



## PTZ Camera Controller

CON100

# Disclaimer, Contact and CE Marking

## Disclaimer

All text, graphics, photographs, trademarks, logos, artwork and computer code (collectively, "Content"), including but not limited to the design, structure, selection, coordination, expression, "look and feel" and arrangement of such Content, contained in this Manual is owned, controlled or licensed by or to Avonic, and is protected by trade dress, copyright, patent and trademark laws, and various other intellectual property rights and unfair competition laws.

Except as expressly provided in these Terms of Use, no Content of this Manual may be copied, reproduced, republished, uploaded, posted, publicly displayed, encoded, translated, transmitted or distributed in any way (including "mirroring") to any other computer, server, Website or other medium for publication or distribution or for any commercial enterprise, without the prior written consent of Avonic.

Copyright © 2022 AVONIC All Rights Reserved.

The information contained in this Manual is subject to change without notice.

## Contact Info

For any questions or suggestions, contact your reseller or local distributor of Avonic.

Visit the Avonic website [www.avonic.com](http://www.avonic.com) to find your local Avonic distributor or to download the most recent version of the documentation.

## Join Avonic on Social Media



[www.Facebook.com/avonicPTZ](http://www.Facebook.com/avonicPTZ)



[www.Linkedin.com/company/avonic](http://www.Linkedin.com/company/avonic)



[www.twitter.com/avonic](http://www.twitter.com/avonic)

## CE Marking

The Product has a CE Marking. The CE labels are placed at the bottom of the Product and on the packaging. See the respective figures below:

Figure 1: CE Marking (Product)




Figure 2: CE Marking (Packaging)



# EU Declaration of Conformity

The Avonic Declaration of Conformity is in accordance with EN ISO/IEC 17050-1 and generated using the ProductIP compliance platform.

**Table 1: EU Declaration of Conformity**

  
AVONIC  
focus on av

**CE DECLARATION OF CONFORMITY**

1. Models No: CM-CON100

2. Brand Name: Avonic

3. Product Name: PTZ Camera Controller


4. Manufacturer: Avonic  
Exportweg 11a  
2645ED Delfgauw  
The Netherlands

3. This declaration of conformity is issued under the sole responsibility of the manufacturer

4. The object of the declaration described in point 1 is in conformity with the EMC2014/30/EU

5. Standards EN 55022:2010  
EN 55024:2010+A1:2015  
EN 61000-3-2:2014  
EN 61000-3-3: 2013

6. Signed for and on behalf of Avonic:  
Delfgauw, 25th of April, 2019



Martijn van Bodegom,  
Product Manager

# Important Information

## Liability

Avonic will NOT be held responsible for any damage or injury caused by unqualified persons carrying out these tasks, or by not following the instructions in this Manual.

## Intended Use and Non-Intended Use

### Installation



The following applies to the *installation* of the CON100:

- The installation activities described in this Manual should ONLY be executed by experienced technicians.
- The installation activities should NOT be executed by minors, mentally disabled persons or other persons not qualified to perform these tasks.





### Operation





The following applies to the *operation* of the CON100:





- The operational activities described in this Manual should ONLY be executed by people with enough technical knowledge to perform the activities in a safe manner.
- This Product is specifically developed for video conferencing / streaming via internet by companies, institutes and universities. It is NOT meant for private use in the residential area.
- This Product should ONLY be used indoors.
- This Product is NOT a medical device and should NOT be used as a substitute for professional medical judgment. It is NOT designed or intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of any condition or disease. Please consult your healthcare provider prior to making any decisions related to your health.

## Important Precautions

|   |  |
|---|--|
|  | The Product is NOT intended for use where failure of the device could lead to death, personal injury, or severe environmental damage.  |
|  | Be sure that you have COMPLETELY READ and UNDERSTOOD ALL information in this Manual before unpacking, installing and using this Product. Keep the Manual in a safe place for future reference or download it from <a href="http://www.avonic.com">www.avonic.com</a> . |
|  | Failure to follow the SAFETY NOTES as described in this chapter could result in fire, electric shock, injury, or damage to the Product or other property.  |
|  | Power the Product ONLY with the included cable and power adapter. Other adapters may not meet applicable safety standards, and could pose a risk of death or injury when connected.  |

## Symbols Used in This Manual

| Symbol  | Meaning          | Description  |
|---|------------------|--|
|  | Danger           | Not following the instructions associated with this symbol may lead to personal injury and / or serious damage to the Product.             |
|  | Electrical Shock | Not following the instructions associated with this symbol may lead to life-threatening situations and / or serious damage to the Product. |

| Symbol  | Meaning     | Description  |
|---|-------------|--|
|  | Important   | The information associated with this symbol requires special attention.                                  |
|  | Information | The information associated with symbol refers to a general remark or a reference to other documentation. |
|  | Instruction | This symbol refers to one or more user instructions.   |
|  | Recycling   | Specific parts of the Product can be re-used.  |

## Acronyms

The following acronyms are used in this Manual:

|              |                                   |
|--------------|-----------------------------------|
| <b>IP</b>    | Internet Protocol                 |
| <b>OSD</b>   | On-Screen Display                 |
| <b>PTZ</b>   | Pan / Tilt / Zoom                 |
| <b>PSU</b>   | Power Supply                      |
| <b>RS232</b> | Recommend Standard 232            |
| <b>RS485</b> | Recommend Standard 485            |
| <b>SKU</b>   | Stock Keeping Unit                |
| <b>VISCA</b> | Video System Control Architecture |

