Industrial 3D Sensors

VRmLS1-GEV LineScan3D

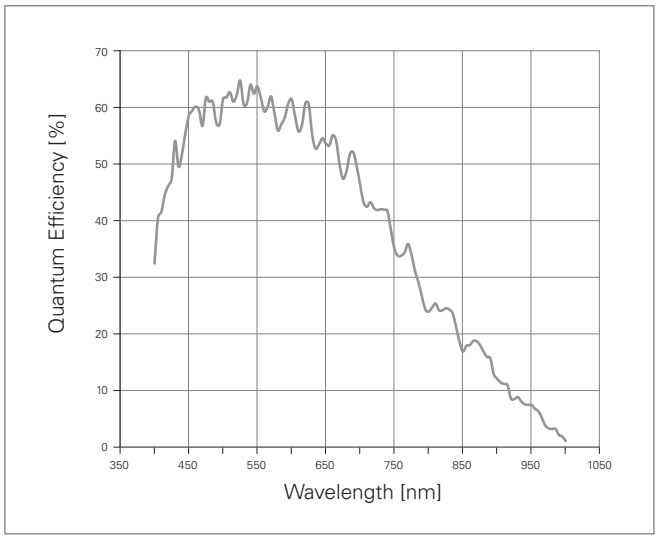
3D Laser Line Scanner

- GigE Vision compliant (CVB GigEVision Server by Stemmer Imaging)
- 1000 Hz @ 360 lines scan rate, 2,048 points per profile
- On-board laser line extraction using the FPGA based configurable VRmLineExtraction algorithm
- Optional intensity image
- 24 V power supply, Gigabit Ethernet and RS485 IOs on industry-standard M12 connectors
- Rugged IP65/67 aluminum housing
- Dedicated redundant laser interlock circuit
- License for Stemmer Imaging CVB Camera Suite included

Physical Characteristics	
Dimensions (WxHxD)	240 x 120 x 50 mm
Power/Laser Interlock Connector	M12, 8-pin A-coded male
Ethernet Connector	M12, 8-pin X-coded female
Trigger In Connector	M12, 12-pin A-coded male
Trigger Out Connector	M12, 12-pin A-coded female
Certification	CE, FCC
IP Rating	IP65/IP67

Sensor Characteristics	
Sensor type	CMOSIS CMV2000
Technology	CMOS, global shutter
Chromaticity	monochrome
Sensor Size	2/3"
Resolution	2048 x 1088 px
Pipelined trigger	yes
Pixel Size	5.5 x 5.5 µm
Max. Frame Rate*	338 Hz

* Maximum value at full AOI



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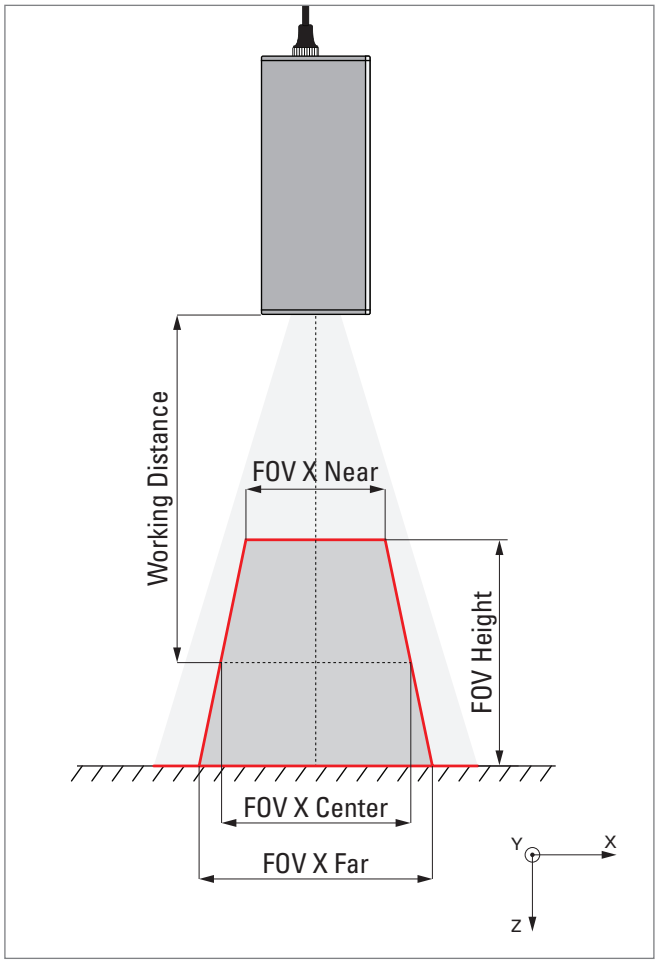
Industrial 3D Sensors

