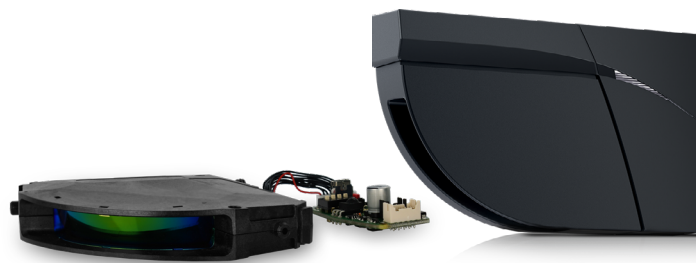




# LZR®-FLATSCAN U950/U952

COMPACT, SINGLE CURTAIN, LASER SCANNER  
FOR RAW DATA APPLICATIONS



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click or scan

## TECHNOLOGY



## CERTIFICATIONS



## DESCRIPTION

BEA's **LZR-FLATSCAN U950** and **U952** sensors are compact, single curtain, raw data, LASER scanners capable of being integrated into hardware and systems. They are ideal for AGV and AMR applications, as well as portal protection.

These solutions provide high-resolution output with 400 configurable detection spots that can be customized to your application needs.

The **LZR-FLATSCAN U950** offers flexible mounting in a low-profile housing, while the **LZR-FLATSCAN U952** is available for full integration into your equipment.



### Background Independent

Background or substrate has limited effect on measurements

### LASER-Based Measurements

Measurement range is up to 8 meters (26 feet)



### 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

## TECHNICAL SPECIFICATIONS

### TECHNOLOGY / PERFORMANCE

<b>Technology</b>	LASER scanner, time-of-flight measurement
<b>Measurement range</b>	max. 26'3" (8 m) 13' (4m) @ 2% remission factor 26'3" (8m) @ 8% remission factor
<b>Number of planes</b>	1
<b>Number of points/plane*</b>	max. 400 pts
<b>Angular resolution*</b>	min. 0.18°
<b>Angular coverage*</b>	max. 108°
<b>Response time</b>	measurements are refreshed every: 10.75 ms @ angular resolution $\geq 0.74^\circ$ 43 ms @ angular resolution $< 0.74^\circ$
<b>Scanning rate</b>	93 scans/sec. @ angular resolution $\geq 0.74^\circ$ 23.25 scans/sec. @ angular resolution $< 0.74^\circ$
<b>Emission characteristics</b>	IR LASER: Wavelength 905 nm; max. output pulse power 25 W; Class 1
<b>Measurement error</b>	$\pm 1 \frac{3}{16}"$ @ 13' ( $\pm 30\text{mm}$ @ 4m) $\pm 2 \frac{3}{4}"$ @ 26'3" ( $\pm 70\text{mm}$ @ 8m)
<b>Repeatability</b>	$\pm 3/16"$ @ 13' ( $\pm 5\text{mm}$ @ 4m) $\pm 25/64"$ @ 26'3" ( $\pm 10\text{mm}$ @ 8m)
<b>Serial communication</b>	see LZR®-FLATSCAN U Protocol (available for download on our website)
Type	asynchronous
Interface	RS 485
Communication mode	full-duplex
Transmission speed	max. 921,600 bit/sec (configurable)
Topology	point to point
Symbol coding	1 start bit, 1 stop bit, no parity bit
Type	8 bits
File type	little endian, LSB first
Byte order	1 tri-colored LED: sensor/communication status

### ELECTRICAL

<b>Supply voltage</b>	12 – 24 VDC $\pm 15\%$
<b>Power consumption</b>	$< 2 \text{ W}$
<b>Peak current at power-on</b>	0.8 A (max. 20 ms @ 24 V)

### PHYSICAL

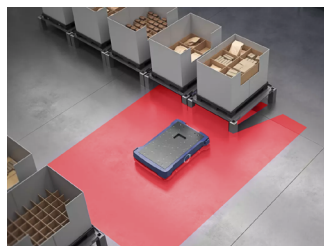
<b>Cable length</b>	8'2-1/2" (2.5m)
<b>Connector</b>	DF11-6DS-2C
<b>Dimensions (U950 only)</b>	5 1/2" (L) $\times$ 3 1/8" (H) $\times$ 1" (D) [142mm (L) $\times$ 85mm (H) $\times$ 23mm (D)] mounting bracket + 1/4" (7mm)
<b>Material - Color (U950 only)</b>	PC/ASA - Black
<b>Tilt angles (U950 only)</b>	-2 – 6° (with mounting base) 2 – 10° (without mounting base)
<b>Protection degree (U950 only)</b>	IP54 [IEC 60529]
<b>Temperature range</b>	powered: -22 – 140 °F (-30 – 60 °C) unpowered: 14 – 140 °F (-10 – 60 °C)
<b>Humidity</b>	0 – 95% non-condensing
<b>Vibrations</b>	$< 2 \text{ G}$

### COMPLIANCE

<b>Compliance</b>	2014/30/EU; 2011/65/EU; IEC/EN 60825-1 Laser safety; IEC/EN 61000-6-2; IEC/EN 61000-6-3 EMC
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\* These parameters can be configured via the RS 485 communication interface. For more information on the existing options, see LZR®-FLATSCAN U Protocol.

## APPLICATIONS



Autonomous-mobile robots



Autonomous-guided vehicles



Automatic forklifts

## PRODUCT SERIES



**10LZRFLATSCANU950LB**  
LASER scanner for raw data applications (left)



**10LZRFLATSCANU950RB**  
LASER scanner for raw data applications (right)



**10LZRFLATSCANU952**  
LASER scanner without housing for raw data applications

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