# Contents

---

|   |     |
|---|-----|
| Disclaimer, Contact and CE Marking.....             | ii  |
| EU Declaration of Conformity.....                   | iii |
| Important Information.....                          | iv  |
| Liability.....                                      | iv  |
| Intended Use and Non-Intended Use.....              | iv  |
| Installation.....                                   | iv  |
| Operation.....                                      | iv  |
| Important Precautions.....                          | iv  |
| Symbols Used in This Manual.....                    | iv  |
| Acronyms.....                                       | v   |
| Introduction.....                                   | 8   |
| Purpose of This Manual.....                         | 8   |
| Target Audience.....                                | 8   |
| Document Structure.....                             | 8   |
| Safety.....   | 9   |
| Important Precautions.....                          | 9   |
| Intended Use.....                                   | 9   |
| Handling.....                                       | 9   |
| Installation.....                                   | 9   |
| Ventilation.....                                    | 10  |
| Repair.....   | 10  |
| Power and Adapter.....                              | 10  |
| Atmospheric Conditions.....                         | 10  |
| Product Overview.....                               | 11  |
| Description.....                                    | 11  |
| Features.....                                       | 11  |
| Unpacking.....                                      | 12  |
| Package Contents.....                               | 12  |
| Unpacking the Controller.....                       | 13  |
| Return Procedure.....                               | 13  |
| Installation.....                                   | 14  |
| Connecting a Controller to a Camera.....            | 14  |
| RS-232 Interface.....                               | 15  |
| RS-485 Interface.....                               | 15  |
| IP (Network) Connection.....                        | 15  |
| RS-232 (VISCA) Network Connection.....              | 16  |
| RS-485 Network Connection.....                      | 16  |
| Operation.....                                      | 17  |
| Connections.....                                    | 17  |
| Start.....  | 18  |
| Non-Setup Menu.....                                 | 18  |
| Buttons to control the camera (non-setup menu)..... | 18  |
| PTZ Controls.....                                   | 19  |
| Zoom and Focus.....                                 | 19  |
| SET/ CALL Preset Position.....                      | 19  |
| Delete Preset Position.....                         | 20  |
| How to switch to another camera.....                | 20  |
| Setup Menu.....                                     | 20  |
| Buttons to control the camera (setup menu).....     | 21  |
| 1. Camera Setting.....                              | 21  |

|   |    |
|---|----|
| 2. Time Setting.....                                    | 22 |
| 3. Volume Setting.....                                  | 22 |
| 4. Backlight Setting.....                               | 22 |
| 5. Sleep Setting.....                                   | 22 |
| 6. PIN setting (and what to do if the PIN is lost)..... | 23 |
| 7. Joystick Calibration.....                            | 23 |
| 8. Key Custom.....                                      | 23 |
| 9. Speed Setting.....                                   | 24 |
| 10. Default Setup.....                                  | 24 |
| 11. Information.....                                    | 24 |
| OSD Menu (Camera).....                                  | 25 |
| Buttons to control the OSD menu of the camera.....      | 25 |
| OSD menu instructions.....                              | 25 |
| Maintenance.....  | 26 |
| Maintenance.....  | 26 |
| Usage Precautions.....                                  | 26 |
| Transport and Storage.....                              | 27 |
| Disposal and Recycling.....                             | 28 |
| Troubleshooting.....                                    | 29 |
| General.....  | 29 |
| Power Issues.....                                       | 29 |
| Serial functionality issues.....                        | 29 |

# Introduction

---

## Purpose of This Manual

This Manual describes the safety precautions and the instructions for safe unpackaging, installation, operation, maintenance and disposal of the Avonic CON100.



In this Manual, the Avonic CON100 is referred to as the 'Product'.

## Target Audience

This Manual is developed for installation technicians who install the Product at client sites, and for IT professionals who are responsible for operating the Product.

## Document Structure

The Manual is subdivided into the following *Chapters*:





1. *Introduction*
2. *Safety*
3. *Product Overview*
4. *Unpacking*
5. *Mounting and Installation*
6. *Operation*
7. *Maintenance*
8. *Transport and Storage*
9. *Disposal and Recycling*
10. *Troubleshooting*



# Safety

This chapter contains important safety information regarding the unpacking, installation and use of the camera.

## Important Precautions

|   |  |
|---|--|
|  | The Product is NOT intended for use where failure of the device could lead to death, personal injury, or severe environmental damage.  |
|  | Be sure that you have COMPLETELY READ and UNDERSTOOD ALL information in this Manual before unpacking, installing and using this Product. Keep the Manual in a safe place for future reference or download it from <a href="http://www.avonic.com">www.avonic.com</a> . |
|  | Failure to follow the SAFETY NOTES as described in this chapter could result in fire, electric shock, injury, or damage to the Product or other property.  |
|  | Power the Product ONLY with the included cable and power adapter. Other adapters may not meet applicable safety standards, and could pose a risk of death or injury when connected.  |

## Intended Use



This Product is intended to control the Avonic PTZ cameras. See also section *Intended Use and Non-Intended Use* on page iv for details.

## Handling



To prevent the risk of injury, take the following precautions when handling this Product:

- Handle the Product with care. It is made of metal and plastic and has sensitive electronic components inside.
- The Product can be damaged if dropped, burned, punctured or crushed, or if it comes into contact with liquid.
- If you suspect any damage to the Product, discontinue its use, as it may cause overheating or injury.

