

USER MANUAL



PTZ Camera Controller CM-CON100

DISCLAIMER, CONTACT AND MARKINGS

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Markings

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

Figure 1: Markings (Product)



Figure 2: Markings (Packaging)



CE DECLARATION OF CONFORMITY

Table 1: CE Declaration of Conformity

 AVONIC	
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 www.avonic.com .
	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.
	Important	The information associated with this symbol requires special attention.

Symbol	Meaning	Description
	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:

JEITA connector	Japan Electronics and Information Technology Industries Association	A "JEITA Connector" refers to a connector that adheres to the specifications set forth by JEITA for a particular type of electronic or electrical connection. JEITA connectors can cover a wide range of applications, including audio/video connectors, power connectors, data connectors, and more. These connectors are designed to ensure compatibility, safety, and reliability in electronic devices and systems.
OSD	On-Screen Display	Display menu that appears on your monitor screen when the camera is connected to IP, SDI or HDMI.
PTZ	Pan / Tilt / Zoom	Directions to which the lens moves: Pan (horizontal), Tilt (vertical) and Zoom (magnify objects on large distance).
PSU	Power Supply	Power adapter of the controller.
RS232	Recommend Standard 232	Communication protocol used for serial communication between devices.
RS485	Recommend Standard 485	Communication protocol used for serial communication between devices over long distances. It is an extension of the RS-232 protocol and is designed to overcome the limitations of RS-232, such as limited range and susceptibility to noise.
SKU	Stock Keeping Unit	Stock keeping unit used by Avonic. Every camera has a unique SKU with AV-CM (Avonic Camera).

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INTRODUCTION

Purpose of This Manual

The purpose of this manual is to provide safety instructions and guidelines for the proper unpacking, installation, operation, maintenance, and disposal of the Avonic CM-CON100.



In this Manual, the Avonic CM-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

The following appendices are added to this manual:

- Appendix A - Datasheet Specifications

SAFETY INSTRUCTIONS

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 www.avonic.com .
	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.

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 chapter provides 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



Power Adapter Usage



* Use only the Power Adapter "Switching Power Supply" of GME Technology (Shenzhen) Co., Ltd in combination with the CON100. Using another Power Adapter may lead to injury and/or damage to the product. See the picture of the Power Adapter label below:



Figure 4: Power Adapter label

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 5: 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 outlines 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:

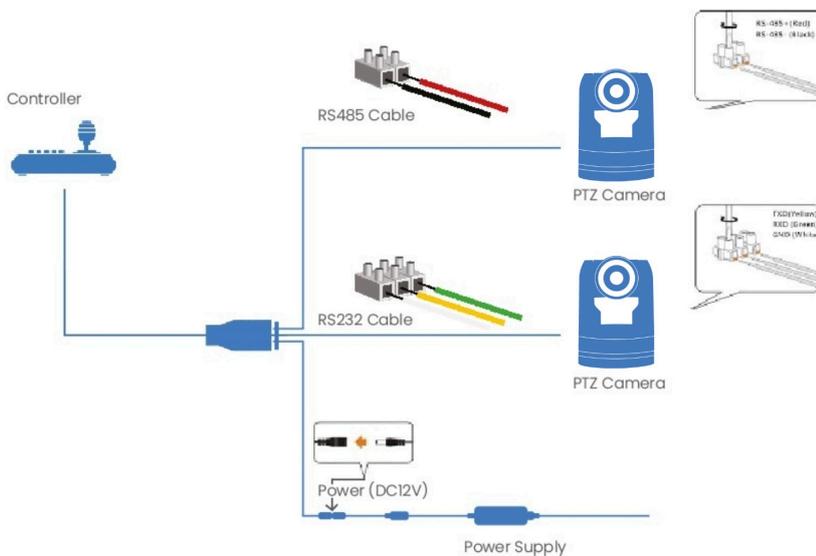
- Set up this Product on a hard, stable surface.
- Ensure the mounting construction is capable of supporting four times the weight of the Product. (See 'General Specifications > Weight product' in the Product Datasheet for the exact weight.)
- Use a safety loop or drop protection that prevents the Product 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 14 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 RS-232 cables as shown in the figures below:



No.	Function
1.	DTR
2.	DSR
3.	TXD
4.	GND
5.	RXD
6.	GND
7.	IR OUT
8.	NC

Figure 6: RS-232 Interface (Mini DIN-8)

