



INSPECTOR 

Manual
Control box on reel

98325874



Inhoudsopgave

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1. Introduction

This manual is for:

- Inspector[®] 36 Junior
- Inspector[®] 48 Junior
- Inspector[®] 36 with option Control box on reel
- Inspector[®] 48 with option Control box on reel
- Inspector[®] ZRK70 with option Control box on reel

1.1. Application area

Depending on your choice of camera head and the kind of cable every camera has it's own working area.

36 mm camera:

Suitable to inspect pipes of \varnothing 50 to 160 mm.

90 degrees corners from pipes of 50 mm.

48 mm camera with combi cable 7.5 mm:

Suitable to inspect pipes of \varnothing 75 to 400 mm. 90 degrees corners from pipes of 75 mm.

48 mm camera with combi cable 9 mm:

Suitable to inspect pipes of \varnothing 75 to 400 mm. 90 degrees corners from pipes of 110 mm.

ZRK70 camera with combi cable 9 mm

Suitable to inspect pipes of \varnothing 75 to 500 mm. 90 degrees corners from pipes of 110 mm.

Note: These specifications are depending on the kind of material, color and dirt of the pipe.

1.2. The complete system

The camera system consist the following items:

- Camera head
- Reel with adjustable brake
- Control box
- Display

1.3 Working with the system

All parts of the system are made of high quality material and assembled with great precision. For optimal usage of the system regular maintenance is necessary. You will find instructions and tips in this manual about:

- Safety
- Usage
- Maintenance
- Service

2. Safety

2.1 Setting up & connecting the system

Mind the following aspects before setting up or starting up the system:

- Place the system on dry and solid ground, in an indoor situation.
- Place the system in such way that it can't fall into a hole or fall over.

Be aware the system is switched off and not connected to the power grid before you connect any connector. For further instructions how to connect read chapter 4.

2.2 Electricity

The system operates on 230V/50Hz. Be sure that the system is set up in a dry and indoor environment. Prevent water or moisture getting in or on the control box.

In case of using an power generator be sure that the generator has a continuous output of 230V/50Hz. If you have any doubts about this do NOT use a generator.

We recommend: do NOT use a generator.

By using a wrong or instable electric current the system will be badly damaged and warranty will void.

It is possible to use an inverter (12V DC to 230V AC). The minimum power output must be 150W continuous. The peak output must be 300W. The output must also be a pure sinus. Your dealer could help you select a suitable inverter.

By using an underpowered inverter or an inverter with no pure sinus as output you could harm your system. Warranty will void.

Use always a power point which is connected to ground.

2.3 Temperature and moisture

In case the system is not in use it has to be stored in a dry and ventilated room. The temperature during use and storage has to stay between 0°C and 45°C.

Be aware of this during winter periods in case you keep your inspection system in your company car or van.

3. Using the system

3.1 Before starting an inspection

Before starting an inspection be sure that the pipe has been totally cleaned.

