

- Low cost
- · Burst mode
- Compact
- · Meta data per each line

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 bit output
- Smart flat field and lens shading correction
- · 4 programmable coefficient sets
- Configurable GPIO ports, timers and counters

#### **Typical Applications**

- · Automated optical inspection
- High performance sorting systems
- · Materials grading
- Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

• CE, FCC and RoHS

# High Performance Color GigE Camera with TurboDrive

The new Linea Color™ line scan cameras deliver the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on bilinear color CMOS technology, the Linea Color GigE cameras has a 2k or 4k  $7.04\,\mu\text{m}$  x  $7.04\,\mu\text{m}$  pixel array. With excellent sensitivity and speed, Linea Color surpasses the requirements of demanding applications—such as food sorting, materials grading, web inspection, and general purpose machine vision.

The Linea Color cameras come complete with many attractive features, including configurable GPIO ports, Burst Mode and Meta Data per each line. The GigE models provide multiple ROI and AOI, and multiple user and calibration coefficients sets for various lighting conditions.

Our proprietary, patent pending, TurboDrive™ technology delivers high speed data transfer capability that breaks through the GigE limit. Depending on the application, speeds up to 45 kHz are achievable, as TurboDrive boosts data transfer speeds 2 or 3 times faster than standard GigE Vision™ speeds – with no loss of image quality.

#### **Specifications**

Resolution 2048 x 2 or 4096 x 2

Line Rate 26 kHz, maximum—2k models without TurboDrive

13 kHz, maximum—4k models without TurboDrive (45 kHz, maximum—both models with TurboDrive)

Pixel Size  $7.04 \mu \text{m} \times 7.04 \mu \text{m}$ 

Data Format 8 bit

Output Gigabit Ethernet

Lens Mount M42 x 1, C and F-mount adapters available

Responsivity See graph

Dynamic Range > 60 dB

Nominal Gain Range 10x

Size 62 mm x 62 mm x 46.64 mm

Mass < 280 g

Operating Temp 0 °C to 65 °C (front plate)

Power +12 V to +24 V DC, HD15 connector (shared with I / O)

Power Dissipation < 8 W

/ O HD15 connector

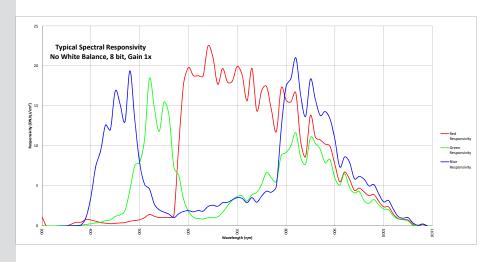
Software Platform GigE Vision v1.2 compliant Teledyne DALSA Sapera LT

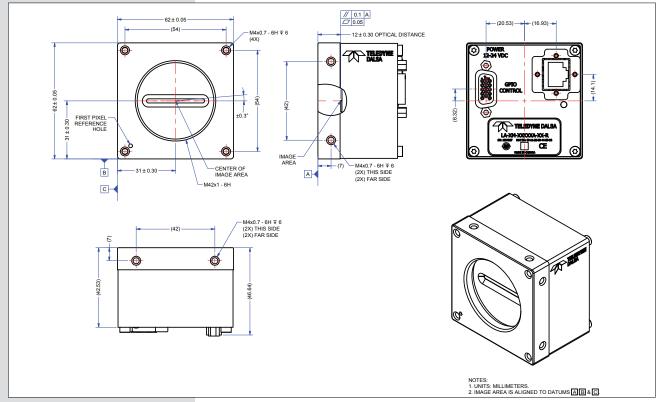
or 3rd party GenlCam™ compliant SDK

		Models	
Part Number	Resolution	Maximum Line Rates	Pixel Size
LA-GC-02K05B-00-R	2048 x 2	26 kHz without TurboDrive (45 kHz with TurboDrive)	7.04 μm x 7.04 μm
LA-GC-04K05B-00-R	4096 x 2	13 kHz without TurboDrive (45 kHz with TurboDrive)	7.04 μm x 7.04 μm









