

TVH system and product overview

Wired basic sets:

TVH2402 (3CH, Single-View)

Including:

- MC0201
- CC0101
- 15m cable



Monitor			
Size:	7 inch	Contrast:	600:1
Resolution:	1024 x 600	Operating Voltage:	10-32 VDC
Channels:	3	Working Temperature:	20°C to 70°C
Brightness:	600cd/m²	Video Format:	AHD 1080p/AHD 720p/CVBS

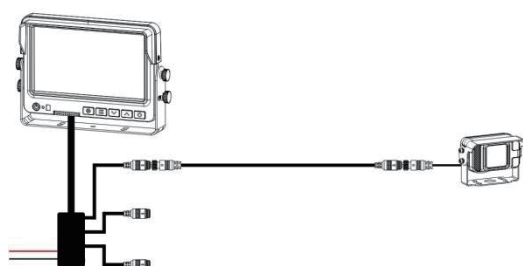
Camera			
Resolution:	1920x1080	Field of View (FOV):	120° (D) x 105° (H) x 60° (V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.4.6 W
Sensor size:	1/2.9inch	Operating Temperature:	-30° C - +70° C
Frame rate:	25/30fps	Storage Temperature:	-40° C - +80° C
Focal Length:	2.8 mm	Image Mode:	Normal / Mirror - Switch
Aperture:	f/2.3	Dimensions:	109 mm x 76 mm x 72 mm
Night Vision Distance:	10-15m		

The TVH2402 is a basic automotive rear view system with up to 3 camera channels. One camera image can be shown at a time. Camera channels can be changed by hand or automatically by trigger wires connected to the reversing signal for example. The system configuration is very simple and preset to fit most applications. It contains everything needed to equip simple vehicles and can be expanded with other TVH products.

Application example:



Connection diagram:



TVH2401 (4CH, Quad-View, DVR)

Including:

- MC0101
- CC0101
- 15m cable



Monitor			
Size:	7 inch	Contrast:	600:1
Resolution:	1024 x 600	Operating Voltage:	10-32 VDC
Channels:	4	Working Temperature:	-20°C to 70°C
Brightness:	600cd/m²	Video Format:	AHD 1080p/AHD 720p/CVBS

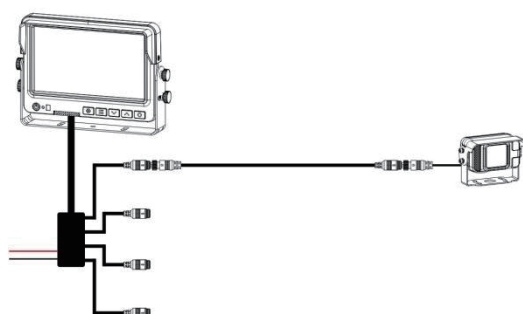
Camera			
Resolution:	1920x1080	Field of View (FOV):	120° (D) x 105° (H) x 60° (V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.4.6 W
Sensor size:	1/2.9inch	Operating Temperature:	-30° C - +70° C
Frame rate:	25/30fps	Storage Temperature:	-40° C - +80° C
Focal Length:	2.8 mm	Image Mode:	Normal / Mirror - Switch
Aperture:	f/2.3	Dimensions:	109 mm x 76 mm x 72 mm
Night Vision Distance:	10-15m		

The TVH2401 is a automotive rear view system with up to 4 camera channels, Quad-View (multiple cameras can be shown on the screen simultaneously) and recording function (DVR). Camera channels can be changed by hand or automatically by trigger wires connected to the reversing signal for example. It contains everything needed to equip simple vehicles and can be expanded with other TVH products.

Application example:



Connection diagram:



Cameras:

The basic systems can be expanded by additional cameras based on the number of free channels.