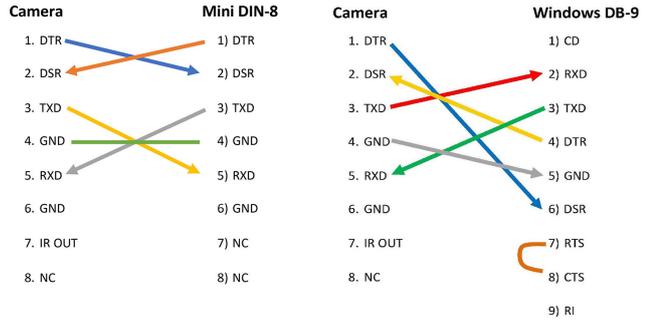


Figure 7: RS-232 Cable and Interface Connection (Mini DIN-8 and Windows DB-9)

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. The color of the connecting cables (red and black) may vary.

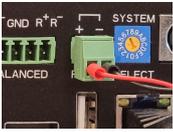


Figure 8: RS-485 Interface

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.

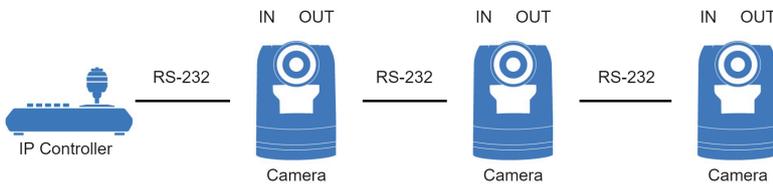


Figure 9: RS-232 Network Connection Diagram

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 120Ω-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.

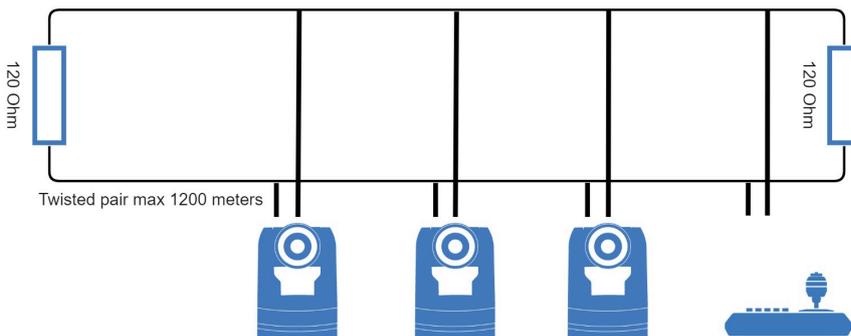


Figure 10: RS-485 Network Connection Diagram

OPERATION

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

Connections

Prior to the initial use of the CON100, an explanation of the buttons and their respective functions will be provided. See below:



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



* While these buttons do not have any designated functionality, they may occasionally be used for creating presets. However, it cannot be guaranteed that this method will work consistently.

Start

Once you have connected the cables to your camera as described in the previous chapter, the CON100 will start automatically. Upon the CON100 is started for the first time, the User PIN will be displayed on the screen.



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. Type the correct pin to enter 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 sleep mode (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":

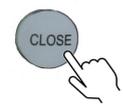
- **Non-Setup menu:** to control a camera while filming.
- **Setup menu:** to change the settings of the CON100.
- **OSD menu:** to control and change the camera settings itself.

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	

Functionality	Buttons
Zoom wide, Focus Near	
Switch between Zoom and Focus	
Autofocus	
Manual Focus	
Iris Open	
Iris Close	

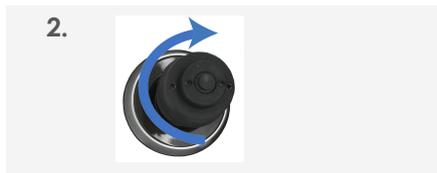
PTZ Controls

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:

1.



2.



3.



Zoom and Focus

There are two ways to switch to Focus mode: either by pressing the Joystick button (as shown in the picture above), or by pressing 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. 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 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 in the position of that preset number.



It is important to be aware that the Preset/CALL functionality should not be confused with the process of setting up the camera's protocol address and ID number. It is recommended to always pay attention to the current feature and menu being used to avoid any confusion.

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.