#### www.teledynedalsa.com

Americas Boston, USA +1 978-670-2000

+1 978-670-2000 sales.americas@teledynedalsa.com Europe
Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific
Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com



### Linea 2K and 4K GigE Vision Monochrome CMOS Line Scan Cameras



#### **Key Features**

- · Low cost
- · Cycling mode
- Compact
- · Burst mode
- · Meta data per each line

#### **Programmability**

- · Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- · Smart flat field and lens shading correction
- 4 programmable coefficient sets
- · Configurable GPIO ports, timers and counters

#### **Typical Applications**

- · Automated optical inspection
- · High performance sorting systems
- Materials grading and inspection
- Web inspection
- · General purpose machine vision

#### **Regulatory Compliance**

· CE, FCC and RoHS

### High Performance Monochrome GigE Camera with TurboDrive

The new Linea™ line scan cameras deliver the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on the most advanced CMOS line scan technology, the Linea GigE cameras have a 2k or 4k single line 7.04 μm x 7.04 μm pixel array. With excellent sensitivity and speed, Linea surpasses the requirements of demanding applications—such as materials grading and inspection, transportation safety, and general purpose machine vision.

The Linea cameras come complete with many features, including cycling mode, configurable GPIO ports, burst mode and meta data per each line. Like the Camera Link models, the GigE models provide multiple ROI and AOI, and multiple user and calibration coefficients sets for various lighting conditions.

Our proprietary, patent pending, TurboDrive™ technology delivers high speed data transfer capability that breaks through the GigE limit. Depending on the application, speeds up to 80 kHz are achievable, as TurboDrive boosts data transfer 2 or 3 times faster than standard GigE Vision™ speeds – with no loss of image quality.

#### **Specifications**

Resolution 2048 or 4096 pixels

Line Rate 52 kHz, maximum—2k models without TurboDrive

26 kHz, maximum—4k models without TurboDrive

(80 kHz, maximum—both models with TurboDrive)

Pixel Size  $7.04 \, \mu \text{m} \times 7.04 \, \mu \text{m}$ Data Format 8 or 12 bit selectable Gigabit Ethernet Output

M42 x 1, C and F-mount adapters available Lens Mount Responsivity 320 DN / (nJ / cm²) in 12 bit at 1x gain

Dynamic Range > 60 dBNominal Gain Range 1x to 10x

Size 62 mm x 62 mm x 46.7 mm

Mass < 280 a

0 °C to 65 °C (front plate) Operating Temp

Power 12 V to 24 V DC, HD15 connector (shared with I / O)

Power Dissipation < 6 W

HD15 connector

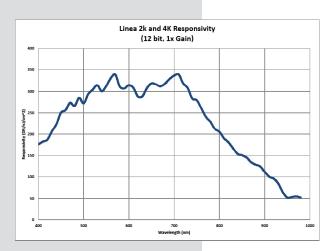
Software Platform GigE Vision v1.2 compliant Teledyne DALSA Sapera LT

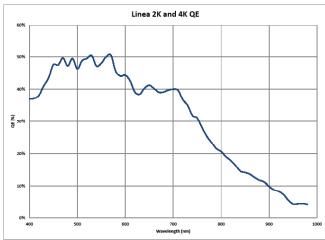
or 3rd party GenlCam™ compliant SDK

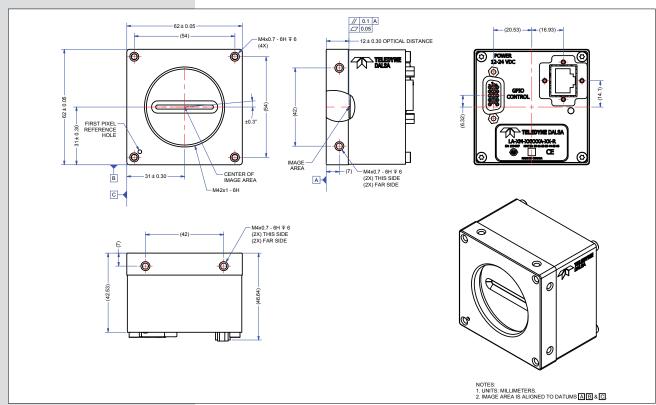
		Models	
Part Number	Resolution	Maximum Line Rates	Pixel Size
LA-GM-02K08A-00-R	2048	52 kHz without TurboDrive (80 kHz with TurboDrive)	7.04 μm x 7.04 μm
LA-GM-04K08A-00-R	4096	26 kHz without TurboDrive (80 kHz with TurboDrive)	7.04 μm x 7.04 μm



