ROYALTOOL

2.8MM Lens 5MP 25FPS Underwater IP Camera #DZ10010-SS(UW-S5-3CX) with Fish-Counter Function

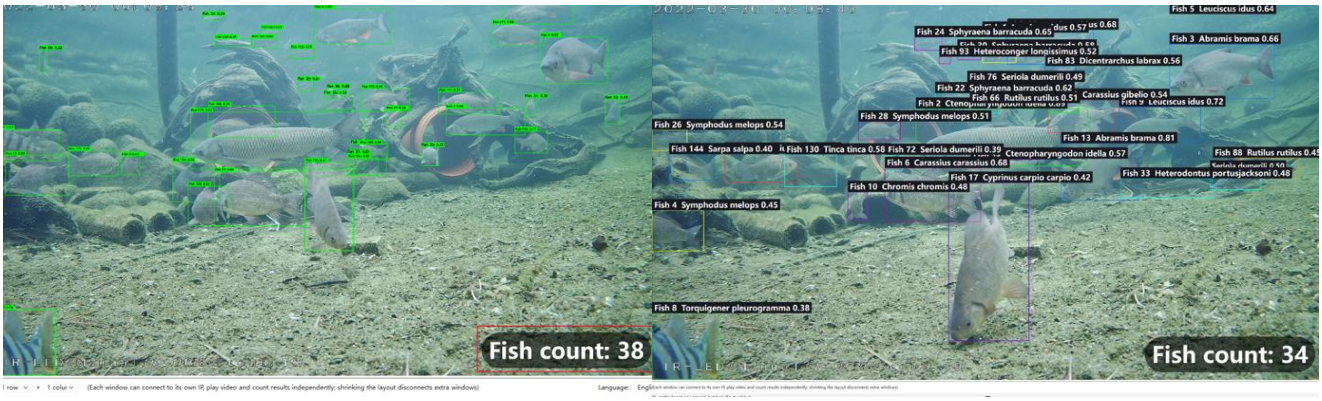
Application: Aquaculture (fish farming,raising sea cucumber,etc.),Aquarium breeding,Laboratory observation,Shipborne, Ship engine monitoring,Car,Underwater wedding photography,Undersea marine life research,hole of water conservancy pipe,Downhole TV,Diving adventure camera,Underwater engineering acceptance,Downhole observation (such as drilling and workover),Fishing





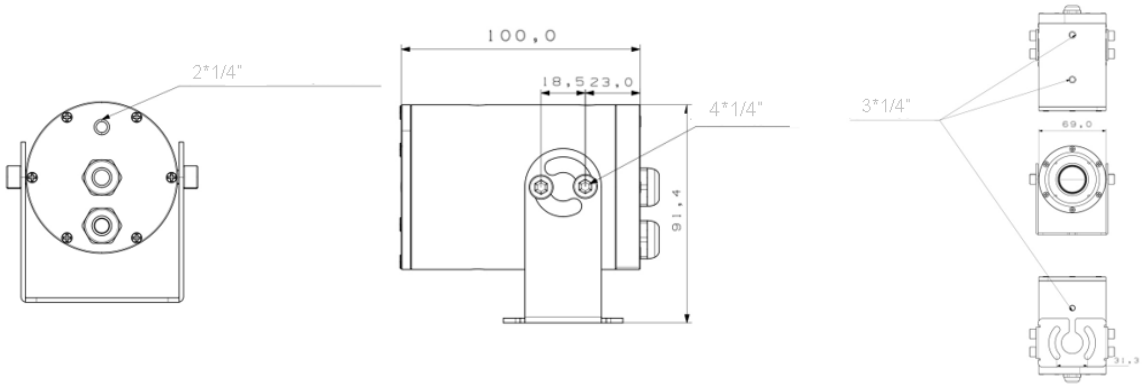
With external subsea light

Fish-Counter Function



Main advantage:

1: Resolution: 5MP 2592×1520P 25FPS color 0.01Lux F1.2,black/white 0.001Lux F1.2
2:Sensor: 1/2.7" OV CMOS sensor ,
3.Fixed lens: 2.8mm (H.FOV:100°）
4.Illumination: Light sensor contorlled 3 white light,10 level brightness settings,Light sensor contorlled 4 infrared light,10 level brightness settings 400Lumen
5.Demension: Φ70mm*100mm
6.Waterproof: Maximum 500KPa (Waterpressure resisitance 50M)
7.Fish-counter function and analysis
8.Image latency:400MS
9.Supports Support iOS,Android,computer,NVR.Compatible with hikvision,dahua,proprietary protocol.(Only support windows-IE browser for camera internal parameter setting)
10.Support IPv4/IPv6,802.1x,HTTPS,HTTP,TCP/IP,UDP,RTP,RTCP,UPNP,RTSP,SMTP,NTP,DHCP,DNS,PPPOE, DDNS, FTP,RTSP,ONVIF;SDK secondary development