## Installation



To prevent the Product from falling down which may cause injuries:

- Set up this Product on a hard, stable surface.
- Ensure the construction is capable of supporting four times the weight of the Product. (See 'General Specifications > Weight product' in the Product Datasheet for the exact weight.)
- Use a safety loop or drop protection that prevents the Product from falling if the construction fails.
- During installation, NEVER install a Product above a person.
- Check the installation at least once a year. An improper construction could cause the unit to fall off, resulting in personal injury.

## Ventilation



To prevent the risk of life-threatening injury or damage to the Product or other property, caused by electric shock or fire hazard due to overheating:

- Maintain adequate ventilation by NOT installing or placing the Product unit in a bookcase, built-in cabinet or any other confined space.
- Ensure that curtains or any other material does NOT obstruct the ventilation.

## Repair



Take the following precautions if the Product should be repaired:

- Don't open this Product and don't attempt to repair it yourself. Disassembling the Product may damage it or may cause injury to you.
- If this Product is damaged, malfunctioning, or if it comes into contact with liquid, contact Avonic or an Avonic Authorized Service Provider.
- Repairs by service providers other than Avonic or an Avonic Authorized Service Provider may not involve the use of Avonic genuine parts and may affect the safety and functionality of the device. *You can find more information about repairs and service at [www.avonic.com](http://www.avonic.com).*

## Power and Adapter



To prevent the risk of life-threatening injury or damage to the Product or other property, caused by electric shock or fire hazard:

- Power this Product ONLY with the included cable and power adapter. Other adapters may not meet the applicable safety standards. They could pose a risk of death or injury when connected.
- Do NOT use damaged cables.
- Do NOT power the Product in a moist / wet environment.
- Before you power the Product, ensure the cable is fully inserted into the power adapter.
- Plug the power adapter directly into a power outlet.
- Do NOT use the power adapter at a moist / wet location.
- Do NOT connect or disconnect the power adapter with wet hands.
- Keep the Product, cable, and power adapter in a dry and well-ventilated area when in use.
- Stop using the power adapter and any cables if any of the following conditions exist:
  - The power adapter plug or prongs are damaged.
  - The cable becomes frayed or otherwise damaged.
  - The power adapter is exposed to excessive moisture, or liquid is spilled into it.
  - The power adapter has been dropped, and its enclosure is damaged.

## Atmospheric Conditions



To prevent the risk of injury or damage to the Product or other property caused by a potentially explosive atmosphere:

- Do NOT use this Product in an area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapors, or particles (such as grain, dust, or metal powders), may be hazardous.
- Exposing this Product to environments having high concentrations of industrial chemicals, including near evaporating liquified gasses such as helium, may damage or impair this Product functionality.
- Obey all signs and instructions.

# Product Overview

## Description

The Avonic CM-CON100 is a compact PTZ camera controller. With this controller it is possible to control up to 255 camera's and using up to 255 presets. The controller supports the Visca, Pelco-D and Pelco-P protocol and can be connected with RS232/485. The Avonic CM-CON100 is therefore compatible with the Avonic camera's as well with other brands that supports these protocols. Switch easily between auto and manual focus, save and load presets, and connect multiple controllers to multiple camera's.



## Features

The Avonic CON100 has the following features:

### Number of Presets

With this compact controller, it is possible to control up to 255 cameras and use up to 255 presets.

### Connection

Easy to connect with RS232 , RS485

### Control

Every setting of the camera can be controlled by accessing the OSD of the camera through the controller. Directly control the camera's Pan, Tilt, Zoom and Focus.

# Unpacking

This describes the contents of a complete Product package, and instructions for safe unpacking and (if necessary) Product return.

It is subdivided into the following sections:

1. Package Contents
2. Unpacking the Controller
3. Return Procedure

## Package Contents

The following tables contains an overview of the package contents of the Product.

| No. | Quantity | Description           | Avonic SKU    |
|-----|----------|-----------------------|---------------|
| 1   | 1 pc     | PTZ Camera Controller | CM-CON100     |
| 2   | 1 pc     | Power Supply          | CM-CON100-PSU |

Each item is visualized below and referenced by the associated number in the table above:

*Figure 3: Package Contents*



## Unpacking the Controller



Execute the following steps to unpack the CON100 and associated components:

1. Open the box.
2. Verify that the contents of the box exactly matches the items as described in [Package Contents](#) on page 12. If this is NOT the case, contact Avonic and stop here.

The CON100 should be in its protective foam as follows:



Figure 4: Controller in Foam

3. Verify that the plastic bag is sealed. If this is NOT the case, contact Avonic and stop here.
4. Break the seal of the sealed bag.
5. Take the CON100 out of the bag.
6. Install the CON100 following the steps as described in the chapter [Installation](#) on page 14

## Return Procedure



If, for any reason, you have to return the camera to Avonic, Execute the following steps:

1. Place the CON100 back in its protective foam.
2. Place the CON100 with *all* of its components in the box.
3. Verify that the contents of the box *exactly* matches the items as described in [Package Contents](#).
4. Contact [Avonic](#) for the Return Procedure.

# Installation

This chapter describes the steps you have to perform to mount and install the Product in a correct and safe manner. The installation of the controller can be done in two ways:

1. Connecting a controller to a Camera
2. via IP (Network) Connection



Take the following precautions to prevent the Product from falling down which may cause injuries:

- Set up this Product on a hard, stable surface.
- Ensure the mounting construction is capable of supporting four times the weight of the Product. (See 'General Specifications > Weight product' in the Product Datasheet for the exact weight.)
- Use a safety loop or drop protection that prevents the Product from falling if the mounting construction fails.
- During installation, NEVER install a Product above a person.
- Check the installation at least once a year. An improper installation could cause the unit to fall off, resulting in personal injury.

