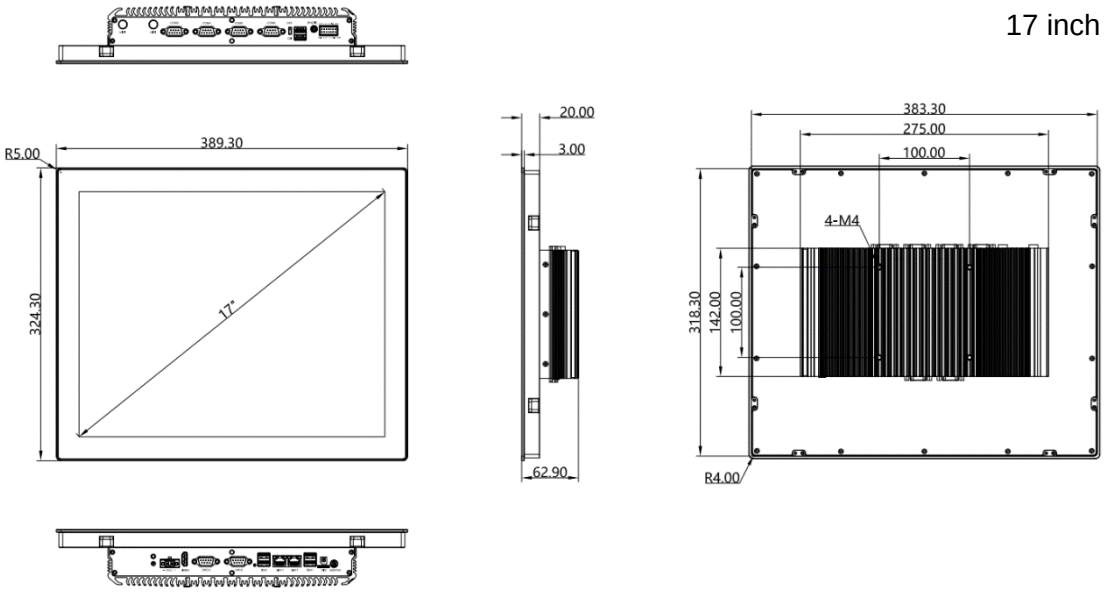
15 inch



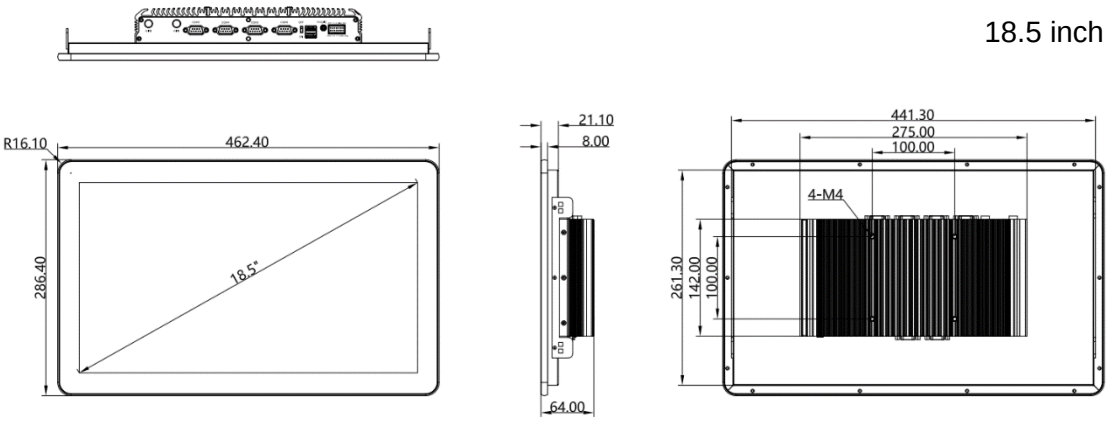
15.6



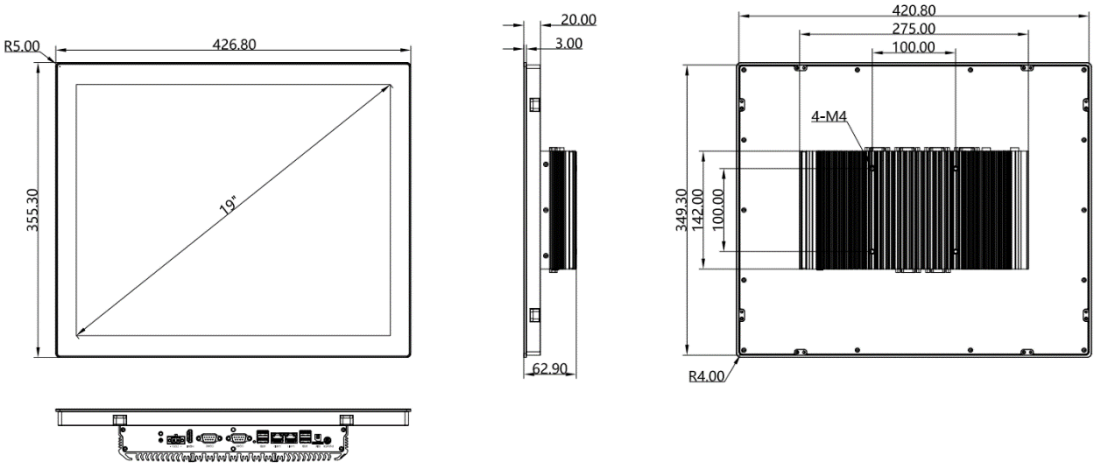
17 inch



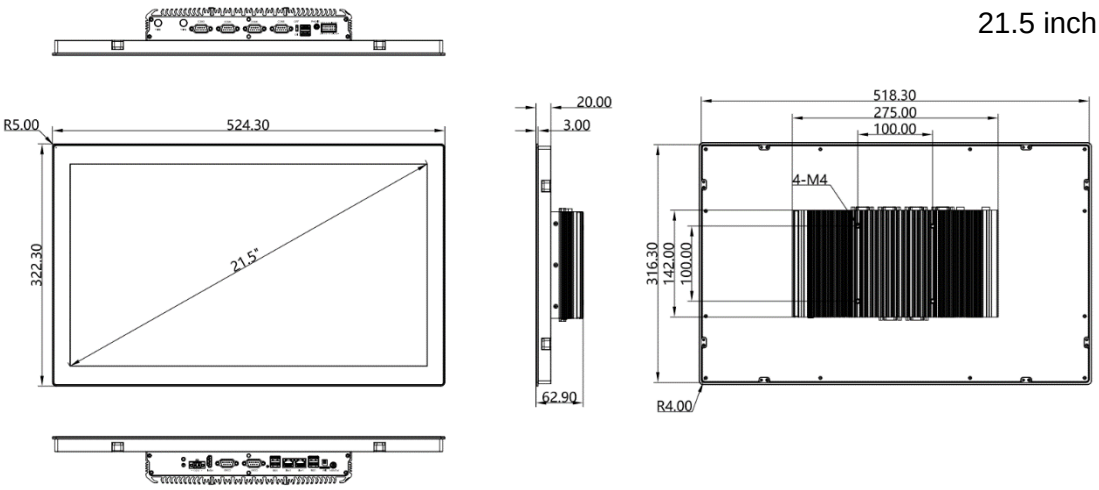
