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## VT Series

HIGH SENSITIVITY & HIGH SPEED TDI LINE SCAN CAMERAS



## VTDI

- \* Next generation hybrid TDI line scan technology
- \* Up to 200 kHz at 12k resolution and 136 kHz at 18k resolution
- \* Greater sensitivity at faster speed with very low noise



**VIEWWORKS**

## VT Series – High Sensitivity TDI Line Scan Cameras

### Overview

VT series, Vieworks' Time Delayed Integration line scan cameras, is designed for applications where faster line rates and higher sensitivity are crucial.

Vieworks' advanced TDI line scan technology based on the outstanding hybrid imaging sensors allows image captures as fast as 125 kHz line rates with up to 128× higher sensitivity using the VT-4K7C camera.

Even superior resolution, line rate and sensitivity, up to 200 kHz line rate and 256× greater sensitivity can be achieved using the VT-12K5X camera.

VT series is available with Camera Link or the latest CoaXPress interface standard to meet application-specific requirements.

Featured with high speed and high sensitivity, this brand new technology is ideal for demanding applications such as flat panel display inspection, wafer inspection, printed circuit board inspection, and high-performance document scanning.

### Main Features

- \* 4k / 6k / 9k / 12k / 18k TDI Line Scan Cameras
- \* Bidirectional Operations with up to 256 TDI stages
- \* CoaXPress or Camera Link Interface
- \* Anti-blooming
- \* Exposure Control
- \* Advanced PRNU and DSNU Correction
- \* Area Scan Mode for Camera Alignment

### Applications

- \* Flat Panel Display Inspection
- \* Printed Circuit Board Inspection
- \* Wafer Inspection
- \* High Performance Document Scanning



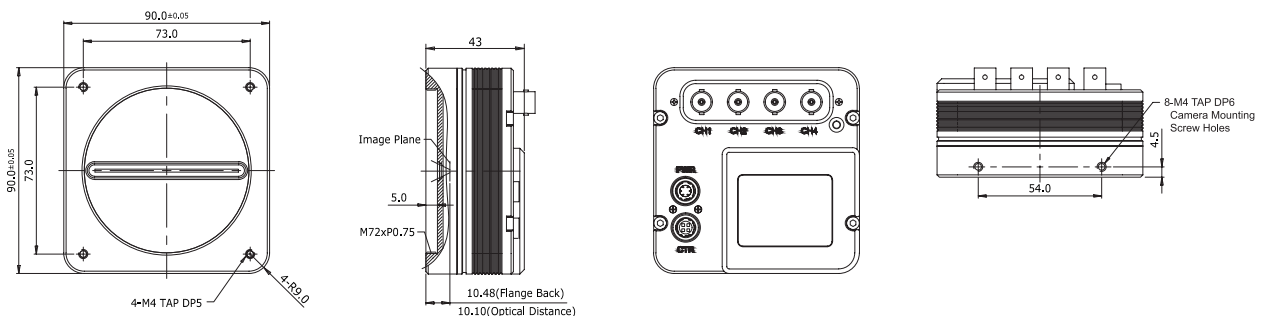
## VT Series – High Sensitivity TDI Line Scan Cameras

### Specifications



Model	VT-18K3.5X-H140	VT-12K5X-H200	VT-9K7X-H250	VT-6K10X-H170
Resolution (H × V)	17824 × 256	12480 × 256	8912 × 128	6240 × 128
Pixel Size	3.5 μm × 3.5 μm	5.0 μm × 5.0 μm	7.0 μm × 7.0 μm	10.0 μm × 10.0 μm
Interface	CoaXPRESS			
Max. Line Rate	136 kHz (@ROI 17824) 142 kHz (@ROI 16384)	192 kHz (@ROI 12480) 200 kHz (@ROI 12000)	250 kHz (@ROI 8912)	172 kHz (@ROI 6240)
Max. Line Rate (2 × 2 Binning)	142 kHz	172 kHz	172 kHz	-
Min. Line Rate	1 kHz			
Pixel Data Format	8 / 10 / 12 bit			
TDI Stage	64 / 128 / 192 / 256		32 / 64 / 96 / 128	
Trigger Mode	Free-Run, Timed, Trigger Width			
Throughput	2.42 Gpix/s	2.40 Gpix/s	2.23 Gpix/s	1.07 Gpix/s
Gamma Correction	User Defined Lookup Table (LUT)			
Black Level	Adjustable (0 ~ 128 LSB at 8 bit)			
Analog Gain	0 ~ 12 dB			
Lens Mount	M72 × 0.75 (Sensor to Camera Front: 10.5 mm)			
Dimension (mm <sup>3</sup> ) / Weight	90×90×43 / 500 g			
Temperature	Ambient Operating: 0°C ~ 40°C (Housing: 10°C ~ 50°C), Storage: -40°C ~ 70°C			
Power	10 ~ 30 V DC			
Power Dissipation	Max. 15 W	Max. 12 W	Max. 12 W	Max. 12 W
API SDK	Vieworks Imaging Solution 7.X			