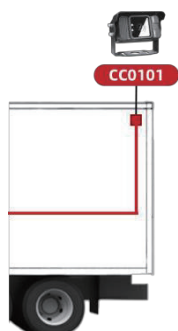
CC0101 (standard camera)



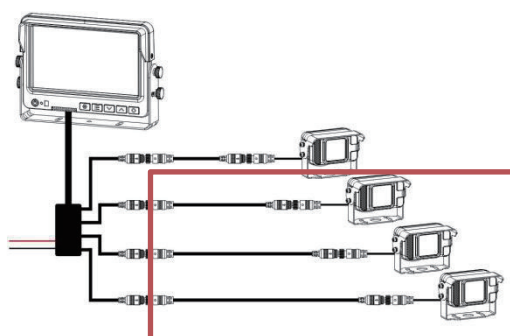
Resolution:	1920x1080	Field of View (FOV):	120° (D) x 105° (H) x 60° (V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.4.6 W
Sensor size:	1/2.9inch	Operating Temperature:	-30° C - +70° C
Frame rate:	25/30fps	Storage Temperature:	-40° C - +80° C
Focal Length:	2.8 mm	Image Mode:	Normal / Mirror - Switch
Aperture:	f/2.3	Dimensions:	109 mm x 76 mm x 72 mm
Night Vision Distance:	10-15m		

CC0101 is a standard camera fitting for most applications like rear view camera, cargo camera or inside agricultural vehicles to observe its functionality. It is designed to withstand harsh environmental conditions. As rear view camera a top mounting position is recommended.

Application example:



Connection diagram:



CC0102 (wide angle camera)



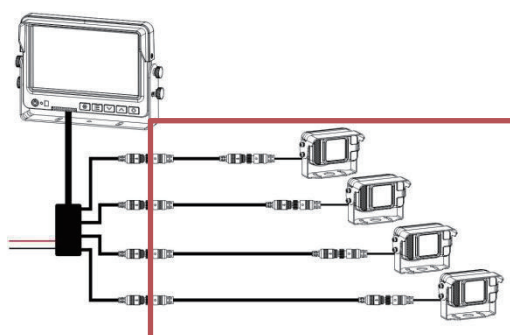
Resolution:	1920x1080	Field of View (FOV):	155°(D) x 135°(H) x 76°(V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.4.6 W
Sensor size:	1/2.9inch	Operating Temperature:	-30°C - +70°C
Frame rate:	25/30fps	Storage Temperature:	-40°C - +80°C
Focal Length:	2.0 mm	Image Mode:	Normal / Mirror - Switch
Aperture:	f/2.3	Dimensions:	105.8 mm x 75.5 mm x 61.4 mm

CC0102 is similar to the CC0101 standard camera but with a bigger field of view. In some applications a wider viewing angle is required. It is designed to withstand harsh environmental conditions. As rear view camera a bottom mounting position can be realized.

Application example:



Connection diagram:



CC0201 (small form factor rear view camera)



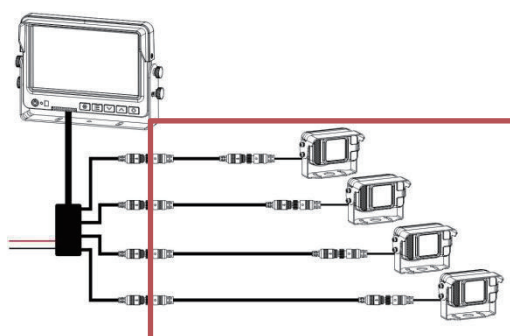
Resolution:	1920x1080	Field of View (FOV):	175°(D) x 156°(H) x 80°(V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.1.4 W
Sensor size:	1/2.9inch	Operating Temperature:	-30°C - +70°C
Frame rate:	25/30fps	Storage Temperature:	-40°C - +80°C
Focal Length:	1.96 mm	Image Mode:	Mirror
Aperture:	f/2.0	Dimensions:	82.4 mm x 32.4 mm x 38.9 mm

CC0201 was developed for small installation locations or when a small camera looks better on the vehicle. As rear view camera a bottom mounting position can be realized. Because it can be tilted a top installation position is also possible.