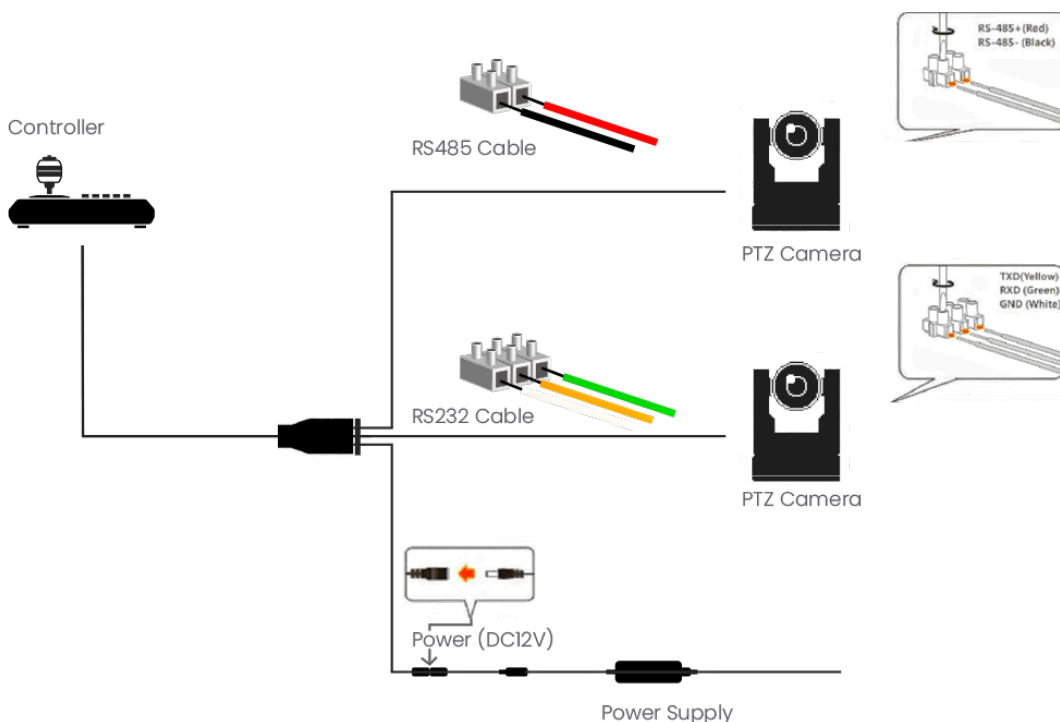
## Connecting a Controller to a Camera

A controller gives you direct control over the most important camera settings (e.g., Pan, Tilt, Zoom, Focus, White Balance). You can access all other settings through the **OSD Menu** of the camera using the controller. The CON100 can be connected via a serial connection to (RS-232, RS-485) to one or two cameras. See below:

The controller has 3 wires:

- Power with female JEITA connector
- RS232 with 3 pin Terminal Strip
- RS485 with 2 pin Terminal Strip

1. Connect the provided PSU cable to the female Jeita connector and the power net.
2. Connect the RS232 and/or RS485 cable to one and/or a second camera. Use for this a Phoenix connector and follow the instructions in [RS-232 Interface](#) on page 15 and/or [RS-485 Interface](#) on page 15. See also the picture below:



## RS-232 Interface

Connect the controller to the back of the camera via the RS-232 cables as shown in the figures below:

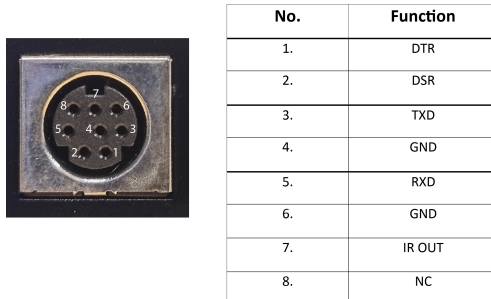


Figure 5: RS-232 Interface (Mini DIN-8)

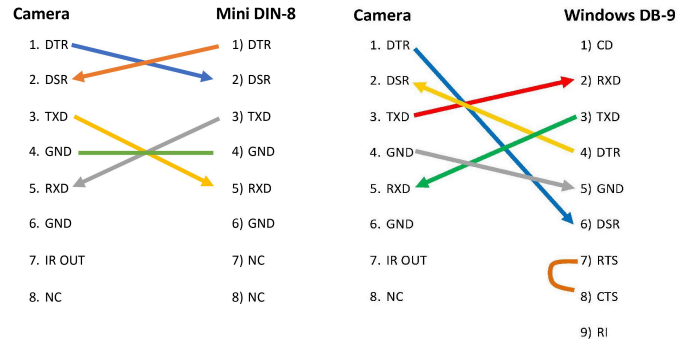
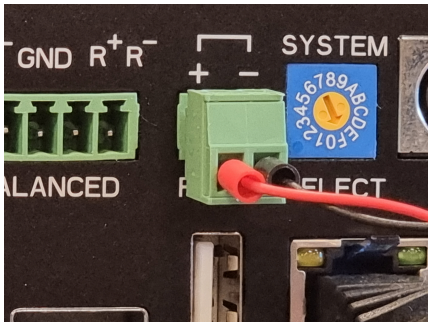


Figure 6: RS-232 Cable and Interface Connection (Mini DIN-8 and Windows DB-9)

## RS-485 Interface

Connect the controller to the + and - at the back of the camera via the RS-485 cables, as shown in the figure below. Note that the color of the connecting cables (red and black in the figure) may vary.



