

# Pantera TF 1M60

*This progressive scan camera uses a TrueFrame™ Frame Transfer architecture—it has an on-chip shielded storage region and requires no mechanical shutter.*

**60 frames per second of full 1k by 1k resolution and 12-bit digitization gives you the speed to succeed in the most demanding applications.**

The 1M60 Pantera camera provides high-sensitivity 12-bit images with 1k x 1k spatial resolution at up to 60 frames per second (fps). The 1M60 is a frame transfer CCD camera using a TrueFrame™ progressive scan CCD to simultaneously achieve outstanding resolution and gray scale characteristics. A square pixel format and 100% fill factor provide superior, quantifiable image quality even at low light levels.

12 bit performance provides up to 4096 distinct gray levels—perfect for detail-oriented applications with large interscene light variations. The low-noise, digitized video signal also makes the camera an excellent choice where low contrast images must be captured in challenging applications.



## Features

- 12 bit digitization
- Exposure control and antiblooming
- 100% fill factor
- High sensitivity with low dark current
- Base Camera Link

## Programmability

- Small step gain control in increments of 1DN for excellent tap matching
- Selectable one or two output taps
- Exposure mode and timing control
- Selectable 8, 10, or 12 bit output
- Selectable 1x1, 2x2, or 4x4 binning
- Video mode and test pattern selection

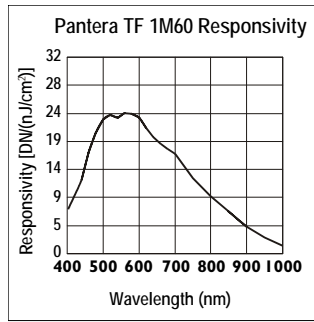
## Typical Applications

- Automated x-ray inspection (AXI)
- Non-destructive test
- Medical imaging
- Microscopy

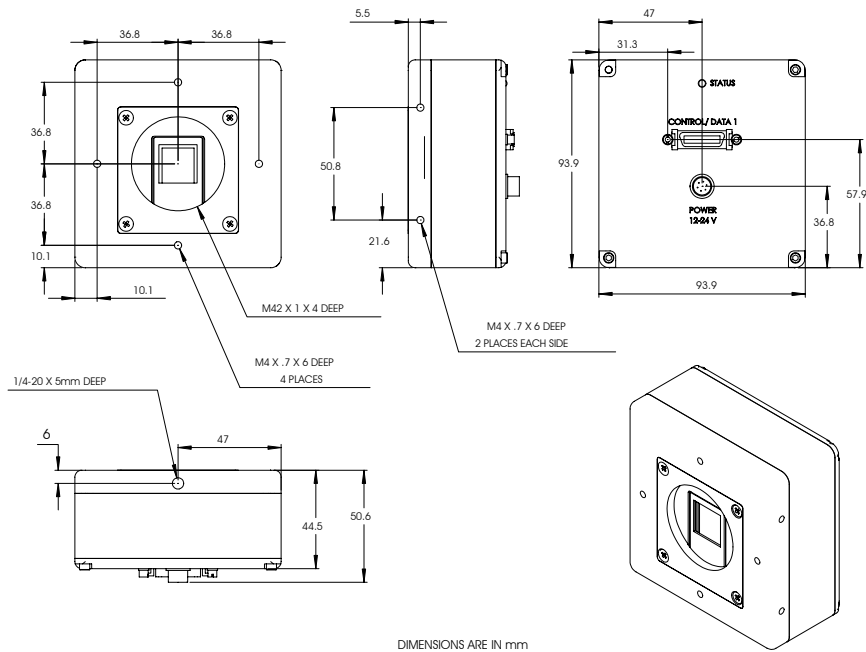
## Camera Specifications

<b>Resolution</b>	1024 x 1024
<b>Data Rate</b>	2x40MHz
<b>Max. Line/Frame Rate</b>	60fps
<b>Pixel Size</b>	12µm x 12µm
<b>Data Format</b>	2x 8/10/12-bit Base Camera Link
<b>Lens Mount</b>	M42x1, F mount accessories
<b>Responsivity</b>	24DN/(nJ/cm²) @540nm
<b>Dynamic Range</b>	66dB
<b>Nominal Gain Range</b>	1x to 4x
<b>Size</b>	94x94x45mm
<b>Mass</b>	0.85kg
<b>Operating Temp</b>	0-40°C
<b>Power Supply</b>	12 to 15V
<b>Power Dissipation</b>	<17W
<b>Regulatory Compliance</b>	CE
<b>Control</b>	MDR26 Camera Link
<b>Data</b>	Shared with Control
<b>Power</b>	Hirose HR10 6-pin
<b>Example Part Number</b>	DS-21-01M60

### Responsivity



### Mechanical Dimensions



### For More Information

For more detailed information on this and other products, including pinouts, timing, software, and signal descriptions see the user's manual. The user's manual is available at <http://vfm.dalsa.com>. You can also contact your local rep or visit our website at <http://vfm.dalsa.com>.

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