

# LIDAR GUIDANCE SCANNER

**Compact, reliable and rugged Navigation Lidar for automated guided vehicles**



ToF technology on infrared laser  
 2D Measurement data for natural or marker navigation  
 360° measurement for all-round scanning  
 Differentiation between natural objects and reflectors  
 Compact design for easy mechanical integration  
 Simple and quick configuration and monitoring

- High precision and reliable measurement up to 50 meters
- 60,000 measured points per second
- Up to 25 Hz selectable rotation frequency
- 0.06° angle resolution
- Dimensions: 95 x 97 x 116 mm

## APPLICATIONS

- Automated Guided Vehicles (AGV)
- Automated Guided Carts (AGC)
- Automated Mobile Robots (AMR)
- Automated Guided Forklifts (AGF)
- Laser Guided Vehicles (LGV)

## INDUSTRIES

- Intralogistics
- Material handling
- Manufacturing

# LGS-N50

MODEL		MAX MEASUREMENT RANGE	
N	Lidar Guidance Scanner for Navigation	50	50 m (with 80% reflectivity)

# TECHNICAL DATA

## LGS-N50

### MEASUREMENT

<b>Scanning Angle</b>	360°
<b>Measurement Range</b>	0.2 - 2 m with 1.8% reflectivity
	0.2 - 15 m with 10% reflectivity
	0.2 - 50 m with 80% reflectivity
<b>Scanning Rate (selectable through web server)</b>	10/15/20/25 Hz
<b>Measurement Rate</b>	60,000 points per second
<b>Angular Resolution</b>	0.06° at 10Hz
	0.09° at 15Hz
	0.12° at 20Hz
	0.15° at 25Hz
<b>Linear Resolution</b>	1 mm
<b>Absolute Measurement Accuracy</b>	±30 mm with 90% reflectivity
<b>Repeat Measurement Accuracy</b>	< 20 mm with 90% reflectivity
<b>Response Time</b>	100/66/50/40 ms

### ELECTRICAL DATA

<b>Power Supply</b>	12 ... 32 VDC
<b>Power Consumption</b>	7 W (at 25°C and 15 Hz)
<b>Output Current</b>	30 mA

### MECHANICAL AND ENVIRONMENTAL

<b>Dimensions (width, depth, height)</b>	95 x 97 x 116 mm
<b>Operating Temperature</b>	-20 ... +50 °C
<b>Storage Temperature</b>	-30 ... 70°C
<b>Relative Humidity</b>	15 ... 95 % (no condensation)
<b>Mechanical Protection</b>	IP 66
<b>Ambient Light Limit</b>	80,000 Lux
<b>Housing Material</b>	Aluminum alloy and polycarbonate
<b>Window Material</b>	Polycarbonate
<b>Weight</b>	900 g

### COMMUNICATION

<b>Communication Interface</b>	IEEE 802.3u 100Mbps Ethernet
<b>Communication Protocol</b>	TCP/IP
<b>Data transmission Protocol</b>	UDP/IP
<b>Transmitted Information</b>	Angle of the measured point (in 0.01°)
	Distance of the measured point (in mm)
	Signal intensity (0...65535)
	Time stamp in ms with 24-hour cycle
<b>Transmitted Diagnostic</b>	Rotation rate
	Motor fault
	Voltage fault
	Temperature fault

### CONFIGURATION

<b>Configuration Software</b>	Any web browser (configuration through web server)
<b>Monitoring Software</b>	LGS Viewer

### USER INTERFACE

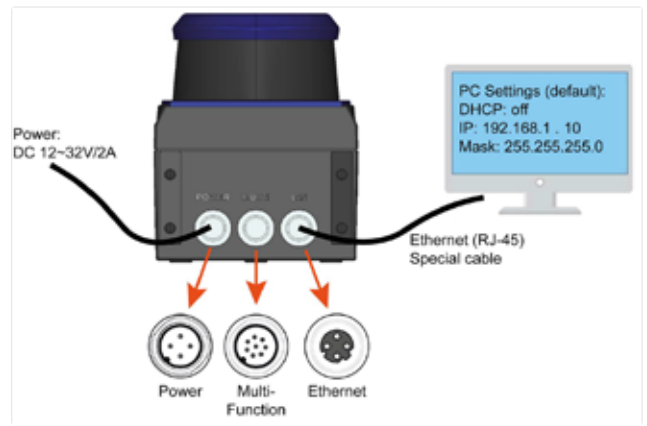
<b>Power Indicator</b>	Green LED
<b>Fault Indicator</b>	Red LED