18.5 inch



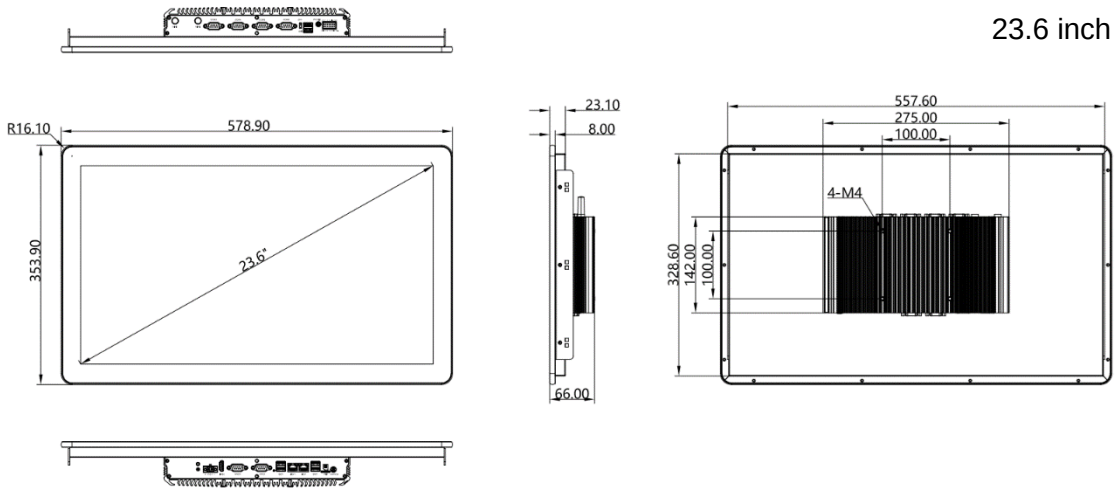
19 inch



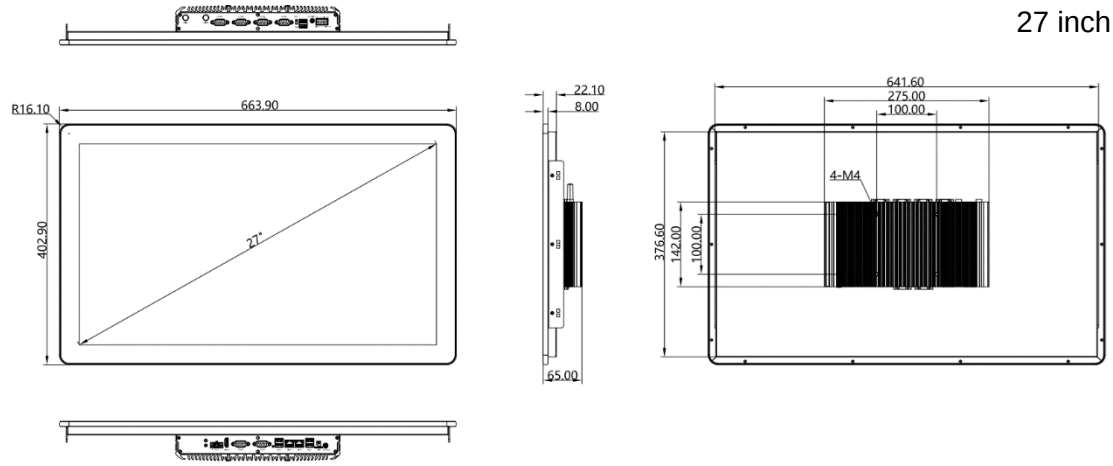
21.5 inch



23.6 inch



27 inch



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