Application examples:



Connection diagram:



CC0501 (AI pedestrian detection camera)



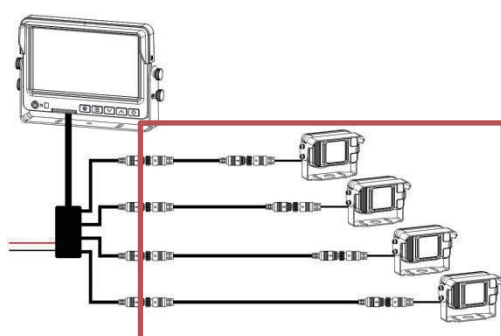
Resolution:	1920x1080	Field of View (FOV):	120°(D) x 105°(H) x 60°(V)
Megapixel:	2MP	Operating Voltage:	12 VDC
Sensor type:	CMOS	Power Consumption:	max. 1.7W
Sensor size:	1/2.9inch	Operating Temperature:	-30°C - +70°C
Frame rate:	25/30fps	Storage Temperature:	-40°C - +80°C
Focal Length:	2.8 mm	Image Mode:	Mirror
Aperture:	f/2.3	Dimensions:	109 mm x 76 mm x 72 mm

CC0501 has an integrated AI pedestrian detection function. The camera has predefined danger zones shown on the screen and can detect when persons enter them. If a person is detected the camera will give a visual and audio alarm to the driver. Depending how close the person is the alarm varies in intensity. This is specially useful for construction machinery or as an additional level of safety in case the driver is distracted and not observing the screen carefully. It is designed to withstand harsh environmental conditions.

Application examples:



Connection diagram:



CC0103 (ball camera, 55mm)



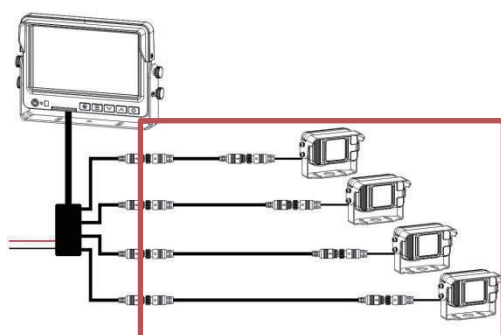
Resolution:	1920x1080	Field of View (FOV):	160°(D) x 135°(H) x 75°(V)
Megapixel:	2MP	Operating Voltage:	10-16 VDC
Sensor type:	CMOS	Power Consumption:	max.2.3 W
Sensor size:	1/2.9inch	Operating Temperature:	-30°C - +70°C
Frame rate:	25/30fps	Storage Temperature:	-40°C - +80°C
Focal Length:	2.0 mm	Image Mode:	Mirror
Aperture:	f/2.3	Dimensions:	80 mm x 52 mm x 70 mm

CC0103 is a ball camera to be installed in different mounting positions. Ball cameras have an additional level of freedom and can also be mounted on not flat surfaces. It can be rotated to be used as a side camera or within complex vehicles. The field of view can be adjusted very flexible. There are two kinds of mounting brackets available. Ring type and shell type. It is designed to withstand harsh environmental conditions.

Application examples:



Connection diagram:



CC0302 (mini ball camera, 35mm)



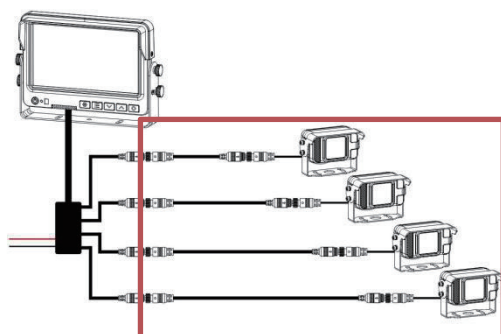
Resolution:	1920x1080	Field of View (FOV):	155°(D) x 145°(H) x 75°(V)
Megapixel:	2MP	Operating Voltage:	10-32 VDC
Sensor type:	CMOS	Power Consumption:	max.1.4 W
Sensor size:	1/2.9inch	Operating Temperature:	-30°C - +70°C
Frame rate:	25/30fps	Storage Temperature:	-40°C - +80°C
Focal Length:	2.3 mm	Image Mode:	Mirror
Aperture:	f/2.0	Dimensions:	64 mm x 52 mm x 35 mm

CC0301 is a mini ball camera and similar to CC0103 but with a smaller form factor to be installed in different mountig positions. Ball cameras have an additional level of freedom and can also be mounted on not flat surfaces. It can be rotated to be used as a side camera or within complex vehicles. The field of view can be adjusted very flexible. There are two kinds of mounting brackets available. Ring type and shell type. It is designed to withstand harsh environmental conditions.