## Linea 2K and 4K GigE Vision Monochrome CMOS Line Scan Cameras







#### www.teledynedalsa.com

Americas Boston, USA +1 978-670-2000

sales.americas@teledynedalsa.com

Europe Krailling, Germany +49 89-89-54-57-3-80 sales.europe@teledynedalsa.com Asia Pacific Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com



### Linea 16K Camera Link Monochrome CMOS Line Scan Cameras



#### **Key Features**

- High speed: up to 48 kHz
- 16,384 pixel resolution
- · Low cost and compact
- Camera Link<sup>™</sup> interface

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading
   correction
- 8 programmable coefficient sets

#### **Typical Applications**

- · Automated optical inspection
- Security systems
- · High performance sorting systems
- Materials grading and inspection systems
- Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

• CE, FCC and RoHS

### High Performance, Low Cost

The new Linea™ line scan camera delivers the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on the most advanced CMOS line scan technology, the camera employs a 16k single line 3.5  $\mu$ m x 3.5  $\mu$ m pixel array at a 48 kHz maximum line rate. With excellent sensitivity and speed, Linea surpasses the requirements of demanding applications—such as materials grading and inspection, transportation safety, and general purpose machine vision.

Linea is a compact, light weight and robust camera with many attractive features, including flat-field correction, multiple ROI and AOI, multiple user configuration sets, and calibration coefficients for various lighting conditions.

GenlCam<sup>™</sup> compliant Linea is easy to set up and integrate using a GUI, such as Teledyne DALSA's Sapera<sup>™</sup> camera configuration utility CamExpert.

#### **Specifications**

Resolution 16,384 pixels

Line Rate 48 kHz, maximum

Pixel Size 3.5  $\mu$ m x 3.5  $\mu$ m

Data Format 8 or 12 bit selectable

Output Base, Medium, Full, and Deca Camera Link
Lens Mount M72 x 0.75, F-mount adapter available
Responsivity 80 DN / (nJ / cm²) in 12 bit @ 1x gain

Dynamic Range > 60 dB
Nominal Gain Range 1x to 10x

Size 76.0 mm x 76.0 mm x 36.72 mm

Mass < 360 g

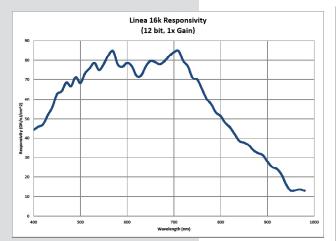
Operating Temp 0 °C to +65 °C (front plate)
Power +12 V to +24 V DC, Hirose 6-pin

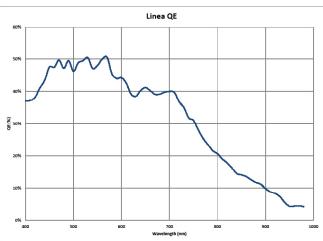
Power Dissipation < 11 W

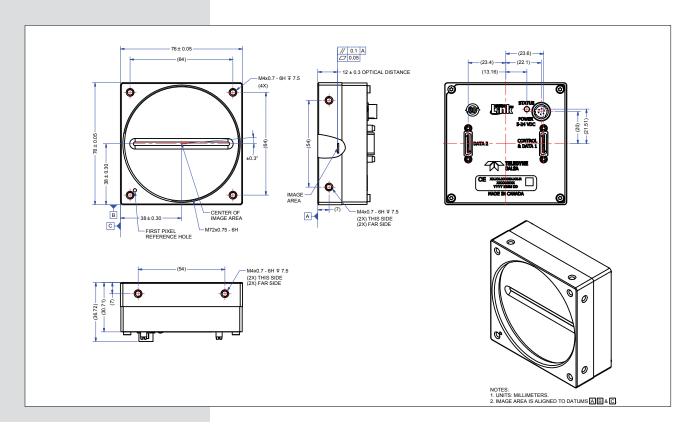
Models				
Part Number	Resolution	Maximum Line Rates	Pixel Size	
LA-CM-16K05A-00-R	16,384	48 kHz	3.5 μm x 3.5 μm	



