



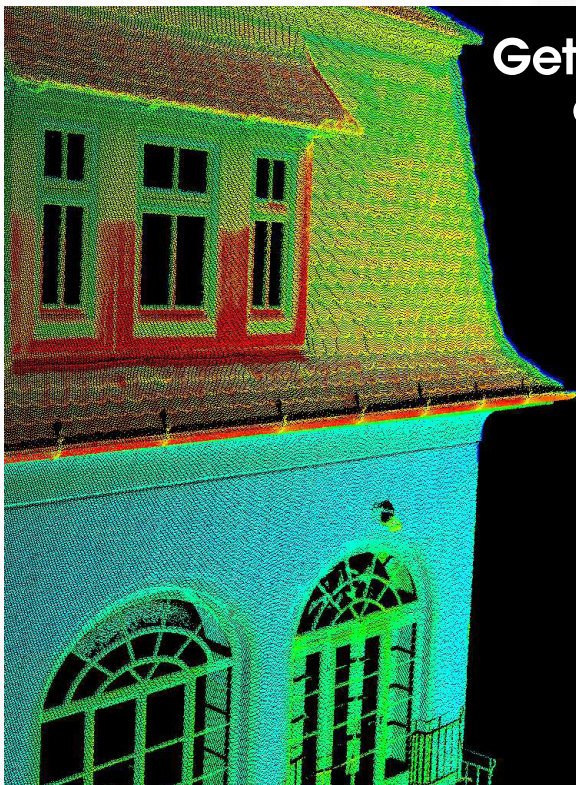
# Infrared Camera Option for *RIEGL* VZ-i 3D Terrestrial Laser Scanners

## INFRATEC VarioCAM® HD head 900

- » non-cooled industrial camera with 3.1 MPx (2.048x1536px) IR-resolution
- » recording and storage of IR frame rates up to 240 Hz
- » GigE and process interface
- » rugged light metal housing (IP67)

### Key Features

- » infrared camera system compatible with *RIEGL* VZ-400i and VZ-2000i 3D Terrestrial Laser Scanners
- » calibrated mounting
- » GNSS on top
- » outdoor & indoor
- » easy to use - graphical user interface integration
- » no external power supply needed
- » surface temperature range -40°C up to 2000°C



Get your infrared  
camera data  
in 3D!

- » colorized by temperature
- » full temperature information for each point
- » export your point cloud in different formats with temperature informations included



[www.riegl.com](http://www.riegl.com)





## Infrared Camera Data in RiSCAN PRO

**RIEGL's RiSCAN PRO** software is fully compatible and easy to use for colorization, read out temperature information and exporting your point clouds into different formats with the temperature attribute included.

### point cloud colorization by temperature

» use option „view type“ to provide temperature colored scan data



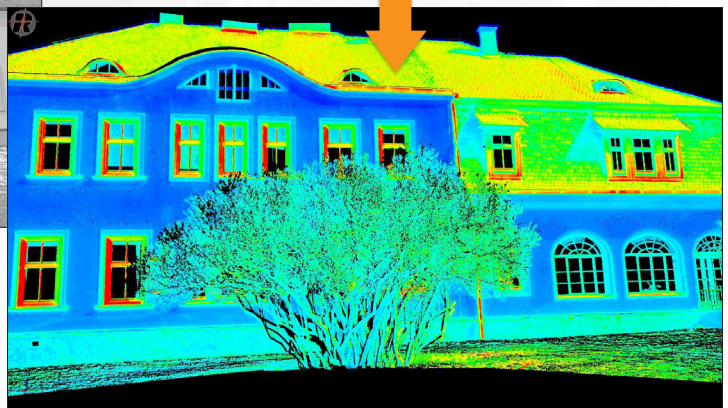
3D scan – reflectance colored

Point attribute:
Temperature

Gradient min/max:
12.00
35.00
°C

Color below/above:
Blue
Red

Color gradient:



3D scan – temperature colored  
(Data acquisition in the morning at lateral solar radiation)

### temperature value for each measuring point

» read out the exact temperature of each single point

Timestamp	= 316.2607834 s
2018-04-05T10:32:49.4490074+02:00 (RTC)	
Target Index	= 1
Target Count	= 1
End of Scan Line	= 0
Full Waveform Analysis	= 0
Mirror Facet	= 2
MTA Zone Assigned	= 1
MTA Zone Unknown	= 1
Scan Segment	= 1
Selected	= 0
Source Indicator	= 0
Start of Scan Line	= 0
Temperature	= 14.22 °C
True Color[0]	= 73
True Color[1]	= 63
True Color[2]	= 68
True Color[3]	= 1
Visible	= 1

### export of highly informative data

» provide point clouds with the additional temperature attribute in various exchange formats

Export pointcloud(s)...

Export Settings

Export Format: ASCII (\*.\*)

Export parameter: Description

☐ MTA Zone Assi... Index of assigned MTA zone. Nearest MTA zone has...

☐ Amplitude Echo signal amplitude

☐ Reflectance Target surface reflectance

☐ Target Index nth target of the laser-shot (0 = unknown, 1 = first...

☒ Temperature Target temperature measured by thermal camera

☐ Full Waveform ... 1 for all points originating from a full waveform anal...

☐ MTA Zone Unkn... 1 for points with no MTA zone assigned, 0 for all poi...

☐ Source Indicator 0 for all points derived by standard waveform proce...

☐ End of Scan Line 1 for all points of the last laser shot of a scan line, 0...

☐ True Color[0] Point color derived from digital camera, 0: Red, 1: G...

☐ True Color[1] Point color derived from digital camera, 0: Red, 1: G...

Unit: Unchanged Precision: 0

Sources: 0 15 Output: 0 15

Separator

☐ blank ☐ semicolon ☐ other

☒ comma ☐ tabulator

Additional Options

☐ Write line number

☒ Write header

Coordinate Systems Settings

Project coordinate system (PRCS)

Output Settings

File: C:\Users\lg\HORN\Desktop\ScanPos001 - SINGLESCANS - 180405\_103213.b

Combine Data: ☒ Keep uncolored points: ☒

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