Application examples:



Connection diagram:



AHD Video Cables:

The video cables are needed for each wired camera as an extension between the monitor and the camera or other equipment. They are available in different lengths to match each application. Our AHD video cables have an advanced signal shielding to avoid interference and bad signal transmission.

- CA2401-401
- CA2401-405
- CA2401-410
- CA2401-415
- CA2401-420

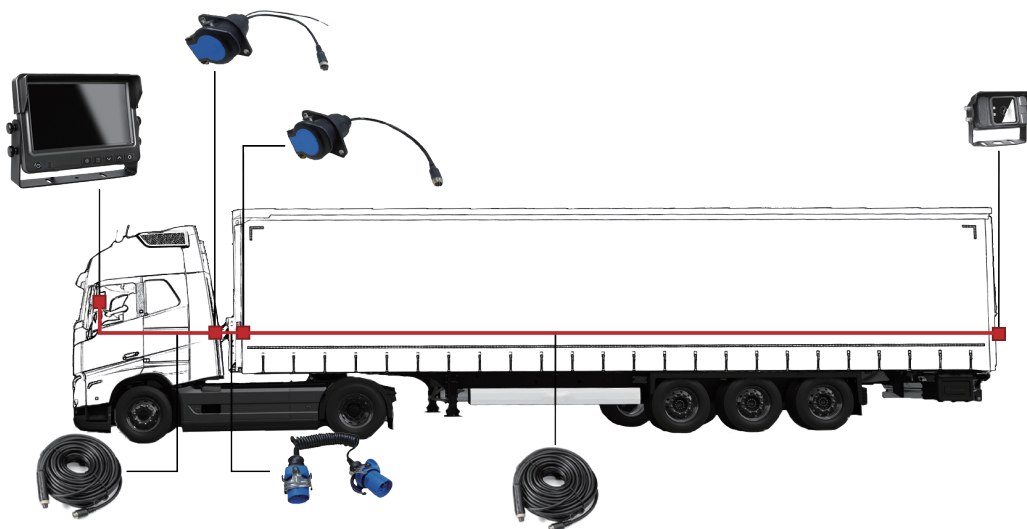


Trailer Cables:

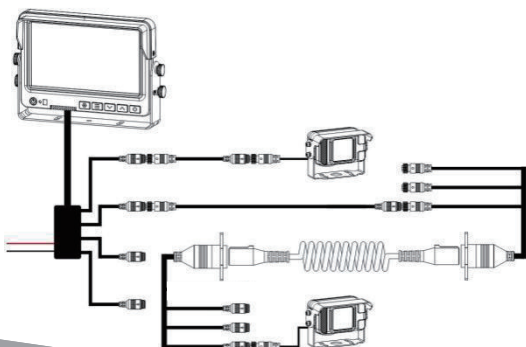
The trailer cables are the connection between the truck and the trailer.

- CA2402-A1 (truck)
- CA2403-A1 (trailer)
- CA2404-4 (spiral-cable)

Application example:



Connection diagram:



Wireless Tranceivers:

PW0101 (1CH sender)



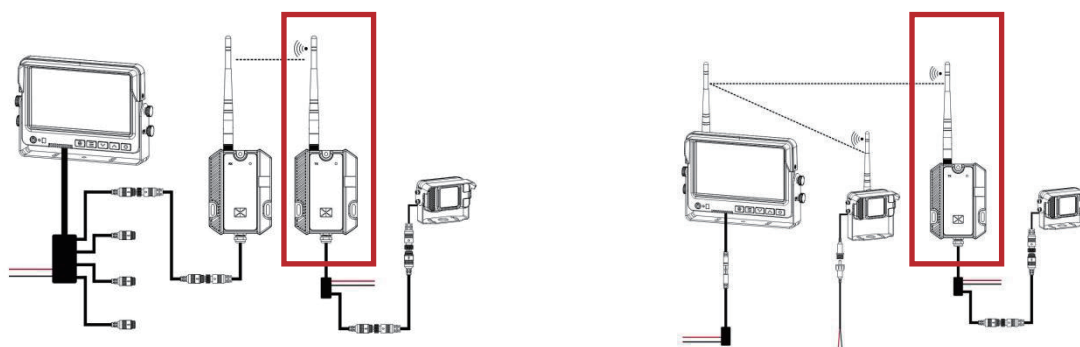
Resolution	AHD 1080p	RF Bit Rate:	Max.12 Mbps
Video Format:	PAL/NTSC	Modulation:	FHSS
Frame Rate:	25 fps/30 fps	Delay:	Max.200 ms
Channels:	1CH	Operating Voltage:	10-32 VDC
Frequency Range:	2403MHZ-2478MHz	Power Consumption:	Max.9 W
Max. Range (Barrier Free):	FCC: 300 m/CE: 200 m/MIC: 100 m	Operating Temperature:	-20°C-+70°C
Transmission Power:	FCC: ≤26dBm/CE: ≤20dBm/MIC: ≤10dBm	Storage Temperature:	-30°C-+80°C
Video Codec:	H.264	Dimensions:	117 mm x 85 mm x 25 mm

