

A PERFECT MATCH
FOR EVERY
APPLICATION



CAMERA
REFERENCE
GUIDE

PHILIPS CCTV CAMERAS



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The camera is critical for every application

Regardless of the quality or capability of the CCTV system you use, the quality of the image you view depends heavily on the quality of the camera. The Philips camera range offers outstanding performance in every class – from the stylish indoor FlexiDomes™ to very high performance digital cameras for the most demanding situations.

Introducing Dinion™

This guide also introduces the new Dinion mid-range cameras, which offer benefits like excellent picture performance and minimum installation time. These cameras are also available ready assembled as factory-configured outdoor and indoor assemblies.

Whatever your application, there's a Philips camera to match it

To help you make the best choice from the Philips range of cameras, this guide summarizes the features and benefits, and gives clear reasons for choosing each family for virtually all applications you may encounter. A selection table is shown on page 4.

Committed to quality

Philips is a major player in security and observation systems, so you can be confident that the cameras are made to the highest quality standards. The three-year warranty and a free advance exchange program ensure that if problems do occur, a solution is quickly found.

CAMERA SELECTION TABLE

This table summarizes the Philips CCTV camera range. Starting from your requirements or typical application area, it is easy to select the most appropriate model.

	FlexiDome I & II & VariDome <i>(see page 6 and 14)</i>	Dinion <i>(see page 8)</i>
APPLICATION REQUIREMENTS		
Indoor applications	**	**
Outdoor applications		**
Standard lighting conditions	**	**
Dirty environments		
Low and difficult lighting conditions		**
Extreme lighting conditions		*
Discreet observation	**	
Vulnerable locations		
Highest picture quality		*
Special lenses required		**
TYPICAL APPLICATIONS		
Entrances, lobbies, receptions	**	**
Cash desks, check-outs	**	**
Shops and stores	**	**
Car parks, industrial buildings		**
Commercial buildings, banks		**
Fences, gates and perimeters		**
Roads and tunnels		*
Building exteriors, parking lots		*
Sports stadiums, city centers		*
Metro, bus & railway stations		*
Housing estates, public areas		*

- ** Ideally Suited
- * Recommended

CAMERA SELECTION TABLE



Outdoor Cameras <i>(see page 10)</i>	High-end Cameras <i>(see page 12)</i>	Phortress Domes <i>(see page 15)</i>
	*	**
**	**	**
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FLEXIDOME I & II CAMERAS



- **Compact fixed cameras in a stylish dome**
 - **Excellent picture clarity with true color reproduction**
- **Lightly-tinted dome masks camera with minimum light loss**
 - **Choice of integral standard or wide-angled lenses**
 - **Easy mounting on ceiling or wall**

Why select FlexiDome cameras?

- **Performance** – Regardless of lighting conditions, FlexiDomes provide unmatched picture clarity. Optimum contrast and color reproduction are achieved with an advanced digital signal processor (DSP), which includes backlight compensation for optimum contrast, a wide dynamic range and other image enhancing features.
- **Active deterrent** – The presence of the dome 'announces' active surveillance (as deterrent), but the camera itself is hidden behind a lightly tinted dome. The camera can be discreetly pointed towards sensitive areas without being visible to potential offenders.
- **Stylish innovation** – The combination of stylish design, advanced camera technology and ease of installation provides the optimum surveillance solution for a wide range of indoor security monitoring applications.



When should you use FlexiDome cameras?

- Indoor applications
- Standard lighting situations
- Where the viewing direction needs to be concealed
- Where discrete observation is desirable

Typical applications

Entrances lobbies and reception areas, cash desks and checkouts.

FlexiDome type number overview

	TV Standard	Standard Resolution		High Resolution	
		Wide Angle 3mm	Standard 6mm	Wide Angle 3mm	Standard 6mm
Color	PAL	LTCI412/10	LTCI413/10	LTCI412/10	LTCI423/10
	NTSC	LTCI412/20	LTCI413/20	LTCI412/20	LTCI423/20
Monochrome	CCIR	LTCI312/10	LTCI313/10	LTCI322/10	LTCI323/10
	EIA	LTCI312/20	LTCI313/20	LTCI322/20	LTCI323/20

DINION CAMERAS



- **Advanced Dinion digital video processing**
 - **NightSense™ sensitivity boost**
- **Lens Wizard™ to optimize lens performance**
- **Color and monochrome 1/3" ccd models**
 - **Standard and high resolution models**

Why select Dinion cameras?