## Linea 16K Camera Link Monochrome CMOS Line Scan Cameras







#### www.teledynedalsa.com

Americas Boston, USA +1 978-670-2000 sales.americas@teledynedalsa.com Europe Krailling, Germany +49 89-89-54-57-3-80 sales.europe@teledynedalsa.com Asia Pacific Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com





- High speed: up to 80 kHz
- 2048 or 4096 pixel resolution
- Low cost and compact

#### **Programmability**

- Multiple regions of interest and areas or interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading correction
- 8 programmable coefficient sets
- Flexible signalling and synchronization

#### **Typical Applications**

- · Automated optical inspection
- · Security systems
- High performance sorting systems
- Materials grading and inspection systems
- · Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

· CE, FCC and RoHS

### High Performance, Low Cost

The new Linea™ family of line scan cameras provides the uncompromising performance and rich feature-set found in Teledyne DALSA's high-end line scan cameras at an unprecedented price point.

Based on the most advanced CMOS line scan technology Linea employs a 2K or 4K single line 7.04  $\mu$ m x 7.04  $\mu$ m pixel array at an 80 kHz maximum line rate. With excellent sensitivity and speed, Linea surpasses the requirements of demanding applications—such as materials grading and inspection, transportation safety, and general purpose machine vision.

Linea is a compact, light weight and robust camera with many attractive features, including full-fledged flat-field correction, multiple ROI and AOI, smart triggers through programmable GPIO, multiple user configuration sets, and calibration coefficients for various lighting conditions.

GenlCam™ compliant Linea is easy to set up and integrate using a GUI, such as Teledyne DALSA's Sapera™ camera configuration utility CamExpert.

#### **Specifications**

Resolution 2048 or 4096 pixels
Line Rate 80 kHz, maximum
Pixel Size 7.04  $\mu$ m x 7.04  $\mu$ m
Data Format 8 or 12 bit selectable
Output Base, Medium, and Full Camera Link
Lens Mount M42 x 1, C and F-mount adapters available

Responsivity 320 DN / (nJ / cm²) in 12 bit at 1x gain

Dynamic Range > 60 dB

Nominal Gain Range 1x to 10x

Size 62 mm x 62 mm x 37 mm

Mass < 270 g

Operating Temp 0 °C to +65 °C (front plate)

Power +5 V to +24 V DC, Hirose 6-pin or PoCL

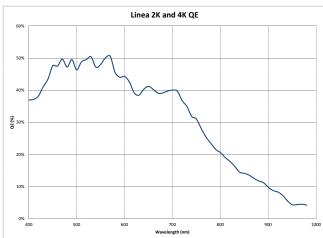
Power Dissipation < 4.5 W

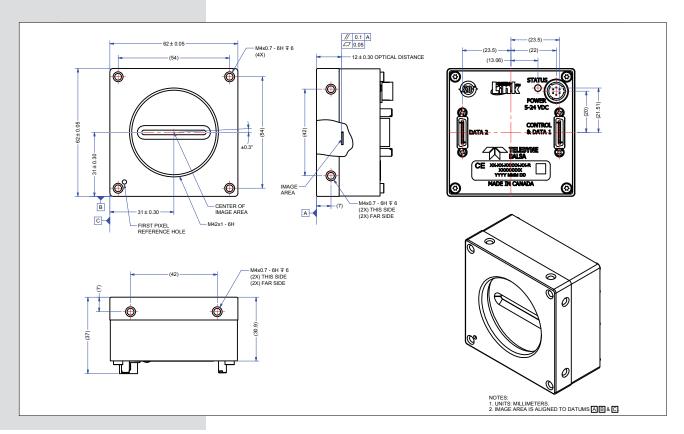
Models				
Part Number	Resolution	Maximum Line Rates	Pixel Size	
LA-CM-02K08A-00-R	2048	80 kHz	7.04 μm x 7.04 μm	
LA-CM-04K08A-00-R	4096	80 kHz	7.04 μm x 7.04 μm	