### Mechanical Dimension in mm



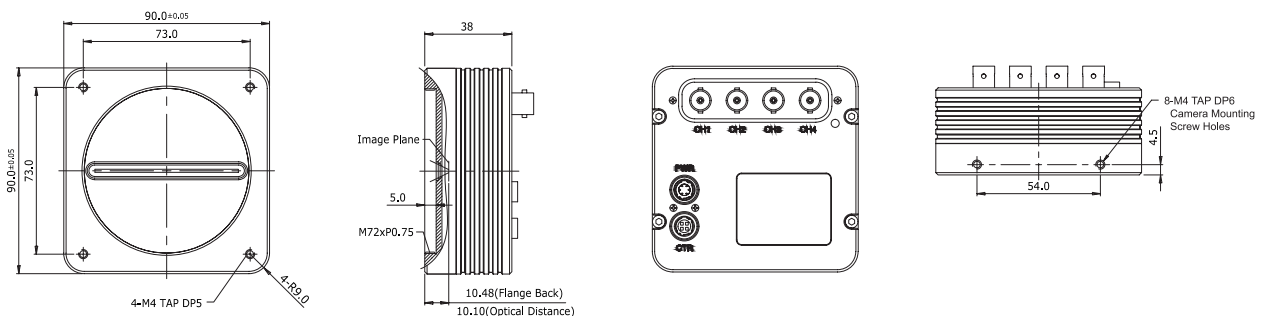
## VT Series – High Sensitivity TDI Line Scan Cameras

### Specifications



Model	VT-18K3.5X-H80	VT-12K5X-H100	VT-9K7X-H120
Resolution (H × V)	17824 × 256	12480 × 256	8912 × 128
Pixel Size	3.5 μm × 3.5 μm	5.0 μm × 5.0 μm	7.0 μm × 7.0 μm
Interface	CoaXPress		
Max. Line Rate	80 kHz (@ROI 17824)	100 kHz (@ROI 12480)	125 kHz (@ROI 8912)
Max. Line Rate (2 × 2 Binning)	80 kHz	100 kHz	125 kHz
Min. Line Rate	1 kHz		
Pixel Data Format	8 / 10 / 12 bit		
TDI Stage	64 / 128 / 192 / 256	32 / 64 / 96 / 128	
Trigger Mode	Free-Run, Timed, Trigger Width		
Throughput	1.43 Gpix/s	1.25 Gpix/s	1.11 Gpix/s
Gamma Correction	User Defined Lookup Table (LUT)		
Black Level	Adjustable (0 ~ 128 LSB at 8 bit)		
Analog Gain	0 ~ 12 dB		
Lens Mount	M72 × 0.75 (Sensor to Camera Front: 10.5 mm)		
Dimension (mm <sup>3</sup> ) / Weight	90×90×38 / 500 g		
Temperature	Ambient Operating: 0°C ~ 40°C (Housing: 10°C ~ 50°C), Storage: -40°C ~ 70°C		
Power	10 ~ 30 V DC		
Power Dissipation	Max. 15 W	Max. 12 W	Max. 12 W
API SDK	Vieworks Imaging Solution 7.X		