- **Perfect pictures** – Dinion cameras include powerful features like 'Backlight Compensation' for easier subject recognition against doorways and windows, Auto Black to increase the visibility of details even in low-contrast situations like fog, and Auto Tracking white balance to ensure perfect color reproduction.
- **Superb low-light performance** – The superb sensitivity range of the Dinion cameras is further extended in the high resolution color version by Philips NightSense, which makes use of the extra sensitivity of monochrome images.
- **Optimal lens performance** – Thanks to the unique Lens Wizard, it is possible to set the correct (back) focusing for a sharp picture under all lighting conditions – even when focusing the lens in bright light.
- **Ease of installation** – Perfect picture out of the box. No tools needed to install camera.



When should you use Dinion cameras?

- For indoor and outdoor applications
- When a good quality conventional CCTV camera is required
- When special lenses are required or existing lenses are to be used
- In standard and low light situations

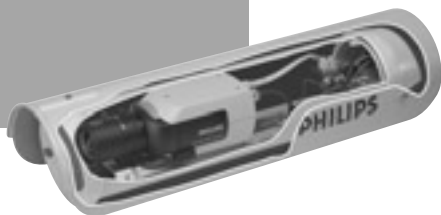
Typical applications

Shops and stores, car parks, industrial and commercial buildings, fence and gate surveillance.

Dinion type number overview

	TV Standard	Standard Resolution		High Resolution	
		Low Voltage	Mains Voltage	Low Voltage	Mains Voltage
Color	PAL	LTC0435/10	LTC0435/50	LTC0455/10	LTC0455/50
	NTSC	LTC0435/20	LTC0435/60	LTC0455/20	LTC0455/60
Monochrome	CCIR	LTC0335/10	LTC0335/50	LTC0355/10	LTC0355/50
	EIA	LTC0335/20	LTC0335/60	LTC0355/20	LTC0355/60

INDOOR AND OUTDOOR CAMERA ASSEMBLIES



- **Pre-assembled units with camera, lens, bracket and housing**
 - **Based on the Dinion camera range**
 - **Choice of color and monochrome cameras**
 - **Standard and high resolution models available**
- **Varifocal lenses allow field of view to be selected on-site**

Why select Philips camera kits?

- **State-of-the-art cameras** – The Dinion color and monochrome cameras are optimized for superb picture quality, and are easy to set-up and configure. The Philips Dinion video processing chip enables many image-enhancing features.
- **Convenience** – The completely assembled and tested outdoor camera comprises camera, lens, housing with sunshield and wall bracket, ready to connect and install. Also the lens is installed on the indoor camera and together with mounting bracket it is ready for installation.
- **Optimized lens combinations** – Both the indoor and outdoor assemblies varifocal lens covers wide-angle and standard views and are ideal for standard applications. The outdoor camera is also available with a longer-range varifocal lens for telelens applications.



Outdoor cameras use lenses with DC Iris control to cater for the wide range of lighting conditions encountered outside.

When should you use Indoor and Outdoor camera kits?

- To minimize installation and set up costs
- Outdoors and in dirty environments (outdoor assemblies)
- When a good quality conventional CCTV camera is required
- In standard and low light situations

Typical applications

Industrial complexes, car parks, roads and tunnels, building exteriors, open parking lots.

Camera assembly type number overview

Assembly Type	TV	Standard Resolution		High Resolution	
		Standard	2.8-10mm	5 – 50 mm	2.8-10mm
Indoor Camera	Color	LTC0043/31		LTC0045/31	
	Monochrome	LTC0033/31		LTC0035/31	
Outdoor Camera	Color	LTC0043/53	LTC0043/57	LTC0045/53	LTC0045/57
	Monochrome	LTC0033/53	LTC0033/57	LTC0035/53	LTC0035/57

HIGH-END DIGITAL CAMERAS



- Color and monochrome 1/2" CCD models
- Excellent image quality even in extreme lighting conditions
 - High sensitivity and dynamic range
 - Built-in video digital signal processor
- Many automatic picture enhancement features

Why select high-end digital cameras?

- **Ultimate picture performance** – Outstanding image quality is ensured by features like automatic picture analysis that guarantees incredible picture sharpness and automatic monitoring/adjustment of contour, black level, light controls and white balance. With the color models, extensive color analysis and fuzzy logic automatically control white balance for unbeatable realism and clarity of color.
- **Installer friendly** – They are easy to install, with accessible push-button controls for adjusting common camera functions. A wide input voltage range compensates for voltage drops over long cables and allows operation from a variety of power supplies.
- **Fine-tuned setup** – The camera's advanced parameters can be configured and fine-tuned from a PC using Philips camera configuration software or remote control systems. Settings are stored in the camera's non-volatile memory. Up to three different configuration modes can be pre-set for individual applications.



When should you use high-end cameras?