## RS-232 (VISCA) Network Connection

Execute the following steps to connect the controller to the back of the camera(s) via RS-232:

1. Make the connection using *daisy chaining* network architecture.
2. Keep in mind that the maximum cable length for RS-232 is 10-15m.

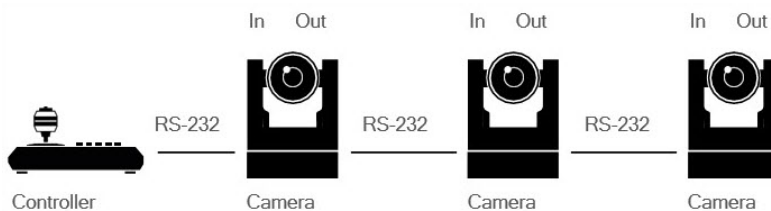


Figure 9: RS-232 Network Connection Diagram

## RS-485 Network Connection



Execute the following steps to connect multiple cameras to RS-485:

1. Attach the cameras to a 2-wire twisted pair bus (maximum length 1200m) that is terminated at both ends with a 120 $\Omega$ -impedance resistor.
2. Ensure that the maximum distance from the bus to the camera or controller is 5m. If you use only ONE camera, the impedance resistor is not needed.

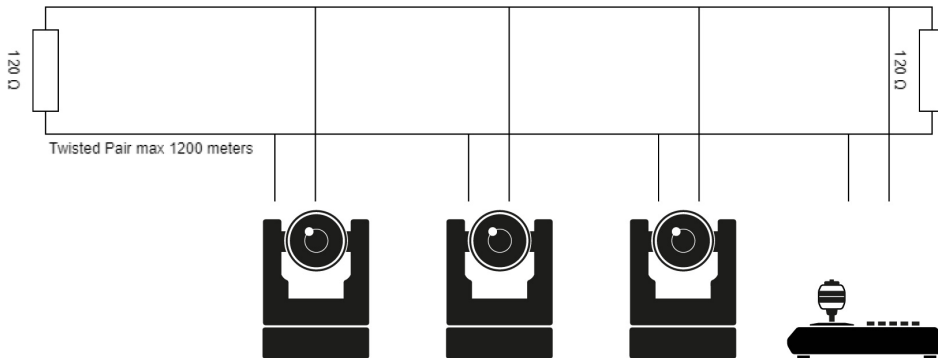


Figure 10: RS-485 Network Connection Diagram



# Operation

This chapter will explain the operation instructions for using the CON100.

## Connections

Before using the CON100 for the first time, the buttons and their functionalities will be explained. See below:



| No. | Name                       | Functionality   |
|-----|----------------------------|---|
| 1.  | <b>OLED Screen</b>         | Displays status of current operation  |
|     | <i>From top to bottom:</i> |   |
| 2.  | <b>CAMERA</b>              | Switch camera's   |
|     | <b>CALL</b>                | Call a preset   |
|     | <b>SETUP</b>               | Change keyboard settings  |
|     | <b>SET</b>                 | Set or delete a preset  |
|     | <b>PATTERN</b>             | No Functionality *  |
|     | <b>CRUISE</b>              | No Functionality *  |
|     | <b>F1, F2</b>              | Switch autofocus/ manual focus  |
|     | <b>SHIFT</b>               | Extension key for special functions   |
| 3.  | <b>ESC</b>                 | EXIT / delete a wrong insert in Setup Menu                                  |
| 4.  | <b>Number Buttons</b>      | Input numbers for the use of SET/CALL functionality, Camera ID and address. |
| 5.  | <b>ENT(er)</b>             | Confirm menu settings   |
| 6.  | <b>OPEN</b>                | Actives IRIS open of the camera/ Confirm button in OSD menu                 |
| 7.  | <b>CLOSE</b>               | Close IRIS of the camera  |
| 8.  | <b>Status Display area</b> | No functionality. Only lights on the display will go ON and OFF             |
| 9.  | <b>MENU</b>                | Enter camera (OSD) menu   |
| 10. | <b>Joystick</b>            | Pan, Tilt, Zoom and Focus   |
|     | <b>Joystick Button</b>     | Switch Zoom/ Focus  |



\* Although these buttons have no functionality, it is sometimes possible to use them for making presets. However, it can not be guaranteed that it will work always.

## Start

If you have connected the cables to your camera (see previous chapter) the CON100 will start automatically. When the CON100 is for the first time ON, you will see that it will display the User PIN.



1. Press to fill in the pin. The initial pin is "111111".

**Pin Error:** When "USER PIN: ERROR" shows on screen, it indicates wrong pin was set. Enter correct pin to go to the next step.

**Pin Correct:** Screen shows "1" camera icon and default camera number. If there is no operation, after 5 seconds the screen will display the current time. If still no operations, the controller will enter sleepmode (30sec, 1min, 5min, 10min, 30 min or 60 min.)











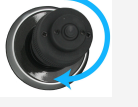
After the PIN is correctly entered, you can operate the CON100. The CON100 has three different "Menu's":

- **Non-Setup menu:** to control a camera while filming.
- **Setup menu:** to change the settings of the CON100.
- **OSD menu:** to control and change the camera settings itself.