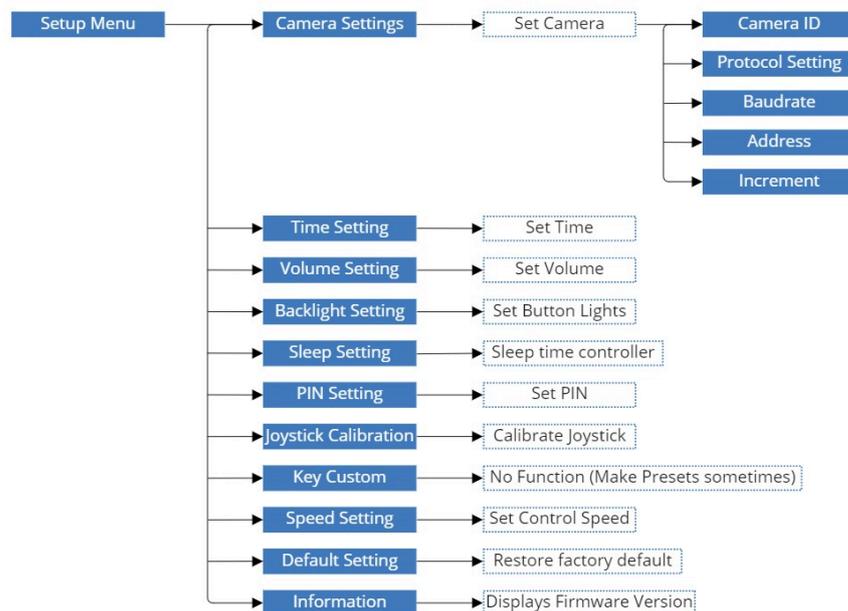
Follow instructions below:

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

CAMERA SETTING



Camera ID
Protocol Setting
Baudrate
Address
Increment

Unique Camera Identification number (use number buttons)

VISCA / VISCA DC / PELCO-D / PELCO-P
2400 / 4800 / 9600 / 19200 / 38400

A specific (protocol) address for a camera (use number buttons)

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 (use number buttons)



Select Item
Change Value

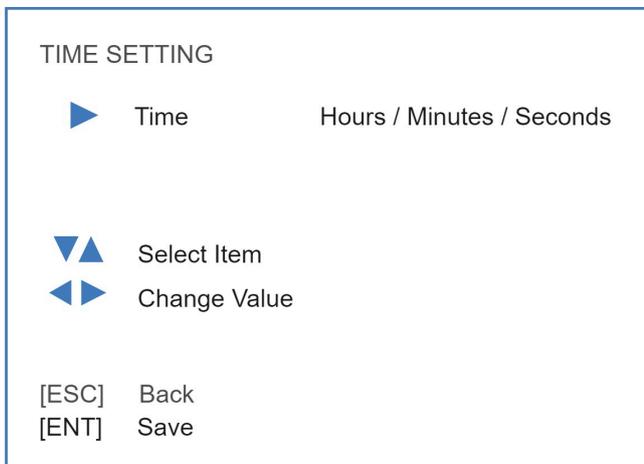
[ESC] Back
[ENT] Save



Follow instructions below:

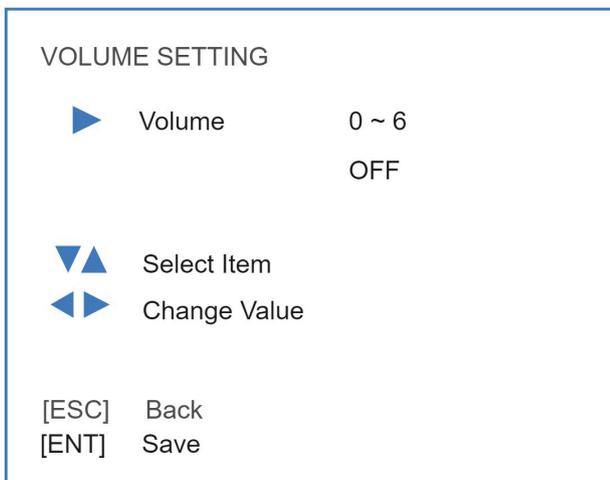
1. Move the **joystick to the right** to enter the Camera Setting menu. The camera ID screen appears. This will set the Camera ID. Press 1 - 255 to set the ID and press the **Enter** to confirm.
2. Move the **joystick up/down** to change the protocol setting (VISCA, VISCA DC, PELCO D, PELCO P) and press **Enter** to confirm.
3. Move the **joystick up/down** to change Baud Rate, press **Enter**. Sets the rate at which information is send between controller and camera.
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. Sets a specific (protocol) address for a camera.
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



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



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

4. Backlight Setting

BACKLIGHT SETTING

▶ BACKLIGHT Auto
 ON / OFF

▼▲ Select Item

◀▶ Change Value

[ESC] Back
[ENT] Save

The backlight setting will lighten the buttons of the CON100 to make the buttons visible in dark environments.