- When the highest possible picture quality is required
- Where extremes of light conditions are encountered
- When special lenses are required

Typical applications

Traffic and transportation, banking, perimeter observation, stadiums, city centers and public areas.

High-end camera type number overview

	TV Standard	Low Voltage	Mains Voltage
Color	PAL	LTC0600/10	LTC0600/50
	NTSC	LTC0600/20	LTC0600/60
Monochrome	CCIR	LTC0500/10	LTC0500/50
	EIA	LTC0500/20	LTC0500/60

VARIDOME CAMERAS



- Fixed color cameras in compact domes
- Integrated varifocal auto-Iris lens
- High resolution camera with backlight compensation

Why select VariDome™ cameras?

- **Lens flexibility** – The required field of view can be selected after the camera has been mounted using the 2.6-6 mm Varifocal lens. The DC auto Iris ensures good video level whatever the lighting.
- **Attractive** – Its unobtrusive styling makes the VariDome an alternative for conventional cameras in indoor applications.
- **Convenience** – An 'all-in-one' package ready for installation on wall or ceiling.

When should you use VariDome cameras?

- Indoor applications
- Situations with fluctuating lighting conditions

Typical applications

Entrances, lobbies and reception areas, cash desks and checkouts.

VariDome type number overview

	TV Standard	
Color	PAL	LTC1251/11
	NTSC	LTC1251/21

PHORTRESS HIGH-IMPACT SECURITY CAMERAS



- Fully featured cameras in high-security dome
- Vandal-resistant and sealed for outdoor use
- Ceiling/wall and corner mounting configurations
- Standard and high resolution models are available

Why select Phortress™ cameras?

- **High-level protection** – Tough cast aluminium housing and polycarbonate dome protect the camera module from physical attack, IP65 rating ensures the camera is protected from water and dust outdoors or in dirty environments.
- **Choice** – With a choice of fixed or Varifocal lenses and monochrome or color camera there is a Phortress camera for every situation
- **Convenience** – An 'all-in-one' package ready for installation.

When should you use Phortress cameras?

- Indoor and outdoor applications
- Vulnerable locations
- Where discreet observation is desirable

Typical applications: Car parks, public areas, metro-, bus- and railway stations, and housing estates.

Phortress type number overview

	TV Standard	2.6-6mm Varifocal Lens	6mm Lens	3mm Lens
Color	PAL	LTCI261/10	LTCI262/10	LTCI263/10
	NTSC	LTCI261/20	LTCI262/20	LTCI263/20
Monochrome	CCIR	LTCI161/10	LTCI162/10	LTCI163/10
	EIA	LTCI161/20	LTCI162/20	LTCI163/20

FREQUENTLY ASKED QUESTIONS

What is NightSense?

NightSense is a method of boosting the sensitivity of the high-resolution Dinion color camera by 9dB (a factor of 3!) by combining all the signals of the color image in a single monochrome picture. It senses when the light level has dropped and automatically switches to monochrome mode.

What is Auto Black compensation?

Auto Black Compensation is a technique of boosting the video signal level so that a full amplitude video signal is produced even when the scene contrast is less than the full range. The darkest part of the signal is set to black and the lightest part to white, thus increasing the contrast.

What is Mains/Line lock, and why is it important?

CCTV pictures are made up of 25 (or 30 for NTSC/EIA) frames per second. In order to get a steady transition of images on the monitor when switching cameras, each camera needs to start its frame at exactly the same time. If frames start randomly, it is possible that a picture appears to bounce when switching cameras. The starting point of the frame is fixed by locking it to the mains/line frequency of the power supply.

FREQUENTLY ASKED QUESTIONS

Why is the resolution of a camera less than the pixels on the sensor?

The resolution of CCTV cameras is usually defined in terms of TV lines. In other words, the finest detail, expressed as the equivalent number of TV lines, that could be resolved with a sensor with a given number of pixels. This results in a resolution that is typically about $0.7 \times$ the number of horizontal pixels on the sensor.

How is sensitivity of a camera defined?

The sensitivity of a camera is normally defined as the amount of light required (measured in 'lux') on a scene to produce a 50% video signal. In order to be able to compare sensitivity of camera products, the scene reflectance and the f-stop of the lens (usually $f/1.4$) need to be considered.

What is the difference between video and DC Iris control?

The Iris (or aperture) of a lens can be adjusted to ensure that the optimal amount of light reaches the sensor. Modern cameras and lenses use a DC signal generated by the exposure control circuitry in the camera to adjust the size of the aperture. Some zoom lenses, and many older types of lenses, have the control circuitry built into the lens. The video signal from the camera is used by this circuitry to control the Iris.

