

# CL1 Series 10 GigE (SFP+) Line Scan Camera



## Product Features

- 10Gbps bandwidth optical fiber transmission, with a transmission distance of up to 100 meters.
- Transmitting signals optically makes it immune to electromagnetic interference, ensuring more stable transmission.
- Low-power, fanless design ensures stable and reliable imaging.
- Supports software trigger/hardware trigger/free-run capture and other acquisition modes.
- Supports ISP (Image Signal Processing) functions such as gamma correction, LUT (Look-Up Table), flat field correction, etc.
- Compatible with GigE Vision protocol and GenICam standard.

## Product model and parameters

Sensor Type	Global Shutter CMOS
Image Format	Mono8/10
ROI	Supports
Binning	Supports
Mirror	Supports horizontal mirroring
Gamma	0~3.999
Image Acquisition Modes	Software trigger/hardware trigger/free run
Image Buffer	1024MB image cache
Storage Channel	Supports saving 3 sets of user-defined configurations
Digital I/O	2-core Hirose interface: 2 channels differential input, 2 channels optocoupler isolated input, 2 channels optocoupler isolated output, 1 channel camera power input
Power Supply	DC power supply through Hirose interface, voltage range 12V ~ 24V
Data Interface	10 Gigabit Ethernet (using SFP+)
Standards	Compliant with GigE Vision 2.0, GenICam
Temperature	Storage temperature: -30°C~+80°C; operating temperature: 0°C~+50°C

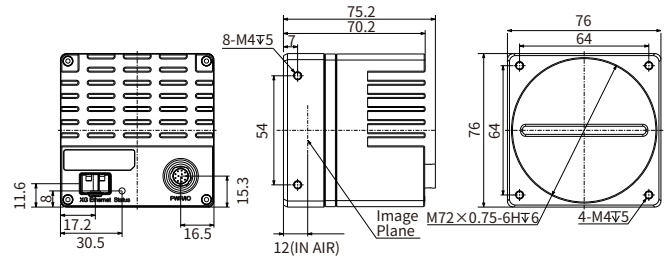
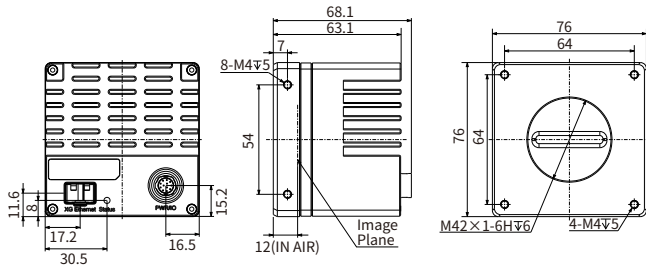
**Product model and parameters**

Model	Resolution	Pixel Size (μm <sup>2</sup> )	Chip Type	Line Frequency (KHz)	Optical Interface	Exposure Time	Product Dimensions (mm)	Power Consumption	Black and White/Color
OPT-CL1-M4-XG3-02	4096×1	7.0×7.0	CMOS	200	M42×1.0	1μs~50ms	76×76×63.1	6.88W@24V	M
OPT-CL1-M8-XG3-02	8192×1	7.0×7.0	CMOS	125	M72×0.75	1μs~50ms	76×76×70.2	5.44W@24V	M
OPT-CL1-M16-XG3-02	16384×1	3.5×3.5	CMOS	70	M72×0.75	1μs~50ms	76×76×70.2	5.68W@24V	M

