



## Application Note

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Videotec Verso Outdoor Housing

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## Introduction

Videotec Verso Outdoor Housing (VT Verso Housing HPV 42K1A000) gives our customers a way to mount the AXIS 211 Network Camera outdoors or in otherwise adverse conditions, i.e. in humid, cold, dusty environments.

The innovative and stylish housing is designed to simplify installation and servicing, as well as provide total protection against all environmental conditions. The housing's side opening makes access to the camera, lens and all its connections easy.

Entirely manufactured from the newest, most resistant technopolymer, the housing has IK10 impact resistance to protect against vandalism, IP66\*-class protection against dust and heavy rain, as well as protection from UV rays. It enables the AXIS 211 Network Camera to operate in temperatures ranging from -20 °C to 45 °C.

A wide range of accessories is available, including sunshield, heater kit, blower/filter kit, various mounting brackets and camera power supply. These accessories are supplied as a simple plug-in kit for easy installation.

# 1 IP Rating Definition

IP ratings are a classification used to express the degree of protection from dust and water penetration into the housing.

- **IP** stands for Ingress Protection
- The rating's first digit e.g. **IP66** relates to the ingress protection against dust (6 means dust tight, see the table below)
- The second digit e.g. **IP66** relates to the ingress protection against water (6 means protected against heavy water jets, see the table below)

Protection against solid objects		
1st Digit	Description	Definition
0	Non-protected	No special protection
1	Protected against solid objects greater than 50 mm	A large surface of the body such as the hand (no protection against deliberate access). Solid objects exceeding 50mm diameter
2	Protected against solid objects greater than 12 mm	Fingers or other objects not exceeding 80 mm in length. Solid objects exceeding 12 mm diameter
3	Protected against solid objects greater than 2.5 mm	Tools, wires, etc of diameter or thickness greater than 2.5 mm. Solid objects exceeding 2.5 mm diameter.
4	Protected against solid objects greater than 1.0 mm	Wires or strips of thickness greater than 1.0 mm. Solid objects exceeding 1.0 mm
5	Dust protected	Ingress of dust is not totally prevented but dust does not enter in sufficient quantity to interfere with satisfactory operation of the equipment
6	Dust-tight	No ingress of dust

Protection against solid liquids		
2 <sup>nd</sup> Digit	Description	Definition
0	Non-protected	No special protection
1	Protected against dripping water	Dripping water (vertically falling drops)
2	Protected against dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at any angle up to 15° from its normal position
3	Protected against spraying water	Water falling as spray at an angle up to 60° from the vertical shall have no harmful effect
4	Protected against splashing water	Water splashed against the enclosure from any direction shall have no harmful effect
5	Protected against water jets	Water projected from a nozzle against the enclosure from any direction shall have no harmful effect
6	Protected against heavy seas	Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities
7	Protected against the effects of immersion	Ingress of water in a harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time
8	Protected against submersion	The equipment is suitable for continuous submersion in water under conditions, which shall be specified by the manufacturer

## 2 Installation

### 2.1 IP Rating Considerations

The Verso housing has an IP rating of IP66 or IP54 depending on which accessories and brackets are used.

In general, an IP54 housing offers protection from all normal weather condition (rain, snow, wind etc.) and is sufficient for most installations.

If the housing is to be installed in an offshore location (e.g. ships, oil rigs) or in very dusty environments (e.g. manufacturing plants, factory floors), it is recommended that the housing and accessories are configured in such a way that the Verso housing retains its IP66 rating.

Section 3.1 contains a list of the effects various accessories have on the IP rating of the Verso housing.

### 2.2 Ambient Temperature Considerations

As a general rule, the listed maximum ambient temperature for most housings on the market assumes that a standard CCTV camera rather than a network camera is used together with the housing.

What is important to take into consideration when buying and installing a housing with a network camera is that a network camera will produce more heat (mainly due to the increased power needed to process the images into a compressed format) than a standard CCTV camera. This extra heat will affect the maximum ambient temperature that the housing can be installed in. For instance, the Verso outdoor housing has a listed maximum ambient temperature of 50 °C – again assuming it is used with a standard CCTV camera. When used with the AXIS 211 Network Camera, the maximum ambient temperature decreases to 40 °C due to the extra heat produced by the network camera.