## Linea 2K and 4K Monochrome CMOS Line Scan Cameras







#### www.teledynedalsa.com

**Americas** Boston, USA +1 978-670-2000

sales.americas@teledynedalsa.com

Europe Krailling, Germany +49 89-89-54-57-3-80 sales.europe@teledynedalsa.com Asia Pacific Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com



### Linea 8K Camera Link Monochrome CMOS Line Scan Cameras



#### **Key Features**

- High speed: up to 80 kHz
- 8192 pixel resolution
- · Low cost and compact
- Camera Link<sup>™</sup> interface

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading correction
- 8 programmable coefficient sets
- Flexible signalling and synchronization

#### **Typical Applications**

- Automated optical inspection
- Security systems
- · High performance sorting systems
- Materials grading and inspection systems
- · Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

· CE, FCC and RoHS

### High Performance, Low Cost

The new Linea™ line scan camera delivers the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on the most advanced CMOS line scan technology, the Linea camera employs an 8k single line  $7.04\,\mu\text{m}$  x  $7.04\,\mu\text{m}$  pixel array at an 80 kHz maximum line rate. With excellent sensitivity and speed, Linea surpasses the requirements of demanding applications—such as materials grading and inspection, transportation safety, and general purpose machine vision.

Linea is a compact, light weight and robust camera with many attractive features, including flat-field correction, multiple ROI and AOI, smart triggers and programmable GPIO, multiple user configuration sets, and calibration coefficients for various lighting conditions.

GenlCam™ compliant Linea is easy to set up and integrate using a GUI, such as Teledyne DALSA's Sapera™ camera configuration utility CamExpert.

#### **Specifications**

 Resolution
 8192 pixels

 Line Rate
 80 kHz, maximum

 Pixel Size
 7.04 μm x 7.04 μm

 Data Format
 8 or 12 bit selectable

Output Base, Medium, and Full Camera Link
Lens Mount M72 x 0.75, F-mount adapter available
Responsivity 320 DN / (nJ / cm²) in 12 bit @ 1x gain

Dynamic Range > 60 dB
Nominal Gain Range 1x to 10x

Size 76.0 mm x 76.0 mm x 36.72 mm

Mass < 310 g

Operating Temp 0 °C to +65 °C (front plate)
Power +5 V to +24 V DC, Hirose 6-pin

Power Dissipation < 8 W

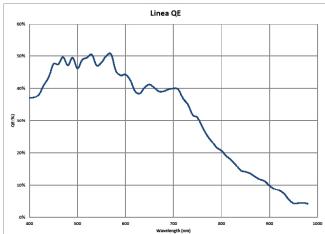
Models				
Part Number	Resolution	Maximum Line Rates	Pixel Size	
LA-CM-08K08A-00-R	8192	80 kHz	7.04 μm x 7.04 μm	

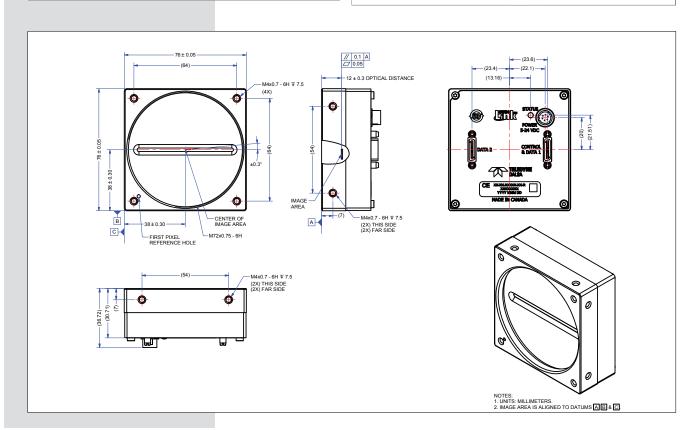


### Linea 8K Camera Link Monochrome CMOS Line Scan Cameras



700 elength (nm)





#### www.teledynedalsa.com

Americas
Boston, USA
+1 978-670-2000
sales.americas@teledynedalsa.com

Europe
Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com



## Linea 8K GigE Vision Monochrome CMOS Line Scan Cameras



#### **Key Features**

- · Low cost and compact
- Cycling mode
- Burst mode
- · Meta data per each line

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading correction
- 4 programmable coefficient sets
- Configurable GPIO ports, timers and counters

#### **Typical Applications**

- · Automated optical inspection
- High performance sorting systems
- · Materials grading and inspection
- Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

• CE, FCC and RoHS

# High Performance GigE Camera with TurboDrive

The new Linea™ line scan cameras deliver the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on the most advanced CMOS line scan technology, the Linea GigE cameras employ an 8k single line  $7.04~\mu m \times 7.04~\mu m$  pixel array. With excellent sensitivity and speed, Linea surpasses the requirements of demanding applications—such as materials grading and inspection, transportation safety, and general purpose machine vision.

The Linea cameras come complete with many attractive features, including Cycling Mode, configurable GPIO ports, Burst Mode and Meta Data per each line. Like the Camera Link models, the GigE models provide multiple ROI and AOI, and multiple user and calibration coefficients sets for various lighting conditions.

Our proprietary, patent pending, TurboDrive™ technology delivers high speed data transfer capability that breaks through the GigE limit. Depending on the application, speeds up to 45 kHz are achievable, as TurboDrive boosts data transfer 2 or 3 times faster than standard GigE Vision™ speeds – with no loss of image quality.

#### **Specifications**

Resolution 8192 pixels

Line Rate 13 kHz, maximum—without TurboDrive (45 kHz, maximum—with TurboDrive)

Pixel Size  $7.04 \mu m \times 7.04 \mu m$ Data Format 8 or 12 bit selectable

Output Gigabit Ethernet

Lens Mount M72 x 0.75, F-mount adapters available Responsivity 340 DN / (nJ / cm²) in 12 bit at 1x gain

Dynamic Range > 60 dB
Nominal Gain Range 1x to 10x

Size 76.0 mm x 76.0 mm x 46.7 mm

Mass < 380 g

Operating Temp 0 °C to 65 °C (front plate)

Power 12 V to 24 V DC, HD15 connector (shared with I / O)

Power Dissipation < 7.5 W

O HD15 connect

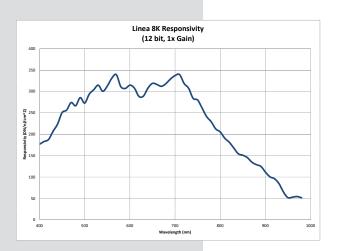
Software Platform GigE Vision v1.2 compliant Teledyne DALSA Sapera LT

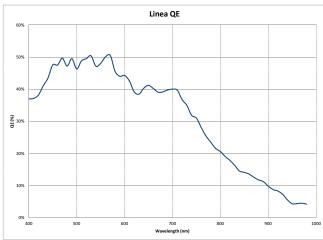
or 3rd party GenlCam™ compliant SDK

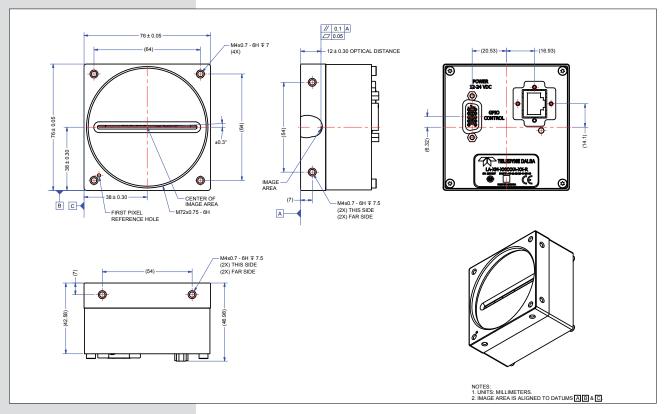
		Models	
Part Number	Resolution	Maximum Line Rates	Pixel Size
LA-GM-08K08A-00-R	8192	13 kHz without TurboDrive (45 kHz with TurboDrive)	7.04 μm x 7.04 μm



## Linea 8K GigE Vision Monochrome CMOS Line Scan Cameras







#### www.teledynedalsa.com

**Americas** Boston, USA +1 978-670-2000

sales.americas@teledynedalsa.com

Europe

Krailling, Germany +49 89-89-54-57-3-80 sales.europe@teledynedalsa.com Asia Pacific

Tokyo, Japan +81 3-5960-6353 sales.asia@teledynedalsa.com





- High speed: up to 48 kHz
- 4096 x 2 pixel resolution
- · Low cost and compact
- · Camera Link interface

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading correction
- 8 programmable coefficient sets

#### **Typical Applications**

- · Automated optical inspection
- High performance sorting systems
- · Materials grading
- Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

· CE. FCC and RoHS

# High Performance and Low Cost. Now in Color

The new Linea Color™ line scan camera delivers the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

Based on bilinear CMOS technology, the Linea Color camera has a 4k, 7.04  $\mu$ m x 7.04  $\mu$ m pixel array, and a 48 kHz maximum line rate. With excellent sensitivity and speed, Linea Color surpasses the requirements of demanding applications—such as materials grading, web inspection, and general purpose machine vision.

The Linea Color is a compact, light weight and robust camera with many attractive features, including flat-field correction, multiple ROI and AOI, multiple user configuration sets, and calibration coefficients for various lighting conditions.

The GenlCam™ compliant Linea is easy to set up and integrate using a GUI, such as Teledyne DALSA's Sapera™ camera configuration utility CamExpert.

#### **Specifications**

Output Base, Medium, Full, and Deca Camera Link
Lens Mount M42 x 1, C and F-mount adapters available

Responsivity

Dynamic Range

Nominal Gain Range

See graph

> 60 dB

1x to 10x

Size 62.0 mm x 62.0 mm x 37.0 mm

Mass < 190 c

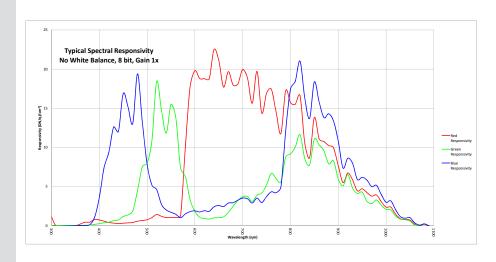
Operating Temp 0 °C to +65 °C (front plate)
Power 12 V to 24 V DC, Hirose 6-pin

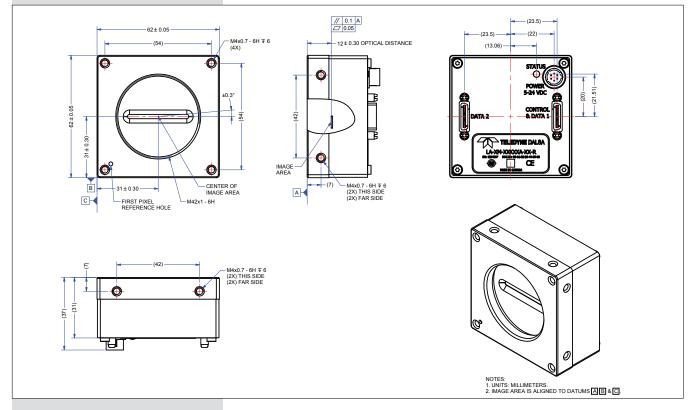
Power Dissipation 8 W

Models				
Part Number	Resolution	Maximum Line Rates	Pixel Size	
LA-CC-04K05B-00-R	4096 x 2	48 kHz	7.04 μm x 7.04 μm	









#### www.teledynedalsa.com

Americas Boston, USA +1 978-670-2000

+1 978-670-2000 sales.americas@teledynedalsa.com

Europe
Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific
Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com





- High speed: up to 48 kHz
- 8192 x 2 pixel resolution
- · Low cost and compact
- · Camera Link interface

#### **Programmability**

- Multiple regions of interest and areas of interest for calibration and data reduction
- 8 or 12 bit output, selectable
- Smart flat field and lens shading correction
- 8 programmable coefficient sets

#### **Typical Applications**

- Automated optical inspection
- High performance sorting systems
- · Materials grading
- Web inspection
- General purpose machine vision

#### **Regulatory Compliance**

· CE. FCC and RoHS

# High Performance and Low Cost. Now in Color

The new Linea Color™ line scan camera delivers the exceptional performance and features found in Teledyne DALSA's current lineup of high-end cameras at an unprecedented price point.

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The Linea Color is a compact, light weight and robust camera with many attractive features, including flat-field correction, multiple ROI and AOI, multiple user configuration sets, and calibration coefficients for various lighting conditions.

The GenlCam<sup>™</sup> compliant Linea is easy to set up and integrate using a GUI, such as Teledyne DALSA's Sapera<sup>™</sup> camera configuration utility CamExpert.

#### **Specifications**

Resolution8192 x 2 pixelsLine Rate48 kHz, maximumPixel Size $7.04 \mu m x 7.04 \mu m$ Data Format8 or 12 bit selectable

Output Base, Medium, Full, and Deca Camera Link
Lens Mount M72 x 0.75, F-mount adapter available

Responsivity

See graph

Dynamic Range

> 60 dB

Nominal Gain Range

10x

Size 76.0 mm x 76.0 mm x 36.72 mm

Mass < 310 c

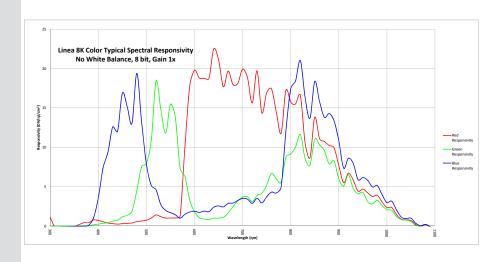
Operating Temp 0 °C to +65 °C (front plate)
Power 12 V to 24 V DC, Hirose 6-pin

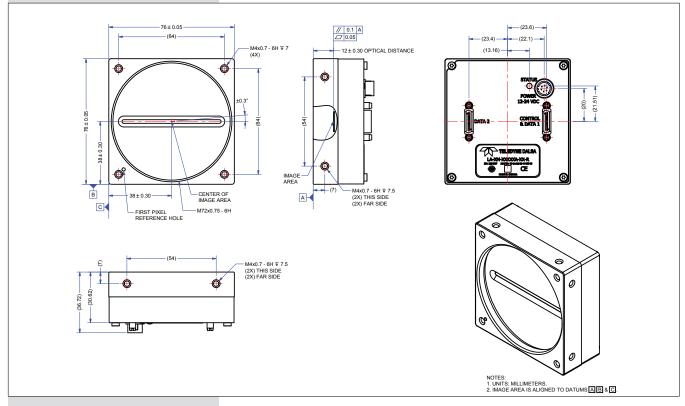
Power Dissipation 11 W

		Models	
Part Number	Resolution	Maximum Line Rates	Pixel Size
LA-CC-08K05B-00-R	8192 x 2	48 kHz	7.04 μm x 7.04 μm









#### www.teledynedalsa.com

Americas
Boston, USA
+1 978-670-2000
sales.americas@teledynedalsa.com

Europe
Krailling, Germany
+49 89-89-54-57-3-80
sales.europe@teledynedalsa.com

Asia Pacific
Tokyo, Japan
+81 3-5960-6353
sales.asia@teledynedalsa.com