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

5. Sleep Setting

SLEEP SETTING

▶ Sleep OFF
 30 seconds
 1 / 5 / 10 / 30 / 60 minutes

▼▲ Select Item

◀▶ Change Value

[ESC] Back
[ENT] Save



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

▶ PIN User
 Admin

▼▲ Select Item

◀▶ Change Value

[ESC] Back
[ENT] Save



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: **778896**
- In the **non-setup menu**, you can easily lock the controller by pressing SHIFT + ENT. To operate the controller again, you will need to enter either the "USER PIN" or "ADMIN PIN".

7. Joystick Calibration

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

JOYSTICK CALIBRATION

▶ Joystick PAN Left / Right
 TILT Up / Down
 Zoom Tele / Wide
 Free State
 Save / Cancel

▼▲ Select Item
 ◀▶ Change Value

[ESC] Back
 [ENT] Save

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

8. Key Custom

This feature has **NO FUNCTION** in this controller! However, it is possible to make occasionally some Presets next to the SET/CALL functionality.



We recommend using the SET/CALL functionality to create presets. Patterns cannot be created, and the Cruise functionality cannot be used.



If you still wish to use this feature, please follow 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. To activate the preset for a specific number in the Non-Setup Menu, press the corresponding number and then press either the Pattern, Cruise, or Menu button. The camera will then move to the desired position automatically.



- 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

▶ SPEED Low
 Middle
 High

▼▲ Select Item

◀▶ Change Value

[ESC] Back

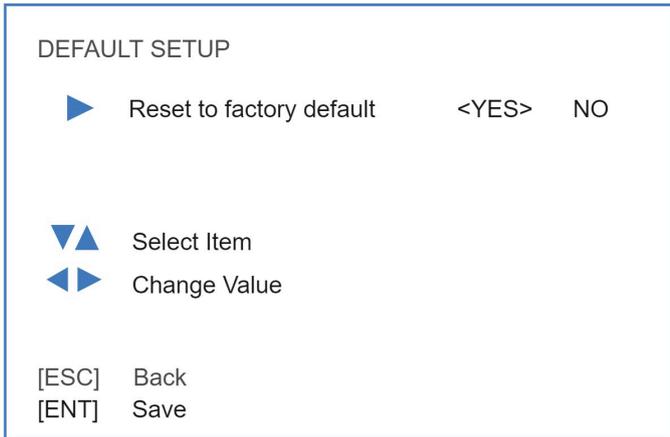
[ENT] Save

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



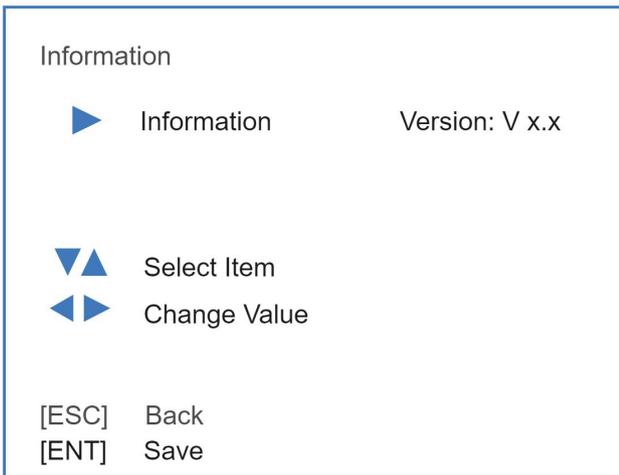
Restores the Keyboard setting to factory Default.



