RANGER3
HIGH PERFORMANCE 3D IMAGING

BIG 3D PERFORMANCE IN A SMALL PACKAGE
- SICK sensor technology

- What are the customer benefits of a tailor maid sensor?

- The new Ranger3 camera

- Applications and business opportunities
Sensor resolution of 2560x832 pixels

Rapid On Chip Calculation, meaning this chip has 2560 CPUs for laser line height extraction

CMOS sensor with global shutter

Pixel size = 6x6 μm.

Active imager size = 15360 μm x 4992 μm

High light sensitivity and high dynamic range with HDR mode

Sensor resolution of 2560x832 pixels

15.4 Gigapixels/sec are processed
Custom Imager

3D calculation

2 Gbit/s

FPGA

16 LVDS I/O interfaces

2 Gbit/s

Standard imager

3D calculation

125 Gbit/s

Top-of the line FPGA

Massive LVDS I/O 3D calculation interface

2 Gbit/s

RAM

LVDS = Low-voltage differential signaling
RANGER3

- 7 kHz full frame and 46 kHz frame rate in AOI, 128 rows
- 3D height resolution using 16 bits and 1/16 subpixel
- M12 connectors
- 55x55x77 mm
- IP65 and IP67 options
- C-Mount Filters
- Scheimpflug Protective hood
- GENICAM
- 3D VISION
- SICK
- Sensor Intelligence
- ProFlex

November 2018 Vision 2018
High light sensitivity allows 3D inspection without higher laser power

Train speed: ~120km/h  
Line rate: 30kHz  
Field of view: ~1m deep, ~1-2.5m wide  
Sample resolution: 1.1mm/line

Improved quality through more accurate measurements  
- high sensor resolution  
- high precision 3D algorithm  
- very high 3D speed, even for large depth of field

High dynamic ranger results in reliable measurements on dark and bright parts at the same time
APPLICATIONS AND BUSINESS OPPORTUNITIES

Electronic component and PCB inspection

Tire quality control

High speed railway and road surface inspection

Metal and steel inspection

Packaging and food quality control

Quality inspection of wood and board
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