PW0101 is a 1 channel wireless sender to be used in combination with PW0102 1 channel wireless receiver as a wireless bridge or to be connected directly to a MW0101 wireless monitor. It eliminates the need to plug cables when changing trailers or is used as range extender. A wireless connection needs to be established by pairing the two components by pressing a button on both devices at first use or when a different combination of sender and receiver is used. As long as the same combination is used the pairing is saved by the system and does not need to be done again.

Application examples:



Connection diagram:



Wireless Tranceivers:

PW0201 (1CH receiver)



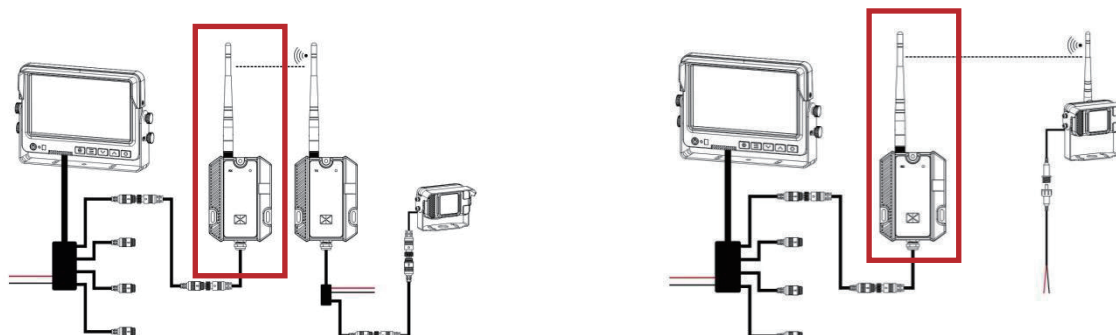
Video Format:	PAL/NTSC	RF Bit Rate:	Max.12 Mbps
Resolution:	AHD 1080p	Modulation:	FHSS
Frame Rate:	25 fps/30 fps	Delay:	Max.200 ms
Channels:	1CH	Operating Voltage:	10-32 VDC
Frequency Range:	2403MHZ-2478MHz	Power Consumption:	Max.2 W
Max. Range (Barrier Free):	FCC: 300 m/CE: 200 m/MIC: 100 m	Operating Temperature:	-20°C-+70°C
Transmission Power:	FCC: ≤26dBm/CE: ≤20dBm/MIC: ≤10dBm	Storage Temperature:	-30°C-+80°C
Video Codec:	H.264	Dimensions:	117 mm x 85 mm x 25 mm

PW0201 is a 1 channel wireless receiver to be used in combination with PW0101 1 channel wireless sender as a wireless bridge or to be connected directly to a CW0101 wireless camera. It eliminates the need to plug cables when changing trailers or is used as range extender. A wireless connection needs to be established by pairing the two components by pressing a button on both devices at first use or when a different combination of sender and receiver is used. As long as the same combination is used the pairing is saved by the system and does not need to be done again.