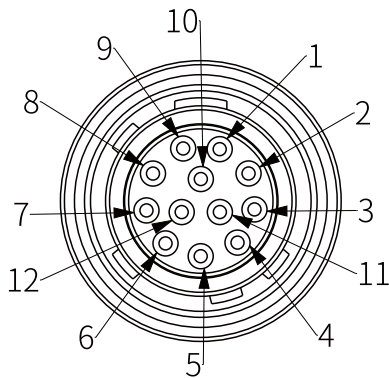
**Dimensions (mm)**

OPT-CL1-M4-XG3-02

OPT-CL1-M8-XG3-02/OPT-CL1-M16-XG3-02



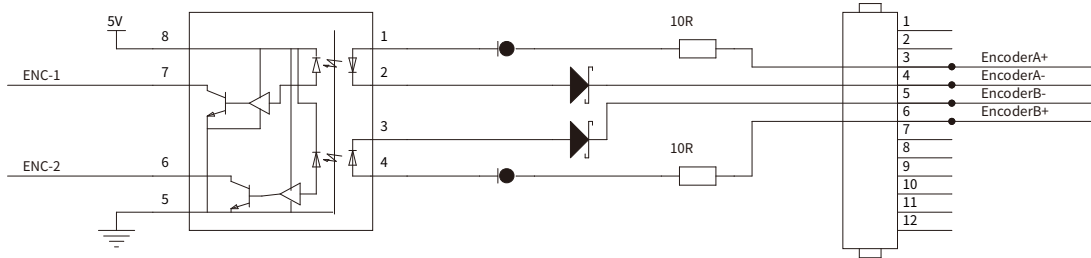
**IO Interface Description**



Pinouts	Signal	Explanation
1	GND	Power Ground
2	power	DC 24V Camera Power
3	EncoderA+	Encoder Differential Input A+
4	EncoderA-	Encoder Differential Input A-
5	EncoderB-	Encoder Differential Input B-
6	EncoderB+	Encoder Differential Input B+
7	OUT_GND	Opto-isolated Output Ground
8	Lineout1	Opto-isolated Output 1
9	Lineout2	Opto-isolated Output 2
10	IN_GND	Opto-isolated Input Ground
11	Line2	Opto-isolated Input 2
12	Line1	Opto-isolated Input 1

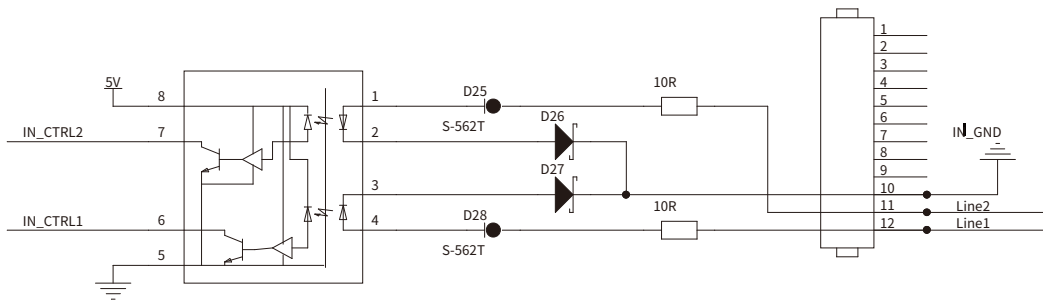
**IO Circuit Diagram**

1. Opto-isolated Differential Input



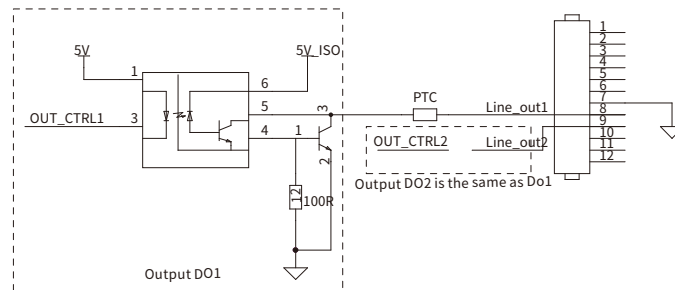
Encoder Trigger Input Circuit Diagram

2. Opto-isolated Input



Frame Trigger Input Circuit Diagram



3. Opto-isolated Output



Digital Output Circuit Diagram

Accessories

10 Gigabit Ethernet Camera Universal Capture Card

Model	OPT-GXG-J2-P-01	OPT-GXG-J4-P-01
Chipset	SP1000A	BCM57840
Bus Interface	4×PCIe 3.0	4×PCIe 3.0
Physical Interface	2×SFP+	4×SFP+
Transfer Speed	1/10 Gbps	10 Gbps
OS Support	Windows 7/Windows 10/Windows 11, Linux	Windows 7/Windows 10/Windows 11, Linux
Appearance Illustration		

10 Gigabit Ethernet Camera Universal Cable

Cable Type		12-pin IO Cable with Power Adapter	12-pin IO Cable	Data cable	
Cable Material/ Length	Static	3M	CB-HR10-12F010-S3M	CB-HR10-12F004-S3M	/
		5M	CB-HR10-12F010-S5M	CB-HR10-12F004-S5M	/
		10M	CB-HR10-12F010-S10M	CB-HR10-12F004-S10M	/
	High Flexibility	3M	CB-HR10-12F010-R3M	CB-HR10-12F004-R3M	CB-10GE-LCLC-T3M
		5M	CB-HR10-12F010-R5M	CB-HR10-12F004-R5M	CB-10GE-LCLC-T5M
		10M	CB-HR10-12F010-R10M	CB-HR10-12F004-R10M	CB-10GE-LCLC-T10M
Appearance Illustration					

10 Gigabit Ethernet Camera Universal Module Plugin

Model	TL-SM512LM-300m
Compatible Camera	This module is a 10 Gigabit optical port module, designed to be used with 10 Gigabit optical port cameras.
Appearance Illustration	