### Mechanical Dimension in mm



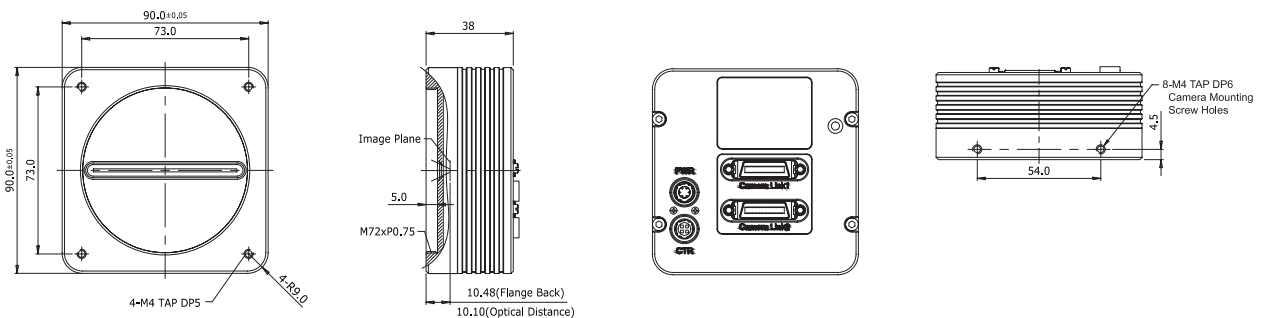
## VT Series – High Sensitivity TDI Line Scan Cameras

### Specifications



Model	VT-18K3.5C-H40	VT-12K5C-H60	VT-9K7C-H80	VT-4K14C-H120	VT-4K7C-H120
Resolution (H × V)	17824 × 256	12480 × 256	8912 × 128	4096 × 128	4096 × 128
Pixel Size	3.5 μm × 3.5 μm	5.0 μm × 5.0 μm	7.0 μm × 7.0 μm	14.0 μm × 14.0 μm	7.0 μm × 7.0 μm
Interface	Camera Link				
Max. Line Rate	47kHz(@ROI 17824)	67kHz(@ROI 12480)	94kHz(@ROI 8912)	125kHz(@ROI 4096)	125kHz(@ROI 4096)
Max. Line Rate (2 × 2 Binning)	80 kHz	100 kHz	120 kHz	-	120 kHz
Min. Line Rate	1 kHz				
Pixel Data Format	8 / 10 / 12 bit				
TDI Stage	64 / 128 / 192 / 256		32 / 64 / 96 / 128	16 / 32 / 48 / 64	32 / 64 / 96 / 128
Trigger Mode	Free-Run, Timed, Trigger Width				
Throughput	0.83 Gpix/s	0.83 Gpix/s	0.83 Gpix/s	0.51 Gpix/s	0.51 Gpix/s
Gamma Correction	User Defined Lookup Table (LUT)				
Black Level	Adjustable (0 ~ 128 LSB at 8 bit)				
Analog Gain	0 ~ 12 dB				
Lens Mount	M72 × 0.75 (Sensor to Camera Front: 10.5 mm)				
Dimension / Weight	90 mm × 90 mm × 38 mm / 500 g				
Temperature	Ambient Operating: 0°C ~ 40°C (Housing: 10°C ~ 50°C), Storage: -40°C ~ 70°C				
Power	10 ~ 30 V DC				
Power Dissipation	Max. 15 W	Max. 12 W	Max. 12 W	Max. 12 W	Max. 12 W
Configuration Software	Configurator				

### Mechanical Dimension in mm



# VT Series – High Sensitivity TDI Line Scan Cameras

## Specifications

### Connector Specification

#### Power



1 2 3: +12V DC, 4 5 6: GND  
(HR10A-7R-6PB)

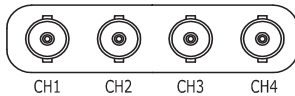
#### Control



1: Trigger IN, 2: Direction IN  
3: DC Ground, 4: Strobe OUT+  
(HR10A-7R-4S)

#### Data Transfer/Communications

##### BNC



CH1: Master Connection (75 Ω)

Connectors on camera body



### Ordering Scheme

VT - 18K 3.5 X - H 140

#### Series

VT Series

#### Sensor Resolution

4K - 4096 pixels  
6K - 6240 pixels  
9K - 8912 pixels  
12K - 12480 pixels  
18K - 17824 pixels

#### Pixel Size

3.5 - 3.5 μm  
5 - 5.0 μm  
7 - 7.0 μm  
10 - 10.0 μm  
14 - 14.0 μm

#### Interface

X - CoaXPress  
C - Camera Link

#### Line Rate

40 - 47 KHz  
60 - 67 KHz  
80 - 80 KHz / 94 KHz  
100 - 100 KHz  
120 - 125 KHz  
140 - 142 KHz  
170 - 172 KHz  
200 - 200 KHz  
250 - 250 KHz

#### Sensitivity

S - Superior  
H - Hyper

For more information please contact local distributor or visit our website at <http://www.vieworks.com>.

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