To help the housing cope with this extra heat, it is possible to install the optional 0217-131 VT BLOWER KIT WITH AIR FILTER OHPVCF1 combination. This will increase the maximum ambient temperature by 5 °C to 45 °C when using the Verso together with the AXIS 211 Network Camera. The downside of using this accessory is that the IP rating is lowered because of the openings, which are needed to vent outside air into the housing to cool it. (See 3.1 for more details)

When installing a network camera in an outdoor housing, it is also important to avoid placing the housing in a location where the housing is exposed to direct sunlight for many hours a day. Direct sunlight will add a significant amount of heat to the housing and this can cause the network camera to malfunction. If the Verso is installed in direct sunlight, the maximum ambient temperature of the Verso housing together with the AXIS 211 is decreased by approximately 10 to 15 °C (i.e. maximum ambient temperature is 25 to 30 °C when placed in direct sunlight).

## 2.3 Brackets

The Verso outdoor housing offers several different brackets for different mounting options on walls, ceilings, columns etc. They can be divided into two groups: with and without internal cable channel.

The benefit of using a bracket with internal cable channel is that the cable is protected and hidden away from view. This can be both aesthetically pleasing and helpful in protecting the installation from vandalism. (An exposed cable can be easily pulled or cut.) The down side of using brackets with internal cable channels is that the IP rating is decreased (see 3.1 for further information). Brackets without internal cable channel leave the cables exposed but retains the higher IP66 rating.

## 2.4 Pole and Corner mount adapters

The 0217-081 VT POLE MOUNT ADAPTER WSFPA and the 0217-10 VT CORNER MOUNT WCWA are available if the installation requires the housing to be mounted on a pole or in a corner. These adapters are used as a mounting point for a normal wall bracket. The pole and corner mount adapters are compatible with the following brackets:

Part No	Product Name
0217-021	VT WALLBRACKET BALLJOINT WBJA
0217-031	VT WALLBRACKET INTERNA CABLE WBOVA1

## 2.5 Electrical installation

Since the housing heater and optional 0217-011 VT POWER SUPPLY OHEPS19 run on mains power (230VAC), it is recommended that a licensed electrician is consulted to ensure that the electrical installation meets local laws and regulations.

## 2.6 Power supply and other accessories

### 2.6.1 0217-011 VT POWER SUPPLY OHEPS19

This 12 V DC power supply is specifically designed to be easily mounted internally in the Verso housing and is suitable for powering the AXIS 211 Network Camera.

*Important: This power supply cannot be used to power the AXIS 2120 or 2420 Network Cameras.*

### 2.6.2 0217-121 VT WATERPROOF JUNCTIONBOX OHEGB

This waterproof junction box can be used to install and protect wireless devices, routers, wiring harnesses and other auxiliary equipment that are required by the application. The junction box is waterproof to IP55 and comes equipped with four PG9 cable glands.

## 3 Tables and Pictures

### 3.1 IP Rating and Accessories

Below is a summary of the effects on the IP rating and maximum ambient temperature when installing the following accessories:

Part No	Accessory	IP Rating	Ambient Temperature Range
0217-021	VT WALLBRACKET BALLJOINT WBJA	IP66	-20 °C – 40 °C
0217-041	VT CEILING BRACKET BALL JOINT WCM3A	IP66	-20 °C – 40 °C
0217-061	VT CEILING BRACKET BALL JOINT WCM5A	IP66	-20 °C – 40 °C
0217-071	VT COLUMN MOUNT BALL JOINT WFWCA	IP66	-20 °C – 40 °C
0217-051	VT CEILING BRACKET INT CABLE WCM4A	IP54	-20 °C – 40 °C
0217-031	VT WALLBRACKET INTERNA CABLE WBOVA1	IP54	-20 °C – 40 °C
0217-111	VT WALL BRACKET JUNCTIONBOX WBOV3A1	IP54	-20 °C – 40 °C
0217-131	VT BLOWER KIT WITH AIR FILTER OHPVCF1	IP54	-20 °C – 45 °C

### 3.2 IP Rating Quick Reference

IP66	IP54
The housing is completely protected from dust and strong jets of water from any direction. Suitable for ship or offshore applications.	The housing is protected from dust and water spray from any direction. Protected from rain, snow and other normal outdoor conditions.