Application examples:



Connection diagram:



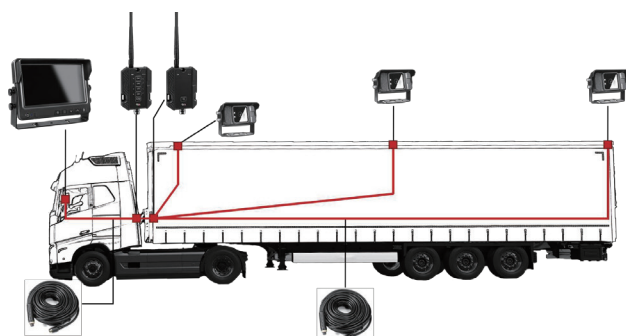
PW0102 (4CH sender)



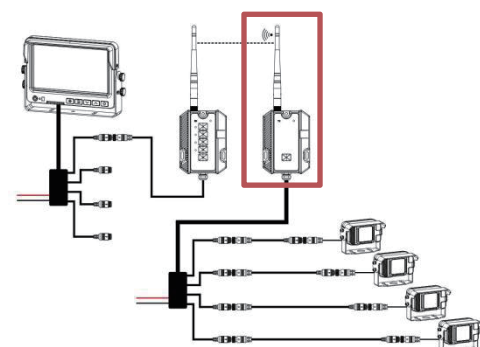
Video Format:	PAL/NTSC	RF Bit Rate:	Max.12 Mbps
Resolution:	AHD 1080p	Modulation:	FHSS
Frame Rate:	25 fps/30 fps	Delay:	Max.200 ms
Channels:	4 CH	Operating Voltage:	10-32 VDC
Frequency Range:	2403MHZ-2478MHz	Power Consumption:	Max.9 W
Max. Range (Barrier Free):	FCC: 300 m/CE: 200 m/MIC: 100 m	Operating Temperature:	-20°C~+70°C
Transmission Power:	FCC: ≤26dBm/CE: ≤20dBm/MIC: ≤10dBm	Storage Temperature:	-30°C~+80°C
Video Codec:	H.264	Dimensions:	117 mm x 85 mm x 25 mm

PW0102 is a 4 channel wireless sender to be used in combination with PW0202 4 channel wireless receiver as a wireless bridge for up to 4 cameras. It eliminates the need to plug cables when changing trailers or is used as range extender. A wireless connection needs to be established by pairing the two components by pressing a button on both devices at first use or when a different combination of sender and receiver is used. As long as the same combination is used the pairing is saved by the system and does not need to be done again.

Application examples:



Connection diagram:



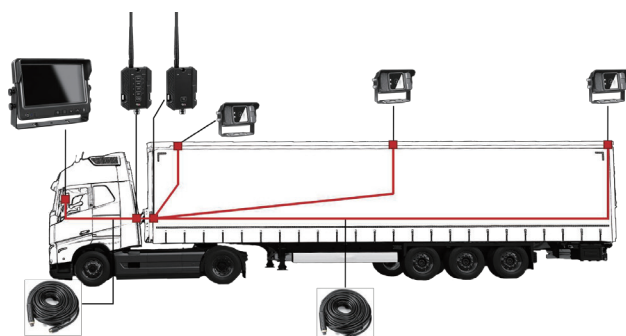
PW0202 (4CH receiver)



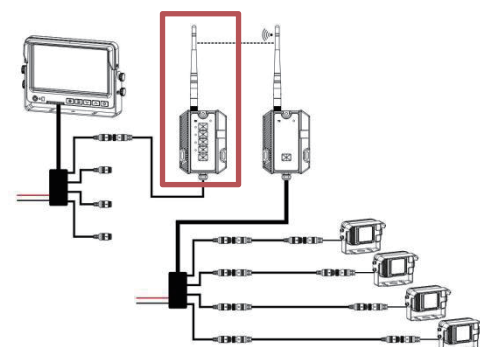
Video Format:	PAL/NTSC	RF Bit Rate:	Max.12 Mbps
Resolution:	AHD 1080p	Modulation:	FHSS
Frame Rate:	25 fps/30 fps	Delay:	Max.200 ms
Channels:	4 CH	Operating Voltage:	10-32 VDC
Frequency Range:	2403MHZ-2478MHz	Power Consumption:	Max.2 W
Max. Range (Barrier Free):	FCC: 300 m/CE: 200 m/MIC: 100 m	Operating Temperature:	-20°C-+70°C
Transmission Power:	FCC: ≤26dBm/CE: ≤20dBm/MIC: ≤10dBm	Storage Temperature:	-30°C-+80°C
Video Codec:	H.264	Dimensions:	117 mm x 85 mm x 25 mm

PW0202 is a 4 channel wireless receiver to be used in combination with PW0201 4 channel wireless sender as a wireless bridge for up to 4 cameras. It eliminates the need to plug cables when changing trailers or is used as range extender. A wireless connection needs to be established by pairing the two components by pressing a button on both devices at first use or when a different combination of sender and receiver is used. As long as the same combination is used the pairing is saved by the system and does not need to be done again.