3D Measurement	
Profile Speed	1000 Hz @ 360 lines (1/3 AOI) 338 Hz @ 1088 lines (full AOI)
Profile Resolution	2,048 points per profile
X Resolution	near: 62 µm per pixel center: 79 µm per pixel far: 105 µm per pixel
Z Resolution	near: 118 µm per pixel center: 187 µm per pixel far: 329 µm per pixel
Z Resolution with 1/64 sub-pixel calculation	near: 1.8 µm center: 2.9 µm far: 5.1 µm
Output Format	16 bit profile coordinates 16 bit intensity image (optional)
Line Extraction	Integrated, robust, configurable, profile algorithm, HDR mode option, 1/64 sub-pixel calculation

Measurement Field	Recommended Value
Field of View (FOV) X Center	145 mm
Field of View (FOV) X Near	115 mm
Field of View (FOV) X Far	190 mm
Field of View (FOV) Height	195 mm
Working Distance	320 mm

Laser	
Wavelength	660 nm
Laser Class	2M, 3R option planned
Laser Dimmable	yes
Interlock	Dedicated redundant laser interlock circuit



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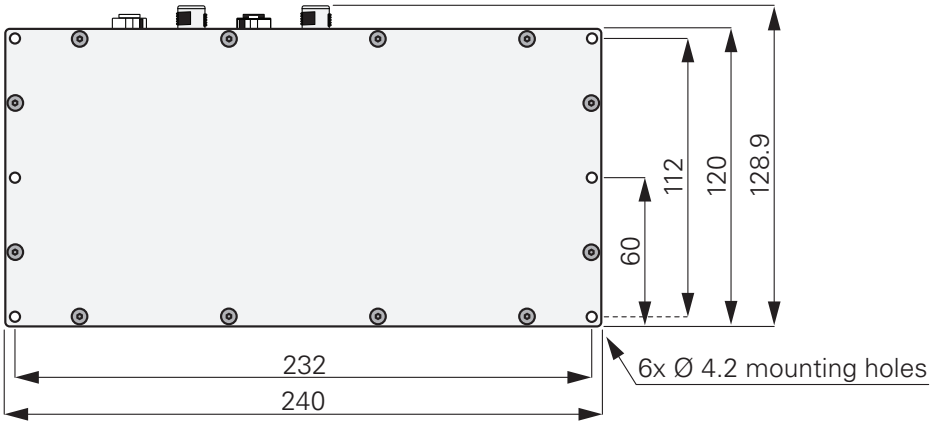
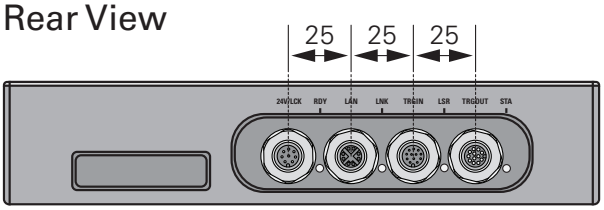
Front View

Side View

Top View



Rear View



All dimensions in mm

Interfaces	
Ethernet	1000 Mbit Ethernet
Trigger input	RS485 2 ABZ encoder inputs 1 gate/trigger input
Trigger output	Reserved for future use
Power	24 V DC +/- 10% Typical power consumption 11 W

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Ordering Options

The **VRmLS1-GEV** is available in the two variants below. Each variant comes with an image acquisition software package including a license key for CVB Camera Suite by Stemmer Imaging. The VRmagic GigE Vision Suite and demo applications as well as product documentation can be downloaded from www.vrmagic-imaging.com or ordered on a USB flash drive. Additionally, the following accessories are available.

VRmLS1-GEV Variants	Product Codes
VRmLS1-GEV LineScan3D uncalibrated, max. measuring field X near < 128 mm, Laser Class 2M @ 600 nm	VRmLS1-GEV#128#018-660#U
VRmLS1-GEV LineScan3D uncalibrated, max. measuring field X near < 128 mm, Laser Class 3R @ 600 nm	VRmLS1-GEV#128#100-660#U

Image Acquisition Software Package
VRmagic GigE Vision Suite
CVB CameraSuite 2016 by Stemmer Imaging
Demo Applications

Accessories	VRmagic Part Numbers
DIN rail power supply 40.8 W, 24 V DC, 1.7 A	VRM_DINSUP_24V_1.7A
M12 Ethernet cable, 5 m, with RJ45	VRM_CAB_ETH_0001
M12 buddy cable, 3 m, male to female	VRM_CAB_IO_0006
M12 trigger input cable, 5 m, open ended	VRM_CAB_IO_0007
M12 power/interlock cable, 5 m, open ended	VRM_CAB_IO_0008
AC power lead	VRM_PWR_OE_EU
Sealing Cap Power/ Trigger In Connector	VRM_M12_CAP_M
Sealing Cap Ethernet/ Trigger Out Connector	VRM_M12_CAP_F

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