

Comanex

CYCLOP 2014 COLOR UNDERWATER CAMERA OPERATING MANUAL



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A	Visa	PMI	Comanex ref.
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1) DESCRIPTION

1.1) General description

This diver held TV camera enables the surface to control at any time the dive as it is seen by the diver and to:

- give technical instructions and assistance to the diver for more efficient work,
- improve communication between diver and surface as well as diver's safety,
- save the use of more sophisticated equipment, such as ROVs, for a similar result diver's depth range.

The Complete CYCLOP 2014 system features four main components:

- A CCD colour camera, water-resistant, compact,
- A surface power supply
- A single coaxial cable (75 Ohm or 50 Ohm) umbilical (Optional)
- A colour video monitor (Optional)



1.2) Components

1.2.1) Colour camera

- Image sensor device : 1/3.2" SONY 1.27 Mpx Exmor CMOS Sensor
- Image size: 1/3"
- Scanning system: PAL
- Picture elements : HR - 1280 (horizontal) x 924 (vertical)
- Horizontal Resolution : 800 TVL
- Minimum illumination : 0.01 Lux
- Light wavelength : 400-700nm
- Interlace : 2:1 interlace
- Video output level : 1.0v(p-p)(75 ohms)
- Video S/N ratio : more than 50db
- Day & Night : Under lighting 2 Lux
- Electronic iris : Setting ON
- Auto exposure system : auto electronic iris: 1/50 – 1/100,000 sec
- Gamma : 0.45
- Built in lens : Board lens 3.6mm – Fixed iris F2.0
- Constant current : AC/one cable type : **NOT EXCEED 100mA**
- Housing : Delrin container
- Glass : PPMA
- Service pressure : 30 bars
- Connections : M10 2-pin female Jupiter bulkhead
- Dimensions : external diameter 43 mm, length 160 mm
- Weight : in air 360 g



1.2.2) Surface Power Supply

The control console powers the underwater camera and carries the camera video signal onto the monitor.

The power supply is housed in a painted steel case.

- Camera power supply system: DC constant current over coaxial cable
- Operation temperature: -15°C to 55°C
- Humidity: Less than 90%
- Power consumption: 1.2 W (Approx)
- Power requirement: 240VAC – 50/60Hz
- Dimensions: 96mm depth x 106mm width x 45mm height
- Weight: 620 g



1.2.3) Connection cables (OPTIONAL)

First cable: Underwater camera / Surface power supply

It is a coaxial cable 50 Ohm KX4 type Dia: 10.5 mm.

The length of this cable is comprised between 50 and 300 meters.

It is equipped at one end with a M10 2-pin male Jupiter connector (camera side) and one BNC connector at monitor side.

Second cable: Surface power supply / Video monitor

It is a coaxial cable 75 Ohm, equipped at both end with a male BNC connector.

2) CONNECTIONS:

2.1) Underwater camera / Surface power supply

Take one extremity of the umbilical and connect the JUPITER plug 041 04592 to the receptacle 041 04593 of the underwater camera.

Take the other extremity of the Umbilical and connect the male BNC connector to the female BNC bulkhead of the power supply marked: "TO CAMERA".



2.2) Surface power supply / Video monitor

Take the video cable and connect the male BNC connector to the female BNC bulkhead of the power supply marked: "VIDEO OUT TO MONITOR".

Connect the other side to the TV monitor BNC bulkhead marked: "VIDEO IN"

3) SWICHING ON THE SYSTEM:

3.1) How to switch ON the video camera

Before connecting the mains or 240 Volts power source, control all the connections and check that all switches are on the OFF position.

On the power supply check the switch on back panel is well set to 100mA

Connect the power cable of the video monitor to a single phase 50/60Hz, 240 Volts power source.

Connect the power cable of the surface power supply to a single phase 50/60Hz, 240 Volts power source

Switch ON the video monitor.

Switch on "1" the power supply with the switch 1/0.
The green light goes on.

After a few seconds a video image appears on the video monitor screen.

4) TROUBLE SHOOTING:

If after switch ON there isn't any picture on the video monitor, check all the connections.

Problem	Cause	Remedy
The green light of the video monitor is switched off	Power is deficient	Check the power 240 VAC. Check the good working of the switch. Check the power is adapted (50/60Hz).
The green light of the power supply is switched off	Power of the supply is deficient	Control the power (240 VAC). Check the power cable of the control console. Check the good working of the switch. Check the fuse 250V/2A.
No video picture on the video monitor	No power on the video camera	Check that the video cable is well connected to the BNC bulkhead of the power supply.
	The umbilical is damaged or in short circuit	Check the continuity of the umbilical. Check that pins 1 and 2 of the Jupiter connectors aren't cut or in short circuit. Check that the power is available on the BNC bulkhead marked TO CAMERA on the power supply.
	Camera field blocked	Check video monitor adjustments. Check the camera isn't in front of an object or a plain coloured (black or white) wall in front of the camera.
	Too much light	Check if the camera isn't in front of a bright light source (sun).
Black and white image	Wrong standard	Check Pal standard on the video monitor.
Image adjustment	Wrong adjustment	Adjust the video monitor.