# MultiSense-SL

Compact & Accurate 3D

Carnegie Robotics™

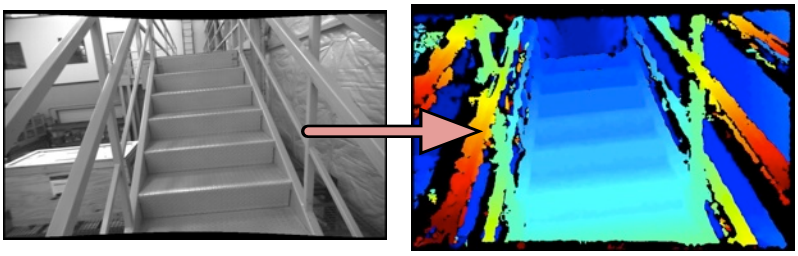
# MultiSense-SL

Compact & Accurate 3D Data Collection

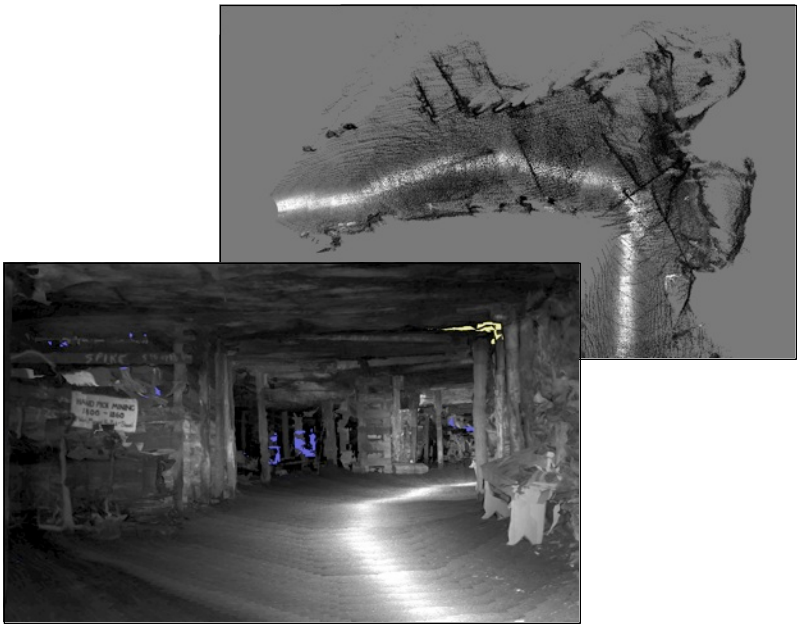
| Physical Details | |
|---|---|
| Width & Height | 18 cm x 18cm |
| Depth | 13 cm |
| Bounding Circle | 20 cm |
| Weight | 2.6 kg |
| Temperature Range | -10°C to 50°C |
| Input Voltage | 24v DC nominal |
| | 18v to 28v max |
| Power Draw | 20w nominal |
| | 50w with full lighting |
| Physical Interfaces | Gigabit Ethernet |
| | Opto-Isolated Input |
| | Opto-Isolated Output |

| Stereo Details | | |
|---|---|---|
| Lens FOV | | 80° x 45° f/1.4 |
| Algorithm | | Block Matching |
| Output | @ 2 megapixel | 15 FPS, 240 disparities |
| | @ 1 megapixel | 30 FPS, 240 disparities |
| | @ 0.5 megapixel | 60 FPS, 240 disparities |
| | @ VGA resolution | 70 FPS, 240 disparities |
| Depth Resolution | | |
| | @ 1 meter | ± 0.31 mm |
| | @ 10 meter | ± 30.0 mm |
| Range | | 0.4 m to 18 m |
| Imager Dynamic Range | | 60 dB (90 dB in HDR) |
| Imager Options | | Greyscale & Color |

| Laser Details | | |
|---|---|---|
| Data Rate | | 43,200 points / second |
| Scan Line Resolution | | 0.25° |
| Spindle Resolution | | 0.04° |
| Range | | 0.1 m to 30 m |
| Accuracy | < 10 m | ± 30 mm |
| | > 10 m | ± 50 mm |



Stereo algorithms transform left and right images into 3D depth maps at 15 FPS or more



The stereo and laser data can be continuously combined into high resolution & high accuracy 3D maps

Images courtesy of Carnegie Mellon University

| Component | Manufacturer | Model |
|---|---|---|
| Stereo Camera | Carnegie Robotics | 100-00012 |
| Laser | Hokuyo | UTM-30LX-EW |
| Accelerometer | STMicroelectronics | LSM303DLHC |
| Gyroscope | STMicroelectronics | L3G4200D |

carnegierobotics.com
412-251-0321

Carnegie Robotics

#10 40th St
Pittsburgh, PA 15201