## Non-Setup Menu

### Buttons to control the camera (non-setup menu)

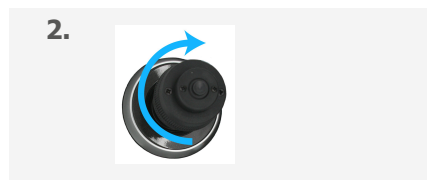
The following buttons and button combinations can be used to control the camera in *Non Setup Menu*:

| Functionality         | Buttons   |
|-----------------------|---|
| Call a preset         |   |
| Set a preset          |   |
| Delete a preset       |   |
| Switch camera's       |   |
| Pan, Tilt             |    |
| Zoom Tele, Focus Far  |    |
| Zoom wide, Focus Near |    |

| Functionality                 | Buttons |
|-------------------------------|---------|
| Switch between Zoom and Focus |         |
| Autofocus                     |         |
| Manual Focus                  |         |
| Iris Open                     |         |
| Iris Close                    |         |

## PTZ Controls

Move the Joystick up, down, left and right **(1)** to control the camera. Turn the joystick clockwise to zoom in **(2)** and anti-clockwise to zoom out **(3)**. The button on the joystick is for switching between zoom and focus. See pictures below:



## Zoom and Focus

It is possible to switch to Focus mode in two different ways: Using the Joystick button (see picture 3 above), or using the F2 button.

- 1. Press F2 to switch to Focus mode and twist the joystick left and right to focus.
- 2. Press F1 to switch back to Zoom mode. Note that you need to twist the joystick again to autofocus the camera and zoom out.

## SET/ CALL Preset Position

With the CON100 it is possible to set the camera in a desired position as a preset. You can call that preset when you need it.

- Follow the instructions below to **Set a Preset:**

1. Move the joystick to set the camera in the desired position.
2. Press short number 1 button (or another number button between 0 - 255).
3. Press short the *SET* button to set the preset.



Follow the instructions below to **Call a Preset:**

1. Press number 1 button (or another number button between 0 - 255).
2. Press the to call the preset. The camera moves automatically to the position of that preset number.



Note also that it is possible to easily confuse the Preset/ CALL functionality with setting up camera (protocol) Address and ID number! Keep in mind in which feature and menu you are.

## Delete Preset Position



To delete a preset do the following:

1. Press the number button of the preset you want to delete
2. Wait until the camera moves to the position of that preset number.
3. Press again the number button of the preset you want to delete.
4. Press long the *SET* button.
5. **[CLR PRESET:]** shows shortly on the screen of the controller.
6. The Preset is now deleted and empty.

## How to switch to another camera



See Setup Menu how to set an ID for your camera, if you have multiple camera's to control with the CON100.



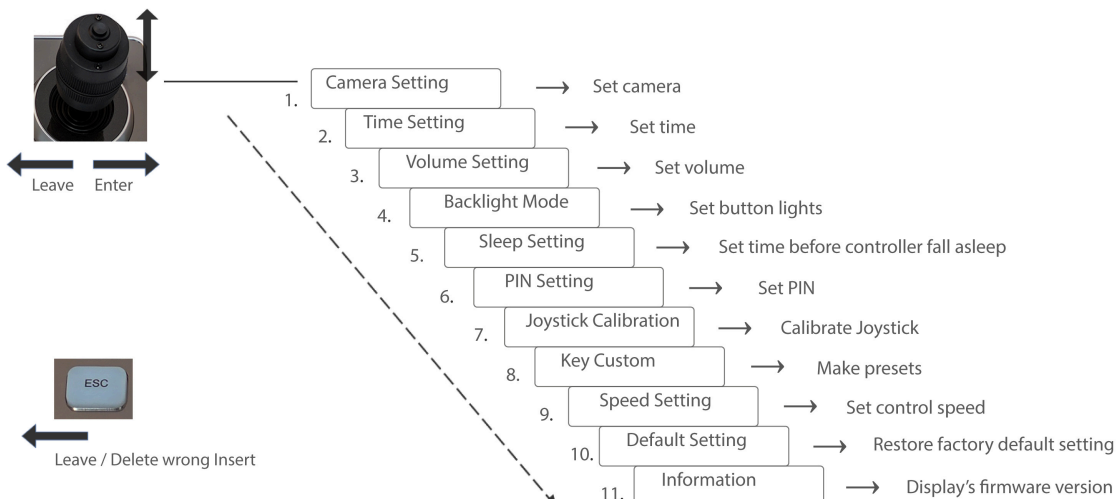
Follow the instructions below:

1. Press in the NON-Setup Menu camera number
2. Press the *Camera button*

## Setup Menu











1. Press *Setup* to enter the Setup menu. Fill in the "ADMIN PIN". The initial ADMIN PIN is "111111".
2. The camera setting screen shows up. Use the *joystick up and down* to scroll through the menu.
3. Move the *stick to the right* to enter the menu features and move the *joystick to the left* to leave the menu features.
4. It is also possible to use the *Escape button* to leave a menu feature, or delete a wrong insert.