Application examples:



Connection diagram:



Wireless set:

TVH2403 (4CH, Quad-View)

Including:

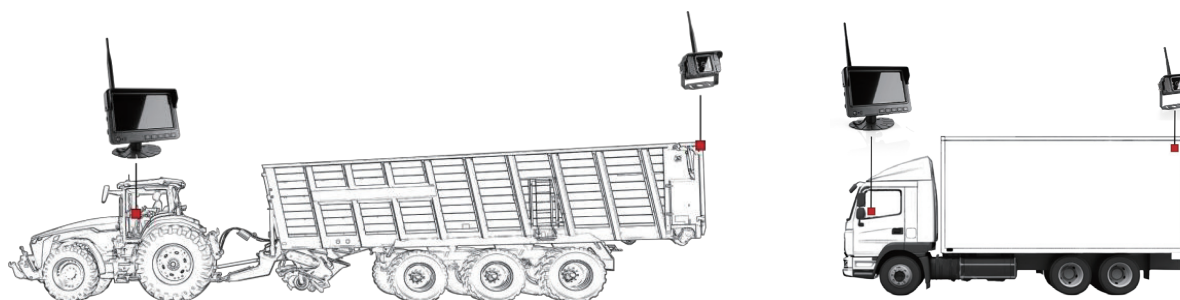
- MW0101
- CW0101



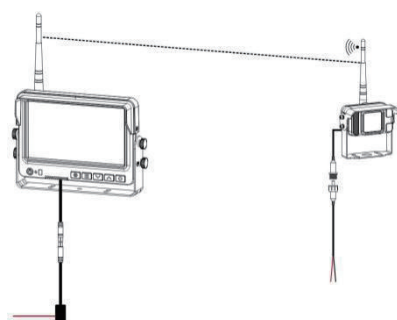
Monitor			
Resolution:	1920x1080	Field of View (FOV):	120°(D)x 105°(H)x 60°(V)
Megapixel:	2 MP	Operating Voltage:	10-32 VDC
Sensortype:	CMOS	Power Consumption:	max.3.5 W
Sensorsize:	1/2.9 inch	Operating Temperature:	-30°C~+70°C
Framerate:	25/30 fps	Storage Temperature:	-40°C~+80°C
Camera			
Resolution:	1920x1080	Field of View (FOV):	120°(D)x 105°(H)x 60°(V)
Megapixel:	2 MP	Operating Voltage:	10-32 VDC
Sensortype:	CMOS	Power Consumption:	max.3.6 W
Sensorsize:	1/2.9 inch	Operating Temperature:	-30°C~+70°C
Framerate:	25/30 fps	Storage Temperature:	-40°C~+80°C
Focal Length:	2.8 mm	Image Mode:	Mirror
Aperture:	f/2.3	Dimensions:	109.2 mm x 95.7 mm x 72.1 mm

The TVH2403 is a wireless automotive rear view system with up to 4 camera channels, Quad-View (multiple cameras can be shown on the screen simultaneously) and recording function (DVR). Camera channels can be changed by hand or automatically by trigger wires connected to the reversing signal for example. The wireless transmission is done by a digital signal to avoid interference. It contains everything needed to equip simple vehicles and can be expanded with other TVH products.

Application example:



Connection diagram:



Wireless Cameras:

The basic wireless systems can be expanded by additional cameras based on the number of free channels.

