Micro Working Distance Camera

Model Name: INS-CHVS-1245-10GM Series

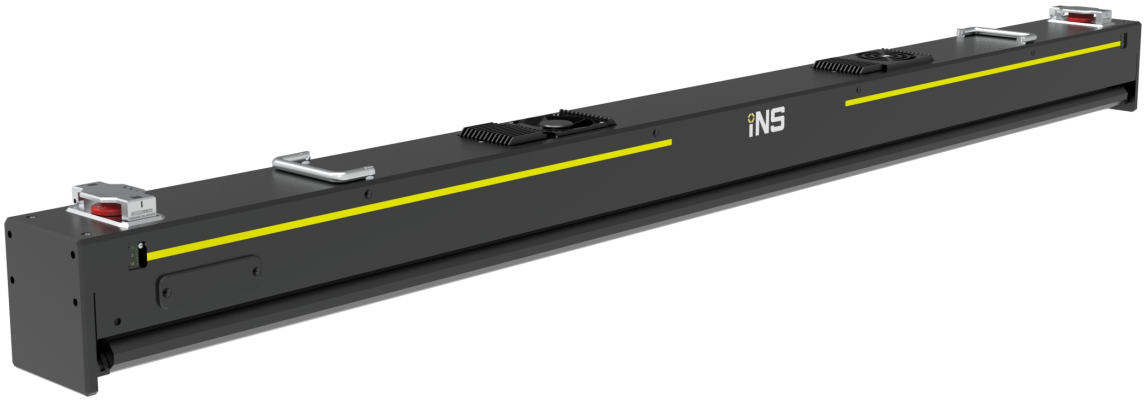
Change History			
Rev.	**Date**	**Author**	**Specification**
V1.0	Feb. 2023	INSNEX	Original

Contact Us
If you have any doubts or suggestions during the use of the software, please contact us promptly: Insnex Technologies Co.,Ltd Address: Building R, No. 218 Xingming Street, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone Postal Code：215000 Website：http://www.insnex.com/ Telephone：(86) 0512-67159489 E-mail：Services@Insnex.com

1. Product Outline

Item	INS-CHVS-1245-10GM-BB	INS-CHVS-1245-10GM-AA	Note
Control board	CIS-MAIN*2	CIS-MAIN*2	
Digital data output interface	10GigE*2	10GigE*2	
Command transmission interface	Serial interface	Serial interface	
Scanning width	1245	1245	mm
Resolution	600	300	DPI
Effective pixel point	29448	14760	Pixels
Line frequency	66	110	kHz
Scanning speed	2.8	9.3	m/s
Data transfer rate	20	20	Gbps
Power supply	+24V×3A	+24V×3A	To control boards/fan
	+24V×6A	+24V×6A	To LED boards
External dimension	Figure 1	Figure 1	
Focus position(from glass surface)	15	15	mm
Image format	Mono8	Mono8	
Appearance colour	Black	Black	

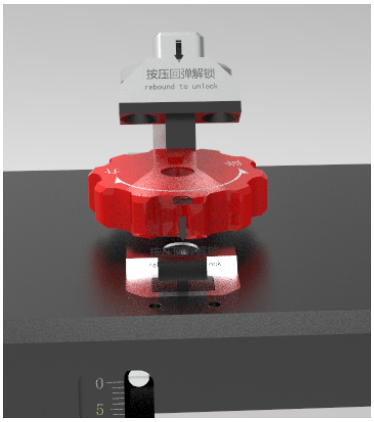
2. Operating Instructions



2.1 Locking mechanism

(1) Press the silver cover flap until the popper catch pops out to unlock.

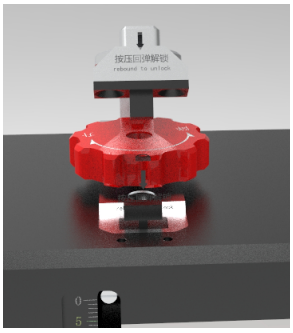
(2) Press the silver cover flap until the ejector catch locks back into place.

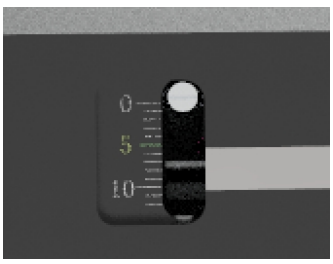


2.2 Focus Adjustment

(1)Rotate the knob counterclockwise, the lens moves downward to adjust the focus, rotate the knob clockwise, the lens moves upward to adjust the focus, both sides are symmetrical

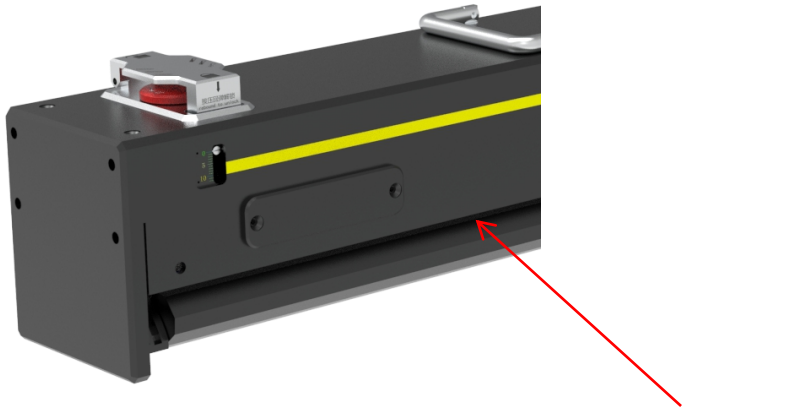
(2) Both sides of the scale reference to keep parallel.