## Buttons to control the camera (setup menu)

The following buttons and button combinations can be used to control the camera in Setup Menu:

| Functionality                           | Button  |
|---|---|
| Enter Setup Menu                        |    |
| Enter Sub Menu                          |    |
| Leave (Setup) Menu                      |    |
| Leave/ Delete wrong insert              |    |
| Scroll through Menu or settings         |   |
| Switch between settings                 |  |
| Confirm setting                         |  |
| Special functions / Enter extra setting |  |

### 1. Camera Setting

| Setting                 | Functionality   |
|-------------------------|---|
| <b>Camera ID</b>        | Sets unique Camera Identification number  |
| <b>Protocol Setting</b> | Sets camera control protocol  |
| <b>Baud Rate</b>        | Sets the rate at which information is send between controller and camera  |
| <b>Address</b>          | Sets a specific (protocol) address for a camera.  |
| <b>Increment</b>        | Batches program camera's in the system with the same baudrate, protocol for multiple camera's. So you can control multiple camera's at the same time. |



Follow the instructions below:

1. Move the *joystick to the right* to enter the Camera Setting menu. The camera ID screen appears. This will set the Camera ID. Press 1 - 255 to set the ID and press the *Enter* to confirm.
2. Move the *joystick up/down* to change the protocol setting (VISCA, VISCA DC, PELCO D, PELCO P) and press *Enter* to confirm.
3. Move the *joystick up/down* to change Baud Rate (2400, 4800, 9600, 19200, 38400), press *Enter*.
4. Use the *number buttons* to press a number to address the camera. Standard this is "1", but you can set it between 1 - 255.
5. After you set the Camera Address, press *SHIFT* to enter the increment menu. Input a number within 1~20, press *Enter* to confirm.

## 2. Time Setting

|              |   |                           |
|--------------|---|---------------------------|
| Time Setting | - | Hours / Minutes / Seconds |
|--------------|---|---------------------------|



1. Move the joystick down and right to enter the Time Setting menu.
2. Move the *joystick up/ down* to change the numbers and move the *joystick to the right* to change hours, minutes and seconds.
3. Press *Enter* to save the time.

## 3. Volume Setting

|                |   |       |
|----------------|---|-------|
| Volume Setting | - | 0 - 6 |
|                | - | OFF   |



1. Move the joystick up to increase and down to decrease the volume (0 - 6), or set it OFF.
2. Press *Enter* to save the volume.

## 4. Backlight Setting

|                   |   |      |
|-------------------|---|------|
| Backlight Setting | - | AUTO |
|                   | - | ON   |
|                   | - | OFF  |

The backlight setting will lighten the buttons of the CON100 to help to see the buttons in dark area's.



1. Move the *Joystick up/down* to change the backlight setting and press *Enter* to save the setting.

## 5. Sleep Setting

|               |   |                              |
|---------------|---|------------------------------|
| Sleep Setting | - | OFF                          |
|               | - | 30 seconds                   |
|               | - | 1 / 5 / 10 / 30 / 60 Minutes |



The sleep setting will set the time before the CON100 will fall asleep.

1. Move the *Joystick up and down* to change the time (Off, 30 seconds, 1 minute, 5 minutes, 10 minutes, 30 and 60 minutes).
2. Press *Enter* to save the time.
3. Press a (random) button or move the joystick to make the CON100 active again.

## 6. PIN setting (and what to do if the PIN is lost)

|             |   |       |
|-------------|---|-------|
| PIN Setting | - | USER  |
|             | - | ADMIN |



This will set the PIN.

1. Move the *Joystick up/down* to change between the USER or the ADMIN (administrator).
2. Press *Enter* to save.
3. The controller now asks for the old PIN. Type the old PIN by using the number buttons and press *Enter* to confirm. If you do this for the first time, see the *initial PIN* (old PIN).
4. Enter now the new PIN and confirm this by pressing *Enter*.



- If the PIN has been changed and is lost, use the following mastercode to regain access to the CON100: **7 8 8 9 6**
- In **non-setup menu**, quickly lock function can be realized by simply pressing *SHIFT + ENT*. "USER PIN" or "ADMIN PIN" is required for operating the controller again.

## 7. Joystick Calibration

After a long time of use the joystick may need calibration. See the table below how to do it.

| Functionality      | Operation   |
|--------------------|---|
| <b>Pan Left</b>    | Move the <i>Joystick left</i> to the limit and press <i>Enter</i> at the same time.   |
| <b>Pan Right</b>   | Move the <i>Joystick right</i> to the limit and press <i>Enter</i> at the same time.  |
| <b>Tilt Up</b>     | Move the <i>Joystick up</i> to the limit and press <i>Enter</i> at the same time.   |
| <b>Tilt Down</b>   | Move the <i>Joystick down</i> to the limit and press <i>Enter</i> at the same time.   |
| <b>Zoom Tele</b>   | Twist the <i>Joystick clockwise</i> to the limit and press <i>Enter</i> at the same time.                                   |
| <b>Zoom Wide</b>   | Twist the <i>Joystick anti-clockwise</i> to the limit and press <i>Enter</i> at the same time.                              |
| <b>Free State</b>  | Press <i>Enter</i> to confirm.  |
| <b>Save/Cancel</b> | Move <i>Joystick left and right</i> to switch between <b>SAVE</b> and <b>CANCEL</b> . Press <i>Enter</i> to save or cancel. |

## 8. Key Custom

Key custom is used to make extra presets for the controller next to the *SET/CALL* function.



**It is recommend to use the SET/CALL functionality for making presets. This function will ONLY work sometimes and in some cases! You can also NOT make Patterns or use the Cruise functionality with the CON100!**





Follow the instructions below:

1. Move in **NON-Setup Menu** the joystick to set the camera in the desired position.
2. Move in Setup Menu to Key Custom and open the menu. Screen Menu preset shows up.
3. Press PATTERN, CRUISE or MENU Button (see picture above). The corresponding Menu opens.
4. Press the preset number (0-255) to set and press *Enter* to confirm. Press *ESC* if you pressed the wrong number.
5. Screen Changed to: appears. Move the *joystick to the left* to leave the menu.
6. In **Non-Setup Menu** press the number you just made a preset for and press Pattern, Cruise or Menu button. The camera will automatically move in the desired position.