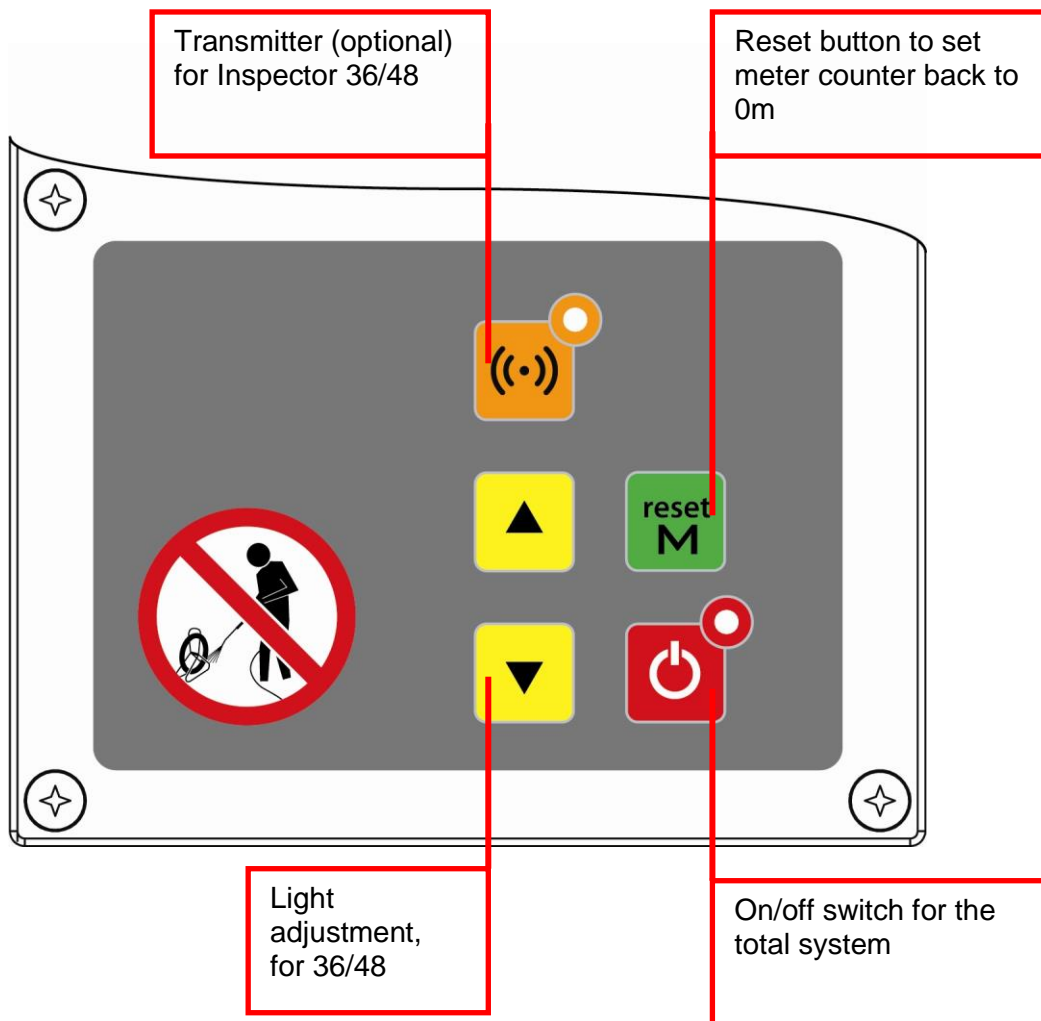
Caution! Never use the camera for unblocking a pipe! If you feel resistance and can't push the camera any further, do not continue the inspection. Gently pull back the camera and clean/ unblock the pipe first and then continue the inspection.

3.2 Connecting the system

- Open the display
- In case you are using a ZRK70 camera head, connect the 19p connector of the reel to the remote control ZRK70
- Connect the 7p connector to the remote control ZRK70 and the Control box
- Connect the 230V connector to a power point which is connected to ground.
- Switch on the system with the red on/off button on the control panel. The LED will become green.
- Switch on the LCD display, if necessary.
- Adjust the lightning with the yellow buttons on the front.
- In case you're working with the ZRK70 some actions will differ. See paragraph 3.6 for further information.