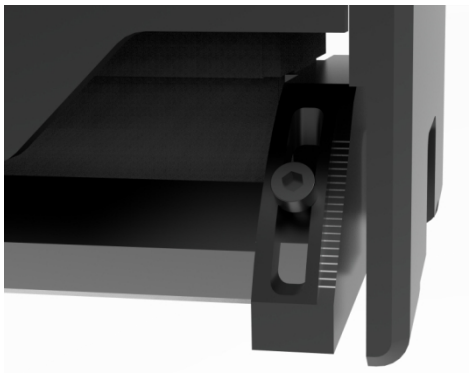


2.3 Light source line cover

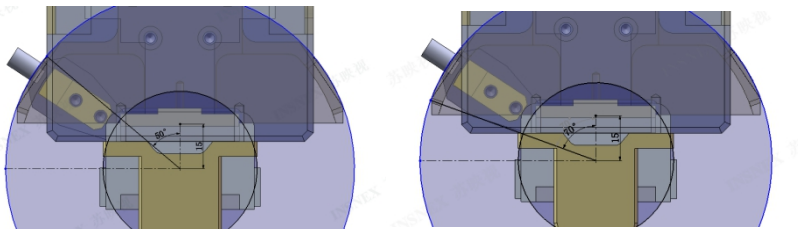
After plugging in the front and rear light source power supply cable sockets, cover the light source cover plate and tighten the corresponding screws to prevent loosening (front and rear symmetry).