- Do not make a preset with the same number using the SET button and the PATTERN, CRUISE or MENU button! It is possible that the preset made using the PATTERN, CRUISE or MENU button will be overridden by the CON100 and will not work. For a correct functionality of the presets, stick always to 255 presets and do not make, for example, two presets number 2, 3, 4, 5 etc!
- It is also possible to easily confuse the preset functionality with setting up camera (protocol ) *Address and ID number!* Keep always in mind in which feature and menu you are.

## 9. Speed Setting

|               |   |        |
|---------------|---|--------|
| Speed Setting | - | Low    |
|               | - | Middle |
|               | - | High   |

Speed Setting sets the speed to which the camera will respond when you move the camera by using the joystick.



1. Move the *Joystick up and down* to change the setting between Low, Middle and High. Press *Enter* to save the setting.

## 10. Default Setup

|               |   |       |    |
|---------------|---|-------|----|
| Default Setup | - | <YES> | NO |
|---------------|---|-------|----|

Restores the Keyboard setting to factory Default.



Follow the instructions below:

1. Move the *Joystick to the right* to open the Default Setup.
2. Move the *Joystick left and right* to change between YES or NO.
3. Press *Enter* to save the setting.

## 11. Information

|             |   |         |
|-------------|---|---------|
| Information | - | VERSION |
|-------------|---|---------|

The information display shows the firmware version number.



1. Move the *Joystick to the right* to open the menu.

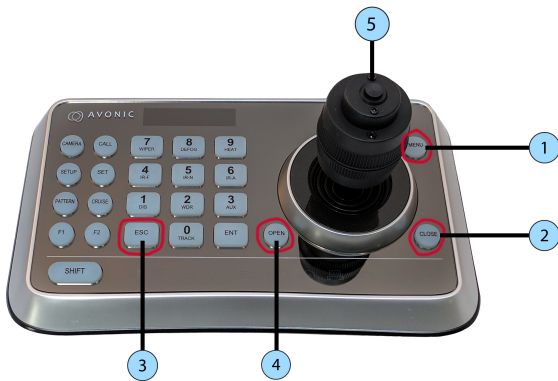


## OSD Menu (Camera)

The CON100 can be used to navigate through the OSD menu of the camera in order to make changes to the settings of the camera.



You can download the camera manual on the [Avonic website](#) to read about the functionality of the OSD menu. If you are using a third party camera, please refer to the manual of that third party camera.



### Buttons to control the OSD menu of the camera

The following buttons and button combinations can be used to control the OSD menu of the camera:

| Number | Functionality   | Button   |
|--------|---|----------|
| 1      | Enter OSD menu of the camera  |          |
| 2      | Close Menu Feature or entire OSD menu                                   |          |
| 3      | Close the (entire) OSD menu   |          |
| 4      | Enter a Menu Feature in the OSD menu                                    |          |
| 5      | Scroll up and down through menu features<br><br>Switch between settings | <br><br> |

### OSD menu instructions



Follow the instructions below to navigate through the OSD menu:

1. Press the *Menu* button to open the OSD Menu.
2. Move the *Joystick up and down* to scroll through the menu.
3. Press *OPEN* to enter a menu feature.
4. Move the *Joystick left and right* to change the settings within a menu feature.
5. Press *CLOSE* to leave a Menu Feature.
6. Press *ESC* to leave the OSD menu itself.

# Maintenance

---

## Maintenance



Take the following actions to maintain the CON100:

- If you will not be using the CON100 for a long time, disconnect the AC powercord of the AC adaptor to the outlet.
- Use a soft cloth or tissue to clean the camera cover.
- Please use the soft dry cloth to clean the lens. If the CON100 is very dirty, clean it with diluted neutral detergent.



**Do not use any type of solvents, which may damage the surface.**

## Usage Precautions



Take the following precautions:

- Do not operate close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

## Transport and Storage

---

The CON100 must be transported in its original packaging box. Inside the box, it is recommended to wrap the CON100 in the original plastic bag and to place it in the protective foam.

Specific guidelines apply to the environmental temperature and humidity when operating and storing the CON100.



See '*Operating humidity*' and '*Storage temperature*' in the provided *Datasheet* for the applicable values.

## Disposal and Recycling

---

In general, the term 'E-Waste' applies to items of all types of electrical and electronic equipment and its parts that have been discarded by the owner as waste without the intention of re-use.

Avonic outsources the disposal and recycling of its E-Waste camera materials to the **Stichting Open**.



See <https://stichting-open.org/> for more information about the disposal and recycling.

# Troubleshooting

---

## General



1. Turn the CON100 off and on again and check if the problem persists.
2. If it does, restore to the factory default.

## Power Issues



No display and no button lights:

1. Check the net power.
2. Check the power supply.

## Serial functionality issues

Cannot control the camera (controller is not responding):

- Check serial cable(s) and the RJ45 termination.
- Reset to factory default.



PTZ Camera Controller  
CON100  
Version 1.2  
© March 2022

Exportweg 11a  
2645 ED Delfgauw  
The Netherlands  
+31(0)15 7112 712

[info@avonic.com](mailto:info@avonic.com)  
[www.avonic.com](http://www.avonic.com)