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



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	
	Switch between settings	

OSD menu instructions



Follow 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 use the CON100 for a long time, disconnect the AC powercord of the AC adaptor to the outlet.
- Use a soft (dry) 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

Specific guidelines apply for transportation and storage of the CON100. Follow the guidelines below:



Transport:

1. The CON100 needs protection against vibration and shock. Ensure that the CON100 cannot move inside its box and inside the transportation vehicle. Ensure also that the box is properly sealed.
2. Avonic's address and/or the address of the local distributor should be clearly visible on the package.
3. Keep the transportation vehicle dry and maintain the temperate and humidity when transporting the CON100. See '**Operating humidity**' and '**Storage temperature**' in the provided **Datasheet** for the applicable values.



Storage:

1. Maintain adequate ventilation in your storage room and ensure that any (other) materials does not obstruct the ventilation.
2. Do NOT store the CON100 in a storage room together with (highly) flammable materials or where the air contains such chemicals.
3. Ensure that the CON100 has protection against vibration and shock inside the storage room and cannot move or fall of.
4. Keep the storage room dry and maintain the temperate and humidity when 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' or 'Waste of Electrical and Electronic Equipment' 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.



E-Waste, like the CON100 controller and **ALL** of its accessories, needs to be disposed **separately** from normal waste. See the symbol below that can be found on the product and package label:



Avonic is NOT responsible for personal data left in the settings of the controller as far as this is possible (like user names, passwords etc.) **Delete** personal data **BEFORE** you send the controller back to Avonic!



Send the controller and all its accessories to [Avonic](#) or your **local distributor**. See [Package Contents](#) to see what you have to send back. Follow the instructions from the [Return Procedure](#).

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

APPENDIX A - DATASHEET SPECIFICATIONS

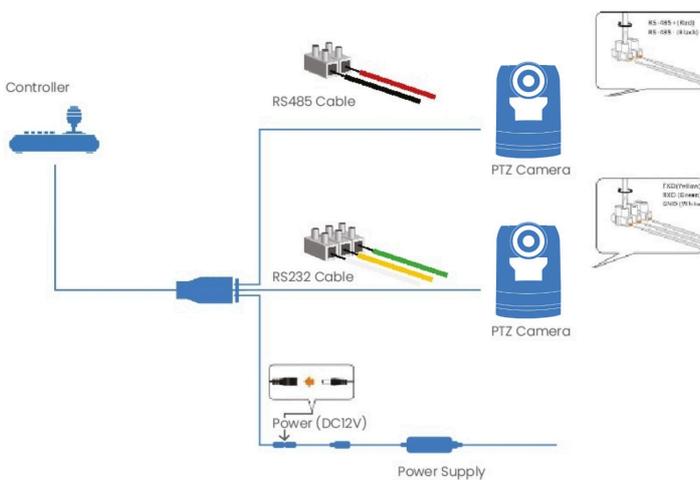
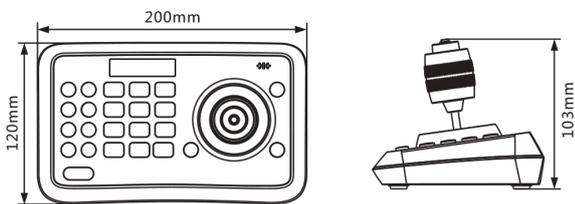
SPECIFICATIONS

Controller

Interface	RS-485 & RS-232
Baud rates	2400BPS, 4800BPS, 9600BPS, 19200BPS, 38400BPS
Protocol	PELCO-D, PELCO-P, VISCA
Number of cameras	UP TO 255
Number of presets	255
Joystick	4-AXIS: PAN/TILT/ZOOM/FOCUS
Display	OLED
Key Backlight Modes	LIGHT SENSOR, ON, OFF
Security	PIN CODE; ADMIN & USER
Speed settings	HIGH, MIDDLE, LOW
Adjustment functions	PAN/TILT, ZOOM, FOCUS

General Specifications

Input voltage	DC12V
Power consumption	< 2W
Power supply	12V0.5A
Power connector	EIAJ-3 - PHILMORE 275 PLUG
Operating temperature	0°C ~ +40°C
Storage temperature	-20°C ~ +50°C
Operating humidity	≤90% (NON-CONDENSATION)
Color	Black
Dimensions product	20 X 12 X 10.3 CM
Weight product	0.5 KG
Dimensions box WxHxD (mm)	24 X 16.5 X 13.5 CM
Weight box	0.5 KG
Included	CM-CON100, PSU



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PTZ Camera Controller
CM-CON100

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