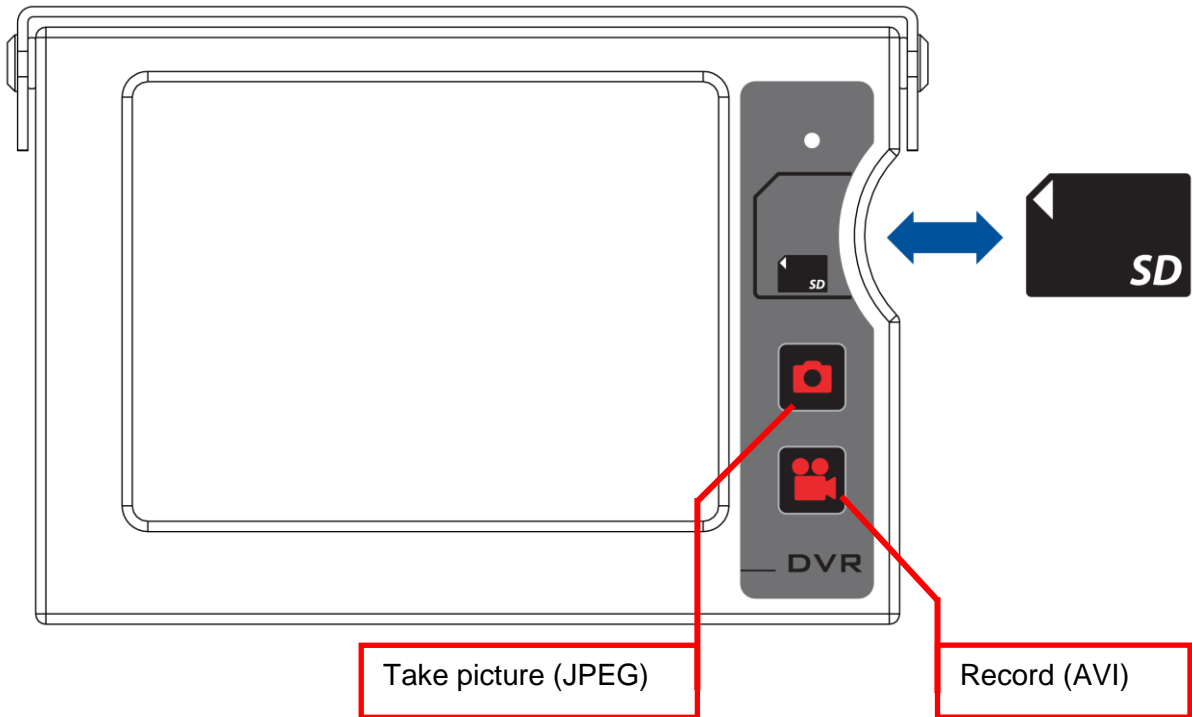
3.3 Controlpanel Control box

The controlpanel of the Contol box has the following funtions:



3.4 Usage of DVR display

The control panel of the display on the reel includes the following features:



When recording starts in the upper left corner displays "REC"
Data use video 2GB per hour. SD card max 16 GB.

Pay attention:

- **No dirt / moisture into the slot on the SD card.**
- **Maximum recording time 30 min. per file.**

3.5 Usage of the guides (accessories)

There are several guides available to position the camera head in to the pipe.

Be aware: Do not turn the front ring of the camera in case you unscrew the guide. A leakage can be caused and the warranty will void.

3.6 Usage of remote control ZRK

In case you are using a ZRK70 camera head, it has to be operated with the remote control.

Basic functions

- Swerving and rotation; blue buttons
- Focus; orange buttons
- Lighting; yellow buttons

Smart functions

- Level (horizontal); press the middle blue button
- Auto level; press either shift button and the level button simultaneously. The camera will continuously correct the image through rotation. To disable the auto level function press the level button again.
- Socket test; swerve camera (manually) to socket edge, adjust focus if needed. Press shift button simultaneously with right orange button ("socket test"). The camera will rotate 360 degrees.
- Transmitter; press shift button simultaneously with right yellow button ("transmitter") to activate. To disable the function, press shift and the right yellow button again.



3.7 Usage of the meter counter

By using the meter counter you can measure distances in the pipe. The measurement will be done inside the reel. This means you have to keep the distance of the cable between reel and the beginning of the pipe steady to avoid mistakes.

You can reset the meter counter by pressing the green reset button on the front panel.

3.8 Usage of the transmitter with the 48 mm camera (optional)

The camerahead of the 48 mm systems can be equipped with a 512 Hz transmitter. The camerahead can be localized above ground by using a receiver/detector.

Activation of the transmitter, is very straight forward by using the controlpanel switch. During the activation the camera lighting is switched to its maximum. When the transmitter is activated the lighting cannot be adjusted.

De-activation happens by pushing the switch again. When the transmitter is de-activated the lighting will show a small decline in intensity, but will regain its strenght immediately.

3.9 Usage of the USB interface (accessory)

It is possible to record video and pictures on a computer by using the USB port. This function can be used by connecting the USB interface to the video connector.

Before you can start recording pictures and video, you have to take a number of steps. Therefore you will need the provided cd-rom "USB Software" and follow the guidelines which can be found in appendix I.

After you have executed all the steps you can start recording with the installed software. A brief manual can also be found in appendix I.

