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OPERATING MANUAL



CE-4VM-03-250VL 4 CHANNEL CONTROLLER

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1.0 GENERAL

The CE-4VM-03-250VL Controller is designed to accept 4 x Cameras; 3 x Subsea and 1 x Topside or Subsea and has inbuilt Line Correctors for the Subsea Cameras. Can accept Umbilical lengths for video up to 1km twisted pair or coax. The Controller's video output will go directly in to a standard Monitor and allow the user to view from a single Camera up to 4 x Cameras simultaneously on a single screen in various formats. The screen can be split in the centre to display two images or in to 3 segments or 4 quarters. This is achieved by holding the "Select" Button as well as the number of Cameras to be viewed on a screen from 2 to 4. If an individual Camera is needed to be viewed, the appropriate button is pressed; the Camera will be viewed on the screen.

The Controller requires 220V AC. As soon as the "Power" Button is pressed, this will illuminate amber thus indicating that the power to the Cameras are being fed ready to use.

The Controller is equipped with the following controls :

On/Off Switch Power

On/Off Switch Light

Light Dimmer

Select

Cancel/1

2

3

4

The total System comprises of :

1 off CE-4VM-03-250VL Controller

2 off CC620ZX1 Subsea Colour Camera

2 off Dome Lights 110V AC complete with Bracketry for mounting and 1 x Securing Bolt

2 off 4M Light Extension Cable

2 off 4M Camera Extension Cable

1 off Camera 'Y' Splice incorporating PSU and Line Drivers

1 off Light 'Y' Splice incorporating electronic auto reset fuses

1 off 17" LCD Wide Screen Monitor and its 12V DC PSU

In order to operate the System, no calibration is required to the Camera or the Controller.

The Light should not be left on for long periods if not submerged in water.

UMBILICAL

See Data Sheet on Cable.

MONITOR

See Operating Manual on Monitor.

2.0 SPECIFICATIONS

CAMERA CONTROLLER

SUPPLY VOLTAGE :	240V AC 50/60 Hz
OUTPUT VOLTAGE CAMERA :	24V DC
OUTPUT VOLTAGE LIGHT :	110V AC
INPUT SIGNAL :	2 x Video 120 Ω In-Line Driver
OUTPUT SIGNAL :	Composite Video 75 Ω
OPERATING TEMPERATURE :	-5 $^{\circ}$ C to + 50 $^{\circ}$ C

CAMERA

OPERATING VOLTAGE :	12V DC
OUTPUT SIGNAL :	Composite Video 75 Ω
OPERATING DEPTH :	1500 ft
OPERATING TEMPERATURE :	-5 $^{\circ}$ C to +50 $^{\circ}$ C
SIZE :	50mm Diameter x 90mm long excluding interconnect socket

LIGHT

OPERATING VOLTAGE :	110V AC
OPERATING CURRENT :	4.5 Amps at full intensity
BEAM ANGLE :	Wide
OPERATING DEPTH :	1500 ft
OPERATING TEMPERATURE :	-5 $^{\circ}$ C to + 90 $^{\circ}$ C
SIZE :	148mm Diameter x 170mm long excluding interconnect socket

3.0 OPERATING CONTROLS

On / Off Switch Power

The On / Off Switch activates the Controller and once switched on, the Cameras will have power 24V DC and Line Drivers in the 'Y' Splice.

On / Off Switch Lights

The On / Off Light Switch will activate the Lights.

Dimmer

The Dimmer Switch will dim the Lights simultaneously for all Lights connected.

Select

The "Select" Button allows the user to select various screen split selections. This is achieved by holding the "Select" Button down and pressing the appropriate "Select" Button. If the same Button is pressed more than once, a different footprint on split screen will appear.

Cancel/1

Pressing the "Cancel/1" Button cancels the split screen and enables Camera Number 1 to be viewed.

2

Button Number "2" allows the user to view Camera Number 2.

3

Button Number "3" allows the user to view Camera Number 3.

4

Button Number "4" allows the user to view Camera Number 4.

4.0 CONNECTING DETAIL

CC620ZX1 CAMERA

4 PIN MALE SS

DESCRIPTION

1	Black	SCREEN-VIDEO COAX
2	White	CORE-VIDEO COAX
3	Red	CAMERA POWER +V
4	Green	CAMERA POWER -V

5.0 BLOCK DIAGRAMS



1 x 30M UMBILICAL



1 x "Y" SPLICE LIGHTS

1 x "Y" SPLICE CAMERAS

2 x 4M EXT LEADS

2 x 4M EXT LEADS



110V AC

110V AC

LIGHT 1

LIGHT 2

CAMERA 1

CAMERA 2

CE-4VM-03-250VL

20M Umbilical

10 Pin Mill Male Connector

		<u>Cable</u>
A +	110v AC Lights	Blue
H -		Brown
B +	Video 1	Green
C -		Blue
D +	Video 2	Yellow
E -		Blue
F+	PSU 24V Camera	Gray
G-	PSU 0V Camera	All Screen

CE-4VM-03-250VL

4 CHANNEL CONTROLLER

10 Pin Connector

Umbilical

A +

110V AC Lights

H -

B +

Video 1

C -

D +

Video 2

E -

F +

PSU 24V Camera

G -

PSU 0V Camera

“Y” SPLICE

2 PIN

1 -

Lights

2 +

LIGHT

Pin 1 of Light 1, Pin 1 of Light 2

Pin 2 of Light 1, Pin 2 of Light 2

Each Light has 5A fuse in-line.

Light works of 110V AC

“Y” SPLICE

10 PIN

CAMERA 4 PIN CONNECTOR

1	Black	Video 1	-	PIN 2	BLACK	CAMERA 1
2	White		+	PIN 1	WHITE	
3	Red	Video 2	+	PIN 2	WHITE	CAMERA 2
4	Green		-	PIN 1	BLACK	
5	Orange	12V DC	+	PIN 3	OF CAMERAS 1, 2	POWER 12V DC
6	Blue		-	PIN 4	OF CAMERAS 1, 2	
7	White / Black	Not Used				
8	Red / Black	Not Used				

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SCANTECH

20M DECK LEAD

10 PIN MIL CONNECTOR

UMBILICAL CE1C/9-100UC

16 PIN FEMALE

B	Video 1	+	Green	0.22mm ²	7
C		-	Blue	0.22mm ²	8
D	Video 2	+	Yellow	1mm ²	9
E		-	Blue	1mm ²	10
F	PSU 24V DC	+	Grey	1mm ²	13/14
G		-	All Screen	1mm ²	11/12
H	Lights 110V AC		Blue	1.3mm ²	1/3
A			Brown	1.3mm ²	4/5

16 PIN SUBCON FEMALE

1	Black
2	White
3	Red
4	Green
5	Orange
6	Blue
7	White with Black
8	Red with Black
9	Green with Black
10	Orange with Black
11	Blue with Black
12	Black with White
13	Red with White
14	Green with White
15	Blue with White
16	Black with Red

6.0 SPARES PACKAGE

<u>Item</u>	<u>Quantity</u>	<u>Description</u>
1	1 off	CC620ZX1 Subsea Colour Camera
2	1 off	Dome Light 110V AC complete with Bracketry for mounting and 1 x Securing Bolt
3	1 off	4M Light Extension Cable
4	1 off	4M Camera Extension Cable
5	1 off	Camera 'Y' Splice incorporating PSU and Line Drivers
6	4 off	110V Light Filaments