Detail Spec

Camera Dimension	Φ70mm*100mm(L)
Lens	2.8mm (H.FOV:100°), lens
Sensor	1/2.7" OV CMOS sensor,color 0.01Lux F1.2,black/white 0.001Lux F1.2
Sensor Option	**With fish counting function when the fish swimming at the front of the lens**
Resolution	5MP 2592×1520P 25FPS
Illumination	3pcs led lights and 4 pcs infrared lights,10 level brightness level,400Lumen
Water Depth	500Kpa (50M)
Camera Housing	316L stainess steel
Cable	The default length is 10 meters (the longest is no more than 80 meters),PU material,Diameter 7MM.Resistance to 60KG pull,anti-aging,anti-friction,resistance to seawater corrosion,special underwater wire.
Support Device	Support iOS,Android,computer,NVR.Compatible with hikvision,dahua,proprietary protocol.(Only support windows-IE browser for camera internal parameter setting)
Supporting Agreement	IPv4/IPv6,802.1x,HTTPS,HTTP,TCP/IP,UDP,RTP,RTCP,UPNP,RTSP,SMTP,NTP, DHCP,DNS,PPPOE,DDNS,FTP,RTSP,ONVIF;SDK secondary development
Use Environment	Sea water / Fesh water /Underwater,land,Car,Shipborne.
Working Humidity	0%-100%
working Temperature	-20°~55°
Power Supply	Cable length ≤ 10 meters;3 options: Default options 1:DC12V/POE 48V-54V IEEE.802.af power input and output pin: 1, 2 (+) / 3, 6 (-); options 2:DC12-DC28V/AC12-AC28V; options 3:POE 48V-54V IEEE.802.af power input and output pin: 1, 2 (+) / 3, 6 (-),4, 5 (+) / 7, 8 (-);
	Cable length 11-70 meters;2 options: options 1:DC24V/AC24V; options 2:POE 48V-54V IEEE.802.af power input and output pin: 1, 2 (+) / 3, 6 (-),4, 5 (+) / 7, 8 (-);
Net Weight	2KG
Package	1* Camera 1* Camera bracket 1*U disk (instruction and software)

*Patent Pending Design *

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Fish Image Analysis Software (FQA)

1. System Overview

Barlus Fish Image Analysis is a fish image analysis system that automatically analyzes live video and provides 2 types of analysis tasks:

Task	Function
Detection	Locates every fish in the frame, draws a bounding box, and counts them
Classification	Counts fish by species; you can use the built-in models or models you have trained yourself

The main interface consists of the following tabs: Real-time Detection and Report Analysis.

2. Operating Environment and Configuration Requirements

2.1 Software Environment

Item	Requirement
Operating system	Windows 10 / 11 (64-bit)
Graphics driver	With an NVIDIA GPU,version 576.02 or later is required (installing the latest driver from the NVIDIA website is recommended)
Other	One free USB port (for the dongle); a wired network connection is required to connect cameras

2.2 Recommended Hardware Configuration

Item	Minimum configuration (can run)	Recommended configuration (smooth operation)
CPU	8 cores	16 cores or more with AVX2 support (Intel 8th Gen / AMD Ryzen 3000 and later)
Memory	16 GB	32 GB; 64 GB recommended for analyzing 4 video streams simultaneously or for model training
Disk	50 GB free space	SSD with 100 GB or more free space
GPU	Not required (without an NVIDIA GPU the system automatically falls back to CPU inference, which is noticeably slower)	NVIDIA GTX 16 / RTX 20 series or newer (e.g., RTX 3060 or RTX 4090),with 8 GB or more of VRAM;16 GB or more of VRAM recommended for 4-stream detection with simultaneous recording
Network	100 Mbps Ethernet	Gigabit Ethernet (multiple cameras connected simultaneously)

2.3 Disk Space Planning

The program itself is approximately 5.79 GB. Data generated during use keeps growing, so reserve disk space according to your actual usage:

Data	Storage location	Growth reference
Real-time detection recordings	Program directory videos (original and annotated videos are stored in pairs)	About 2-4 GB per stream per hour, depending on camera resolution and bitrate
Training data and models	Program directory models\custom	Tens of MB per training task; historical backups accumulate with each training run

3.A licensing failure message appears at startup

Make sure the dongle is firmly plugged in and the license has not expired.After changing the computer or the dongle,you must register again:copy the machine code from the registration dialog,request a new license from the administrator,and import it.

4.U-Key

When you use the software,there must keep the Ukey pluged with the computer the same time,of not,the software can can not work.



5.Connection between the computer and the camera.

Firstly,Install the Barlus APP.and keep the LAN work well.Barlus App will sure the camera and computer connection well.

Second,Install the Barlus fish image analysis software in the computer.

6.**Recording**

The recording will stop automatically after 10 consecutive seconds without fish.And start recording immediately when there is fish appear.

7.It keeps showing "Connecting" after connecting,or reports reconnection failure

Check whether the camera IP address is correct,the camera is online, and the computer and camera are on the same network;then click "Connect" again.

8.The status bar shows "Inference service unavailable"

Wait a moment and try again.On first launch the program needs to load the recognition engine, and the status bar will show "Inference service ready" once loading is complete.If it does not become ready for a long time,restart the program.

9.Training cannot start

Finish labeling first (at least 2 species and 4 fish) and make sure labeling has ended before clicking "Start Training".

10.GPU-related errors appear,or recognition becomes slower after changing the graphics card

Make sure an NVIDIA graphics card is installed and the driver is version 576.02 or newer (updating to the latest version is recommended). The bundled high-speed inference engine is bound to the specific GPU model;after switching to a different GPU model,the system automatically falls back to generic GPU inference (the GPU is still used, but at a reduced speed).To restore the best speed,contact the administrator to regenerate the inference engine on the current computer.

11.Noted: Classification function

It include 744 species classification.But it is now a experimental function.The accuracy of the identification is not guaranteed now.If you not need that we can supply the version without the classification function.

*Patent Pending Design *

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