Remarks:

- We recommend to take your time making all installations
- By preference be seated at a table

3.10 Text generator (Accessory)

The text generator can be used to add extra information on the screen. This can be recorded on DVR or USB interface. In brief:

1. Press ESC on keyboard to go to the menu.
2. Choose from F1 to F7
3. Follow the steps
4. Press ESC to exit the menu

Note: standard texts can be programmed with F3. These can be activated and de-activated during an inspection with F1 to F7.

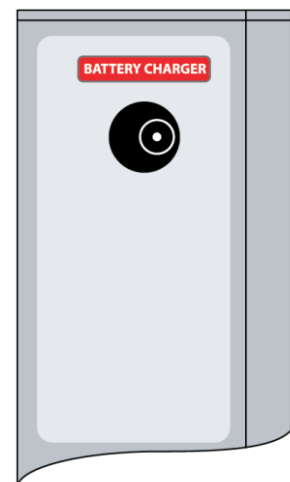
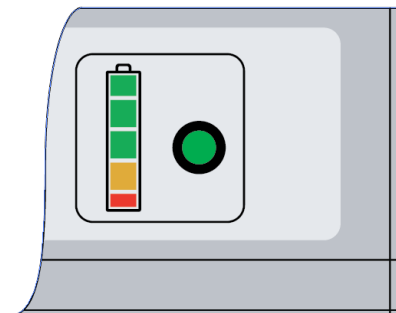
3.11 Usage of battery (optional)

Attention!: Always use de original supplied battery charger
Also during an inspection charging is possible.

Battery life max. : 2,5 hours

Battery indication:

- Green 100%
- Orange 20%
- Red 5%



4. Maintenance

It's of great importance to regularly clean and grease the system. If you do this at a regular base it will increase the lifetime of the system.

After each inspection the system should be cleaned thoroughly, especially the camera head and the connectors. Any sand or dirt on the camera head, connectors or other moving parts should be removed after an inspection, do this with a clean cloth or brush.

The reel and the control box may never be cleaned with high pressure water cleaners.

The system should be stored in a ventilated, non-humid chamber at room temperature.

We advise to deliver the system to your dealer for service every once a year. During the service the system will be checked for operation, safety and any possible wear.

5. Service & Warranty

A certified engineer must do all service to the system. If any service is required you should contact your dealer first. Your dealer will care for any service, modification or repair on the system.

If any services, modifications or repairs are done by the end-user (without permission of the dealer) or another third-party, warranty will void.

Warranty and warranty time is depending on the terms of your dealer.

Warranty also voids on:

- Cable fracture.
- Short circuit (e.a. power input > 230V – 50Hz).
- Water damage.
- Inaccurate use or abuse of the system.
- In case you do not follow the instructions of this manual.

All the specifications, construction specifications, way of act and illustrations in this manual are not strictly. We have the right to make an alternation to the manual without any announcement.

The Inspector® is a product of



Camtronics BV
Ekkersrijt 3209
5692 CG SON

Phone: +31 499 494590
Fax: +31 499 494591
E-mail: info@camtronics.nl
Internet: www.camtronics.nl

Appendix I: USB Interface

Please see for more detailed information the supplied manual on CD.

- Video Digitiser installation instructions
- Video digitiser software manual

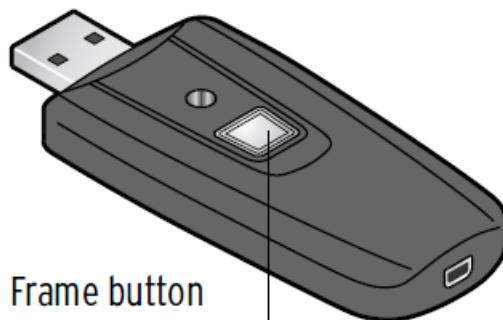
Install the drivers

Insert installation CD and run Autorun.exe

Click **Driver Installation**



Connect the video digitiser



Follow the steps. This will take a few minutes.

Install the program

Click **ShowBiz DVD 3.5**

Accept the license agreement.

Enter a name and enter the license key that is on the cover of the installation CD

Follow the next steps and finally click **finish**.

Close the CD by clicking **EXIT**

You will see a program icon on the windows desktop, which you can use to start the software



Set the video standard

Start the ArcSoft Showbiz software

Click the **Capture** tab.

Set the **video source** at Video Grabber

Click **Device Settings** and set the Video Standard option to PAL_B and confirm with okay.

