



# LZR®-U920 / U921

COMPACT RAW DATA LASER SCANNER



## PRODUCT



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## TECHNOLOGY



## CERTIFICATIONS



## DESCRIPTION

BEA's **LZR®-U920 / U921** are LASER-based measurement devices measuring distances on up to four planes. The **LZR®-U920 / U921** can be installed to scan in any direction.

This family of sensors is designed to provide the user with the highest degree of flexibility. It communicates the raw measurement data for further calculation or control tasks.

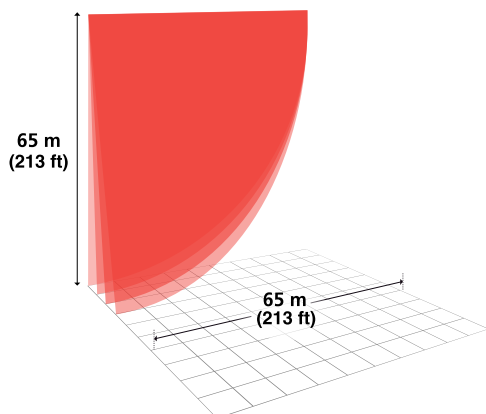


### Background Independent

Background or substrate has limited effect on measurements

### LASER-Based measurements

Measurement range: up to 65 m (213 ft)



### Uni-Directional Or Bi-Directional

Standard RS485 bus communication (bi-directional)

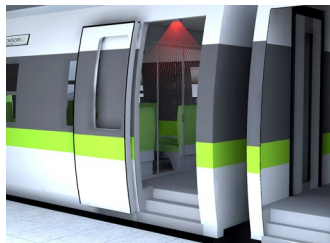
### Superior Object Recognition

No external illumination of target object necessary as compared to camera systems

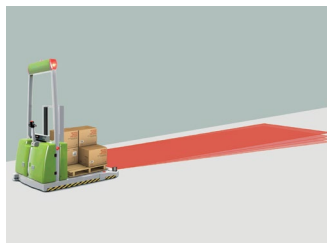
## APPLICATIONS



Object Profile Analysis



Human Profile Analysis



Navigation



Mass Transit

## TECHNICAL SPECIFICATIONS

<b>Technology</b>	LASER scanner, Time-of-Flight measurement
<b>Measurement Range</b>	Max. 65 m (213') / 10 m (30') @ 2% remission factor / 30 m (98') @ 10% remission factor
<b>Number of Points / Plane</b>	Max. 274
<b>Number of Planes</b>	
LZR®-U920	4
LZR®-U921	1
<b>Angular Resolution</b>	Max. 0.3516°
<b>Angular Coverage</b>	Max. 96°
<b>Rotating Speed</b>	900 turns / min
<b>Scanning Frequency</b>	
LZR®-U920	15 Hz
LZR®-U921	60 Hz
<b>Serial Communication</b>	
Type	Asynchronous
Interface	RS 485
Communication Mode	Half-duplex (U920,U921)
Data Transmission Speed	460800 bit / sec (max. 921600 bit / sec)
Topology	Point-to-point
Symbol Coding	1 start bit, 1 stop bit, no parity bit
File Type	8 bits
<b>Remission Factor</b>	> 2%
<b>Emission Characteristics</b>	
IR LASER	Wavelength 905 nm; output power 0.10 mW (CLASS 1)
Visible LASER	Wavelength 635 nm; output power 0.95 mW (CLASS 2)
<b>Peak Current at Power-on</b>	1.8 A (max. 80 ms @ 35 V)
<b>Supply Voltage</b>	10 – 35 VDC @ sensor side
<b>Power Consumption</b>	< 5 W
<b>Cable Length</b>	10'
<b>LED-Signal</b>	1 Blue LED: Power-on Status 1 Orange LED: Error Status 2 Bi-colored LEDs: Function Status
<b>Dimensions</b>	5" (W) x 2 3/4" (H) x 3 2/3" (D)
<b>Material</b>	PC / ASA
<b>Color</b>	Black
<b>Degree of Protection</b>	IP65
<b>Temperature Range</b>	-22 – 40 °F (-30 – 60 °C) if powered; 14 – 140 °F (-10 – 60 °C) if powered;
<b>Humidity</b>	0 – 95% non-condensing
<b>Vibrations</b>	< 2 G
<b>Expected Lifetime</b>	20 years
<b>Norm Conformity</b>	2006 / 95 / EC: LVD; 2011 / 65 / EU: RoHS 2; 2004 / 108 / EC: EMC; EN 60529:2001; IEC 60825-1:2007 Laser Class 1&3R; EN 60950-1:2005; EN 61000-6-2:2005 EMC - Industrial level; EN 61000-6-3:2006 EMC - Commercial Level

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## PRODUCT SERIES



**10LZR-U920**  
Bidirectional 4 curtain  
sensor



**10LZR-U921**  
Bidirectional 1 curtain  
sensor