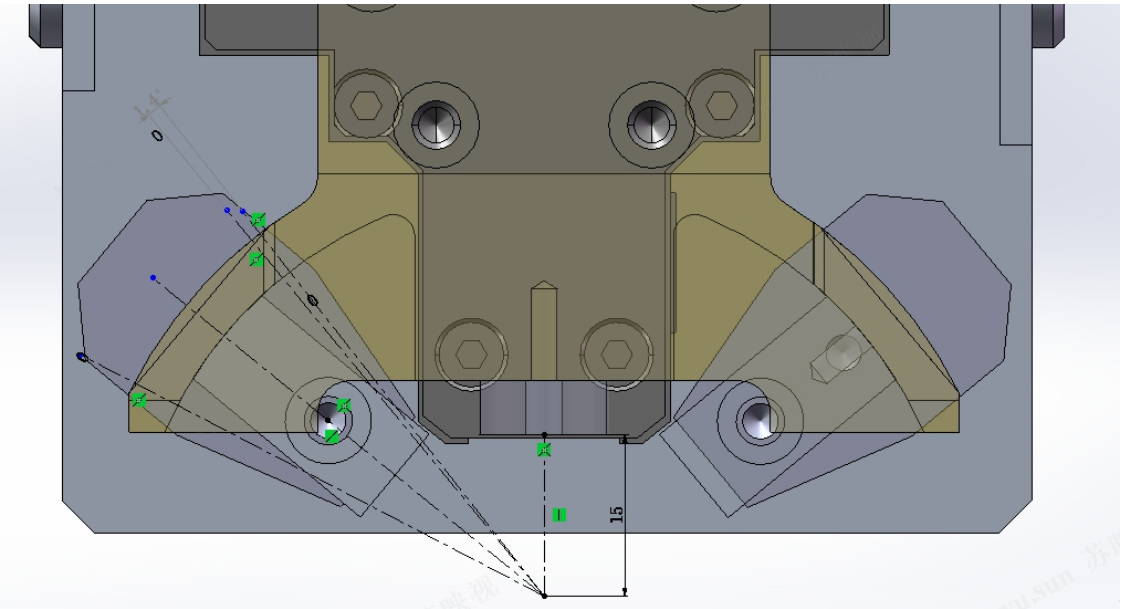
2.4 Adjustable light source units



Light source adjustable angle reference

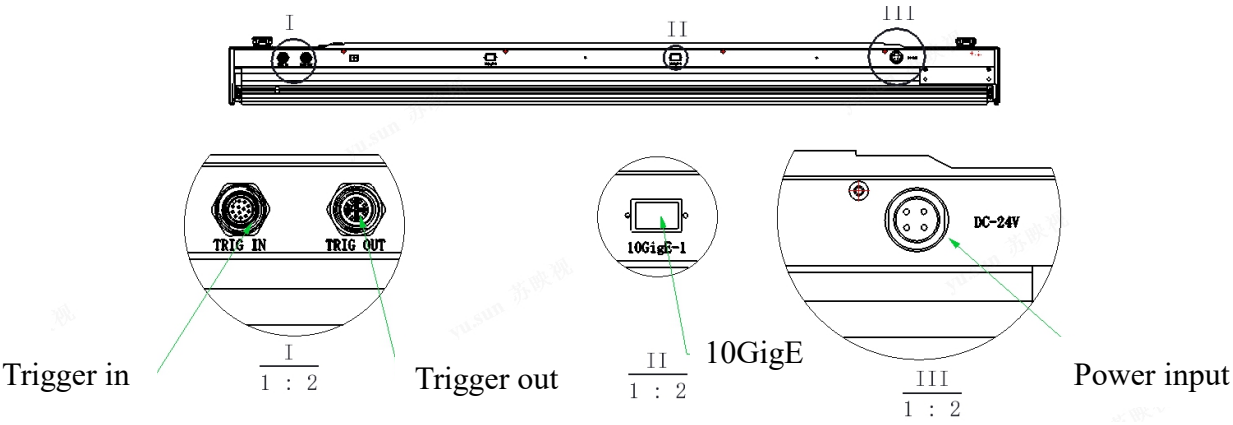


Focal length 15mm;
light source adjustable 50°-70° on one side



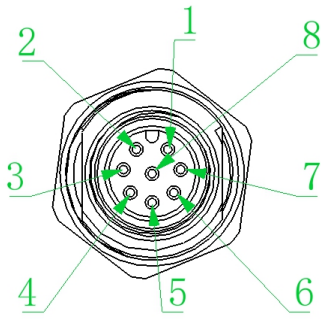
Light source adjustment scale line with a scale spacing of 1mm (1.4 °)

3. Description of Interface



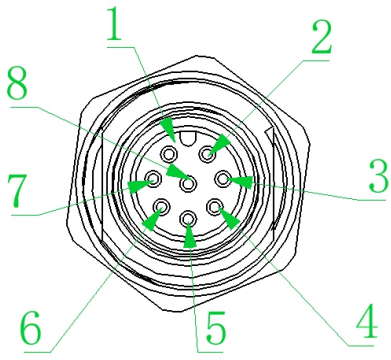
3.1 Trigger In

Pin	Name	I/O	Color	Description
1	A+	I	White	Shaft encoder phase A+
2	A-	I	Brown	Shaft encoder phase A-
3	B+	I	Green	Shaft encoder phase B+
4	B-	I	Yellow	Shaft encoder phase B-
5	I1+	I	Grey	External trigger input 1 +
6	I1-	I	Pink	External trigger input 1 -
7	I2+	I	Blue	External trigger input 2 +
8	I2-	I	Red	External trigger input 2 -



3.2 Trigger Out

Pin	Name	I/O	Color	Description
1	O1+	O	White	External trigger output 1 +
2	O1-	O	Brown	External trigger output 1 -
3	O2+	O	Green	External trigger output 2 +
4	O2-	O	Yellow	External trigger output 2 -
5	O3+	O	Grey	External trigger output 3 +
6	O3-	O	Pink	External trigger output 3 -
7	O4+	O	Blue	External trigger output 4 +
8	O4-	O	Red	External trigger output 4 -



3.3 10GigE

Use 10GigE network to transmit commands and data. Please use Category 7 network cable.

3.4 Power Input

Pin	Signal	I/O	Color	Description
1	+24V_C	I	Brown	Control board DC 24V +
2	GND_C	I	Blue	Control board DC 24V-
3	+24V_L	I	Red	Light source DC 24V +
4	GND_L	I	Yellowish green	Light source DC 24V -

4. Serial Interface

This serial interface uses hex code.

Item	Value
Baud rate	115200
Start bit	1
Data bit	8
Parity bit	None
Stop bit	1
Flow control	None

5. Maximum Rating

Item	Symbol	Specification	Note
DC supply voltage	Control boards	+24V±1V	
	LED boards	+24V±1V	
Ambient temperature	Ta	0~+40℃	Operating
		-20~60℃	Storage
Ambient humidity		10%~90%RH	

6. Connector Plug/Unplug

Unplug & plug the cable number should be less than 50. The connector will be ineffective if it is extracted and inserted over that number.

7. Stable Operation

(1) The connector pins should not be touched by bare hands or electrostatic charge materials.
(2) Latch-up

When the supply voltage exceeds the absolute maximum, Latch-up will occur. Latch-up will cause the sensor to be broken, even if the voltage is caused by a surge. If the current varies rapidly in the external circuit, or when the power is switched on and off very frequently, ensure that the voltage of each terminal does not exceed the values indicated in below.

(3) Absolute maximum rating

Item	Specification		Unit
	Min.	Max.	
Control boards supply voltage	-0.3	+25.0	V
LED boards supply voltage	-0.3	+25.0	
Shaft encoder input voltage	-0.3	5.5	
External trigger input voltage	-0.3	25	
External trigger output voltage	-0.3	25	

8. Reliability

Please operate Micro Working Distance Camera under INS operating conditions, which is specified in section 5.

Figure 1. Dimensions