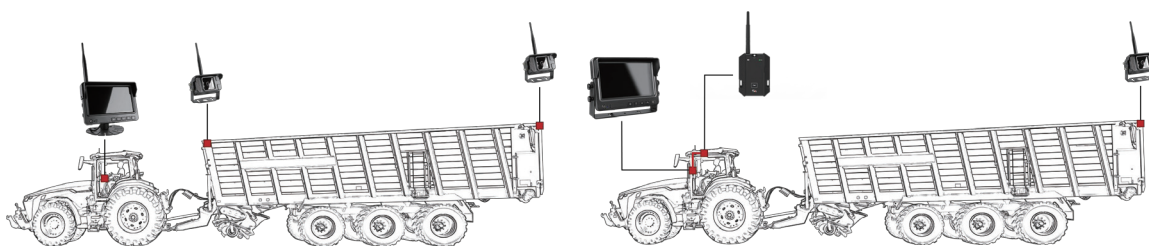
CW0101 (standard wireless camera)



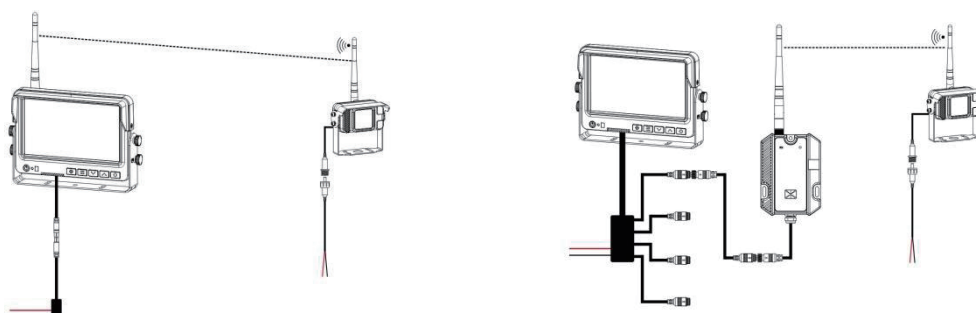
Resolution:	1920x1080	Field of View (FOV):	120°(D)x 105°(H)x 60°(V)
Megapixel:	2 MP	Operating Voltage:	10-32 VDC
Sensortype:	CMOS	Power Consumption:	Max.3.6 W
Sensorsize:	1/2.9 inch	Operating Temperature:	-30°C~+70°C
Framerate:	25/30 fps	Storage Temperature:	-40°C~+80°C
Focal Length:	2.8 mm	Image Mode:	Mirror
Aperture:	f/2.3	Dimensions:	109.2 mm x 75.7 mm x 72.1 mm

CW0101 is a standard wireless camera fitting for most applications like rear view camera, cargo camera or inside agricultural vehicles to observe its functionality. Up to 4 cameras can be connected to a MW0101 wireless monitor or one camera to a PW0102 wireless receiver. It is designed to withstand harsh environmental conditions. As rear view camera a top mounting position is recommended.

Application example:



Connection diagram:



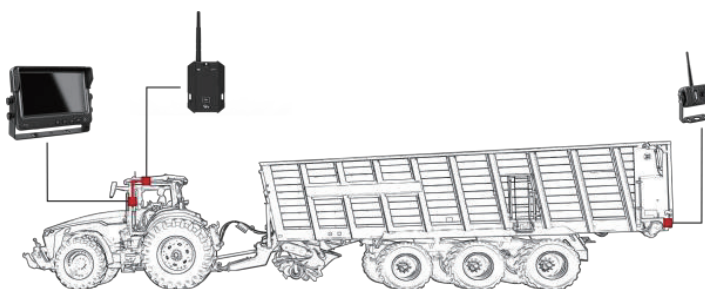
CW0102 (wide-angle wireless camera)



Resolution:	1920x1080	Field of View (FOV):	155°(D)x 135°(H)x 76°(V)
Megapixel:	2 MP	Operating Voltage:	10-32 VDC
Sensortype:	CMOS	Power Consumption:	Max.4.6 W
Sensorsize:	1/2.9 inch	Operating Temperature:	-30°C~+70°C
Framerate:	25/30 fps	Storage Temperature:	-40°C~+80°C
Focal Length:	2.8 mm	Image Mode:	Normal / Mirror - Switch
Aperture:	f/2.3	Dimensions:	105.8 mm x 75.5 mm x 61.4 mm

CW0102 is similar to the CW0101 standard wireless camera but with a bigger field of view. In some applications a wider viewing angle is required. Up to 4 cameras can be connected to a MW0101 wireless monitor or one camera to a PW0102 wireless receiver. It is designed to withstand harsh environmental conditions. As rear view camera a bottom mounting position is possible.

Application example:



Connection diagram:

