



Varifocal Lenses

- For 1/3-inch and 1/2-inch format
- Adjustable angle of view
- Fixed aperture or manual aperture available
- Adjustable focal length between two limits
- Autoiris models available

The Vicon Series of Variable-Focal-Length Lenses are

designed for use on 1/3- and 1/2-inch format CCTV cameras. The lenses have an adjustable angle of view, ranging from very-wide-angle to normal, permitting the camera to view the exact area desired.

These lenses eliminate the need for trial-and-error lens fitting and for stocking multiple fixed-focal-length lenses to cover different viewing angles.

Models V2.8-6VFI and V3.5-8VFI-2 (aperture f/1.4) and V5-50VFI and V2.8-12VFI (aperture f/1.3) offer a manual iris, making this lens adjustable for use under various lighting conditions. Lenses are available with CS-G circuitry, Model V4.5-10VF-CS-G-4, V2.8-6VF-CS-G, V2.8-12VF-CS-G, V5-50VF-CS-G and V3.5-8VF-CS-G-4, that allow automatic iris operation that responds to cameras featuring built-in autoiris control circuits.

Focal length is infinitely adjustable between the two limits. Optical construction of 10 elements in 7 groups assures sharp, high-contrast images. The lenses are equipped with CS-type mounts.

Notes: SUPERSEDES PRODUCT SPECIFICATION 813-102

Contractors' Specification

TECHNICAL SPECIFICATIONS DIVISION 13 - SPECIAL CONSTRUCTION SECTION 137__ - SECURITY CCTV SYSTEM

SECURITY SYSTEM

PART 2 - PRODUCTS

2.01 GENERAL

- A. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.
- B. All systems and components shall have been thoroughly tested and proven in actual use.
- C. All systems and components shall be provided with the availability of a toll free 24-hour technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.
- D. All systems and components shall be provided with an explicit manufacturer warranty.

2.02 1/3 INCH FORMAT VARIABLE-FOCUS LENSES

- A. The lens shall be a 1/3-inch format variable-focal-length manual lens for CCTV cameras. The focal length shall be from 3.5 mm to 8 mm, 2.8-6 mm, 2.8 to 12 mm or 5-50 mm. It shall be available with manual iris or CS-G circuitry that allows automatic iris operation.
- B. Four models shall have an aperture range of f/1.4 to f/360 (3.5-8 and 2.8-6 mm versions) or f/1.3 to f/360 (2.8-12 mm and 5-50 mm versions) and have CS-G circuitry for automatic iris operation and four models shall have a manually adjustable iris with an aperture range of f/1.4 to closed (3.5-8 and 2.8-6 mm version) or f/1.3 to closed (2.8-12 mm and 5-50 mm version).

- C. The zoom ratio shall be 2.286× (3.5-8 mm), 2.14× (2.8-6 mm), 4.29× (2.8-12 mm) or 10× (5-50 mm) and it shall have a CS-mount.
- D. The CS-G and adjustable iris lenses shall have a horizontal field angle from 35.4° - 77.6° (3.5-8 mm), 96° - 47.2° (2.8-6 mm), 98.2° - 23.8° (2.8-12 mm), or 51.8° - 5.6° (5-50 mm).

The lens shall be a Vicon model V3.5-8VF-CS-G-4 (CS-G) and V3.5-8VFI-2 (adjustable iris), V2.8-6VFI (adjustable iris) and V2.8-6VF-CSG (CS-G), V2.8-12VFI (adjustable iris) and V2.8-12VF-CSG (CS-G), and V5-50VFI (adjustable iris) and V5-50VF-CS-G (CS-G).

2.03 1/2 INCH FORMAT VARIABLE-FOCUS LENSES

- A. The lens shall be a 1/2-inch format variable-focal-length manual lens for CCTV cameras. The focal length shall be from 4.5 mm to 10 mm. It shall be available with CS-G circuitry that allows automatic iris operation.
- B. Aperture range shall be f/1.6 to f/360.
- C. The zoom ratio shall be 2.222× and it shall have a CS-mount.
- D. The lens shall have a horizontal field angle from 38.2° to 81.3.

The lens shall be a Vicon model V4.5-10VF-CS-G-4.

Technical Information

Model	Product Code	Format	Iris
V2.8-6VFI	6588	1/3-inch	Adjustable
V2.8-6VF-CS-G	6589	1/3-inch	CS-G autoiris
V2.8-12VFI	8304	1/3-inch	Adjustable
V2.8-12VF-CS-G	8305	1/3-inch	CS-G autoiris
V3.5-8VFI-2	5827	1/3-inch	Adjustable
V3.5-8VF-CS-G-4	5828	1/3-inch	CS-G autoiris
V5-50VFI	7738	1/3-inch	Adjustable
V5-50VF-CS-G	7731	1/3-inch	CS-G autoiris
V4.5-10VF-CS-G-4	6850	1/2-inch	CS-G autoiris

Table 1: Varifocal Lenses

Model	Focal Length (mm)	Flange Focal Length in. (mm)	Minimum Focusing Distance ft (m)	Aperture Range (f/)*	Horizontal Angle of View (degrees)		Zoom Ratio	Maximum Thread Projection in. (mm)
					1/3-in.	1/2-in.		
V2.8-6VFI	2.8-6	0.49 (12.5)	1.0 (0.3)	1.4 - C	96 - 47.2	-	2.14X	0.14 (3.5)
V2.8-6VF-CS-G	2.8-6	0.49 (12.5)	1.0 (0.3)	1.4 - 360	96 - 47.2	-	2.14X	0.14 (3.5)
V2.8-12VFI	2.8-12	n/a	1.0 (0.3)	1.3 - C	98.2 - 23.8	-	4.29X	0.14 (3.5)
V2.8-12VF-CS-G	2.8-12	n/a	1.0 (0.3)	1.3 - 360	98.2 - 23.8	-	4.29X	0.14 (3.5)
V3.5-8VFI-2	3.5-8	0.49 (12.5)	1.3 (0.4)	1.4 - C	77.6 - 35.4	-	2.286X	0.14 (3.5)
V3.5-8VF-CS-G-4	3.5-8	0.49 (12.5)	1.3 (0.4)	1.4 - 360	77.6 - 35.4	-	2.286X	0.14 (3.5)
V5-50VFI	5-50	0.49 (12.5)	2.6 (0.8)	1.3 - C	51.8 - 5.6	-	10X	0.14 (3.5)
V5-50VF-CS-G	5-50	0.49 (12.5)	2.6 (0.8)	1.3 - 360	51.8 - 5.6	-	10X	0.14 (3.5)
V4.5-10VF-CS-G-4	4.5-10	0.49 (12.5)	1.0 (0.3)	1.6 - 360	60.4 - 28.7	81.3 - 38.2	2.222X	0.14 (3.5)

Table 2: Optical Information

Model	Dimensions in. (mm)		Weight lb (kg)	Ambient Temperature Range °F(°C)	Shipping Dimensions H x W x D in. (mm)	Shipping Weight lb (kg)	Shipping Volume in. ³ (cm ³)
	Length	Diameter					
V2.8-6VFI	1.7 (43)	1.3 (33)	0.888 (0.04)	-4 to 122 (-20 to 50)	2.0 x 2.75 x 2.0 (51 x 70 x 51)	0.138 (0.062)	11.0 (180)
V2.8-6VF-CS-G	1.7 (43)	1.5 (38)	0.11 (0.05)	-4 to 122 (-20 to 50)	2.0 x 2.75 x 2.0 (51 x 70 x 51)	0.169 (0.077)	11.0 (180)
V2.8-12VFI	2.2 (56)	1.6 (41)	0.16 (0.07)	-4 to 122 (-20 to 50)	2.75 x 3.1 x 2.25 (70 x 79 x 57)	0.2 (0.09)	19.2 (314)
V2.8-12VF-CS-G	2.2 (56)	2.1 (54)	0.18 (0.08)	-4 to 122 (-20 to 50)	2.75 x 3.1 x 2.25 (70 x 79 x 57)	0.24 (0.1)	19.2 (314)
V3.5-8VFI-2	1.9 (48)	1.3 (33)	0.084 (0.038)	-4 to 122 (-20 to 50)	2.0 x 2.75 x 2.0 (51 x 70 x 51)	0.134 (0.061)	11.0 (180)
V3.5-8VF-CS-G-4	1.9 (48)	1.8 (46)	0.106 (0.048)	-4 to 122 (-20 to 50)	3.0 x 2.5 x 2.5 (76 x 64 x 64)	0.161 (0.07)	18.75 (307)
V5-50VFI	2.3 (58)	1.9 (47)	0.47 (0.21)	-4 to 122 (-20 to 50)	2.75 x 4.5 x 2.75 (70 x 114 x 70)	0.425 (0.19)	34.0 (557)
V5-50VF-CS-G	2.3 (58)	1.1 (28)	0.34 (0.15)	-4 to 122 (-20 to 50)	2.5 x 3.25 x 3.0 (64 x 83 x 76)	0.38 (0.17)	24.4 (404)
V4.5-10VF-CS-G-4	2.17 (55)	1.8 (46)	0.33 (0.15)	-4 to 122 (-20 to 50)	3.0 x 2.5 x 2.5 (76 x 64 x 64)	0.395 (0.18)	18.75 (307)



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