COMPARISON TABLE

CAMERAS

	FIXED CAMERAS					
	LTC0335	LTC0355	LTC0500	LTC0435	LTC0455	LTC0600
Camera type	Mono Std Res	Mono High Res	Mono High Res	Col Std res	Col High Res	Mono High Res
Sensor size	1/3"	1/3"	1/2"	1/3"	1/3"	1/2"
Sensitivity	0.15	0.1	0.037	0.6	0.9	0.37
					0.3 NightSense mode	
Resolution	380	570	570	330	480	480
Lens type	C/CS	C/CS	C/CS	C/CS	C/CS	C/CS
Power supply	/10 12Vdc, 24 Vac	/10 12Vdc, 24 Vac	/10 12Vdc, 24 Vac	/10 12Vdc, 24 Vac	/10 12Vdc, 24 Vac	/10 12Vdc, 24 Vac
	/50 230 Vac	/50 230 Vac	/50 230 Vac	/50 230 Vac	/50 230 Vac	/50 230 Vac
Dimensions	58x66x122	58x66x122	65x70x149	58x66x122	58x66x122	65x70x149

CAMERA ASSEMBLIES

	INDOOR ASSEMBLIES					
	LTC0033/31	LTC0035/31	LTC0043/31	LTC0045/31		
Camera	LTC0335/50	LTC0355/50	LTC0435/50	LTC0455/50		
Sensor size	1/3"	1/3"	1/3"	1/3"		
Sensitivity	0.15	0.1	0.6	0.9		
				0.3 Nightsense mode		
Resolution	380	570	330	480		
Lens	Varifocal 2.8 - 12	Varifocal 2.8 - 12	Varifocal 2.8 - 12	Varifocal 2.8 - 12		
Power supply	230 Vac	230 Vac	230 Vac	230 Vac		
Dimensions	58x66x177	58x66x177	58x66x177	58x66x177		

COMPARISON TABLE

FLEXIDOME I & II				PHORTRESS		
LTC131x/10	LTC132x/10	LTC141x/10	LTC142x/10	LTC116x/10	LTC1262/10	LTC1261/10
Mono Std Res	Mono High Res	Col Std res	Col High Res	Mono Std Res	Col Std res	Col High Res
1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
0.5	0.5	4.5	4.5	0.4	4.0	4.0
380	570	330	470	380	330	480
LTC1312: 3mm F2.0	LTC1322: 3mm F2.0	LTC1412: 3mm F2.0	LTC1422: 3mm F2.0	LTC1162: 3mm F2.0	LTC1262: 3mm F2.0	DC iris VF 2.6-5.6 mm
LTC1313: 6mm F2.0	LTC1323: 6mm F2.0	LTC1413: 6mm F2.0	LTC1423: 6mm F2.0	LTC1163: 6mm F2.0	LTC1263: 6mm F2.0	
12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac	12Vdc, 24 Vac
Ø 155 x 77	Ø 155 x 77	Ø 155 x 77	Ø 155 x 77	Ø 154 x 114	Ø 154 x 114	Ø 154 x 114

OUTDOOR ASSEMBLIES IN IP65 HOUSING						
LTC0033/5x	LTC0035/5x	LTC0043/5x	LTC0045/5x			
LTC0335/50	LTC0355/50	LTC0435/50	LTC0455/50			
1/3"	1/3"	1/3"	1/3"			
0.15	0.1	0.6	0.9			
			0.3 NighSense mode			
380	570	330	480			
/53 Varif. 2.8 -12	/53 Varif. 2.8 -12	/53 Varif. 2.8 -12	/53 Varif. 2.8 -12			
/57 Varif. 5 - 50	/57 Varif. 5 - 50	/57 Varif. 5 - 50	/57 Varif. 5 - 50			
230 Vac	230 Vac	230 Vac	230 Vac			
112 x 97 x 449	112 x 97 x 449	112 x 97 x 449	112 x 97 x 449			

BETTER
BECAUSE IT'S
PHILIPS

MASTERS IN CCTV SURVEILLANCE

Philips is a long-established expert in the field of surveillance. In addition to the Dinion we offer an extremely extensive range of color and monochrome CCTV systems and accessories, backed by decades of application experience. That means we can supply you with the ideal solution for virtually any security monitoring requirement, from simple in-shop systems to vast configurations that cover entire industrial complexes. Philips is also at the forefront of the digital CCTV revolution.

ALL-ROUND EXPERTISE

Philips CCTV products are only one part of the Philips Communication, Security & Imaging line. Philips CSI is a leading supplier of products and systems which keep people safe, secure, and in touch with each other. Philips CSI expertise covers CCTV, public address, paging and congress systems, and helps increase business efficiency and improve quality of life all over the globe.

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