### 3.3 Part Numbers – UPC codes

Part No	Product Name	Country	UPC
0217-001	VT VERSO HOUSING HPV42K1A000	EUR/UK	667026007736
0217-011	VT POWER SUPPLY OHEPS19	EUR/UK	667026007743
0217-021	VT WALLBRACKET BALLJOINT WBJA	EUR/UK	667026007750
0217-031	VT WALLBRACKET INTERNA CABLE WBOVA1	EUR/UK	667026007767
0217-041	VT CEILING BRACKET BALL JOINT WCM3A	EUR/UK	667026007774
0217-051	VT CEILING BRACKET INT CABLE WCM4A	EUR/UK	667026007781
0217-061	VT CEILING BRACKET BALL JOINT WCM5A	EUR/UK	667026007798
0217-071	VT COLUMN MOUNT BALL JOINT WFWCA	EUR/UK	667026007804
0217-081	VT POLE MOUNT ADAPTER WSFPA	EUR/UK	667026007811
0217-091	VT WALL BRACKET ADAPTER PLATE WCPA	EUR/UK	667026007828
0217-101	VT CORNER MOUNT WCWA	EUR/UK	667026007835
0217-111	VT WALL BRACKET JUNCTIONBOX WBOV3A1	EUR/UK	667026007842
0217-121	VT WATERPROOFJUNCTION BOX OHEGB	EUR/UK	667026007859
0217-131	VT BLOWER KIT WITH AIR FILTER OHPVCF1	EUR/UK	667026007866

### 3.4 Product Descriptions

Part No	Product Name	Description
0217-001	VT VERSO HOUSING HPV42K1A000	Product Line: Verso Polycarbonate outdoor camera housing with sunshield Input: 100VAC-230VAC Color: White
0217-011	VT POWER SUPPLY OHEPS19	Wide range power supply For use with: Videotec HPV42K1A000 (Axis 0217-001) Input: 110VAC-230VAC Output: 12 VDC / 1A Color: Black This power supply is mounted internally in the HPV42K1A000 (AXIS 0217-001) to power the camera.
0217-021	VT WALLBRACKET BALLJOINT WBJA	Wall bracket with ball joint For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-031	VT WALLBRACKET INTERNAL CABLE WBOVA1	Wall bracket with internal cable channel For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-041	VT CEILING BRACKET BALL JOINT WCM3A	Ceiling bracket with ball joint For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-051	VT CEILING BRACKET INT CABLE WCM4A	Ceiling bracket with internal cable channel For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-061	VT CEILING BRACKET BALL JOINT WCM5A	Ceiling bracket with ball joint For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-071	VT COLUMN MOUNT BALL JOINT WFWCA	Column mount with ball joint For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-081	VT POLE MOUNT ADAPTER WSFPA	Pole mount adapter For use with: Videotec WBJA, WBOVA1 (Axis 0217-021, 0217-031) Color: White
0217-091	VT WALL BRACKET ADAPTER PLATE WCPA	Wall bracket adapter plate For use with: Videotec WBJA, WBOVA1 (Axis 0217-021, 0217-031) Color: White
0217-101	VT CORNER MOUNT WCWA	Corner mount For use with: Videotec WBJA, WBOVA1 (Axis 0217-021, 0217-031) Color: White
0217-111	VT WALL BRACKET JUNCTIONBOX WBOV3A1	Wall bracket (WBOVA1), adapter plate (WCPA) and integrated junction box with internal cable channel. For use with: Videotec HPV42K1A000 (AXIS 0217-001) Color: White
0217-121	VT WATERPROOFJUNCTION BOX OHEGB	Water proof junction box Color: White
0217-131	VT BLOWER KIT WITH AIR FILTER OHPVCF1	Blower kit with thermostat and air filter Will lower the internal temperature of the Videotec HPV42K1A000 (AXIS 0217-001) with approximately 10 degrees Celsius For use with: Videotec HPV42K1A000 (AXIS 0217-001) Input voltage: 12V DC Power usage: 4W

### 3.5 Pictures

*Note: Image size does not reflect actual size of products*

Part No	Product Name	Picture
0217-001	VT VERSO HOUSING HPV42K1A000	
0217-011	VT POWER SUPPLY OHEPS19	
0217-021	VT WALLBRACKET BALLJOINT WBJA	
0217-031	VT WALLBRACKET INTERNAL CABLE WBOVA1	
0217-041	VT CEILING BRACKET BALL JOINT WCM3A	
0217-051	VT CEILING BRACKET INT CABLE WCM4A	
0217-061	VT CEILING BRACKET BALL JOINT WCM5A	

Part No	Product Name	Picture
0217-071	VT COLUMN MOUNT BALL JOINT WFWCA	
0217-081	VT POLE MOUNT ADAPTER WSFPA	
0217-091	VT WALL BRACKET ADAPTER PLATE WCPA	
0217-101	VT CORNER MOUNT WCWA	
0217-111	VT WALL BRACKET JUNCTIONBOX WBOV3A1	
0217-121	VT WATERPROOFJUNCTION BOX OHEGB	
0217-131	VT BLOWER KIT WITH AIR FILTER OHPVCF1	