### LASER

<b>Laser Safety Class</b>	Class 1 (IEC 60825-1)
<b>Wavelength</b>	905±20 nm (infrared)

# CONNECTIONS

CONNECTOR	CHARACTERISTICS
Power	M12 4-pins male
Multi-function	M12 8-pins male
Ethernet	M12 4 poles D-coded female



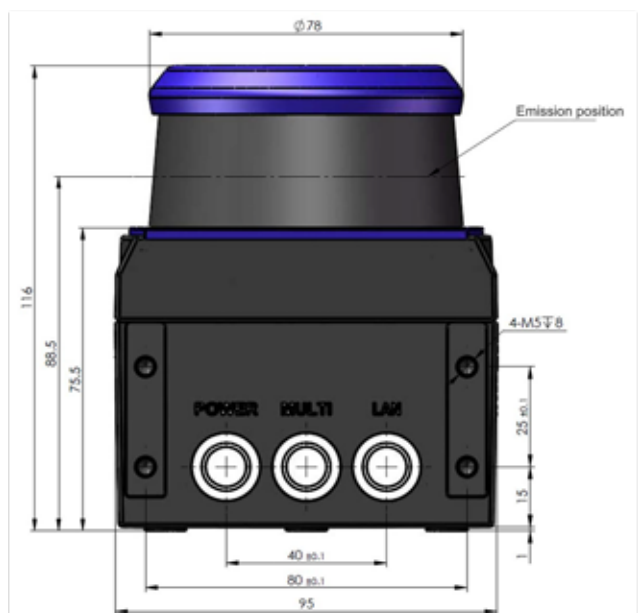
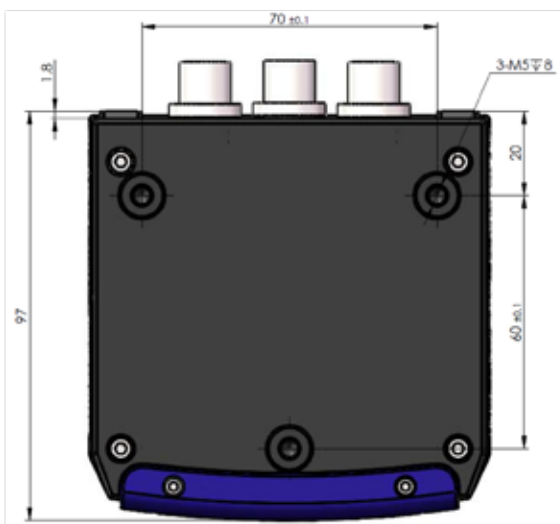
## POWER CONNECTOR (M12, 4-Pins)

	SIGNAL	DESCRIPTION	COLOR	PIN NUMBER
POWER	+ VCC	24 VDC	BROWN	1
	GND	0 V	BLUE	3
DIAGNOSTIC OUTPUT	Q1	Temperature out of range	BLACK	4
	Q2	Generic failure	WHITE	2

## ETHERNET CONNECTOR (M12, 4-Pins)

	SIGNAL	PIN NUMBER
COMMUNICATION SIGNALS	TX +	1
	RX +	2
	TX -	3
	RX -	4

# DIMENSIONS



# MODEL SELECTION - ORDER INFORMATION

MODEL	PRODUCT DESCRIPTION	ORDER NO.
LGS-N50	Navigation LIDAR 360° 50 m	958200001

## ACCESSORIES

MAINTENANCE ACCESSORIES		
DESCRIPTION	MODEL	ORDER NO.
Liquid cleaner in spray bottle ( 1 lt )	SLS-CLEANER	95ASE2990
Cleaning cloth ( 22 cm x 22 cm ), 100 pcs.	SLS-CLOTH	95ASE3000

## CABLES

	MODEL	1st end	2nd end	LENGTH	CODE
POWER CABLE	CS-A1-02-U-03	4 pin female	free wires	3 m	95ASE1120
	CS-A1-02-U-05			5 m	95ASE1130
	CS-A1-02-U-10			10 m	95ASE1140
	CS-A1-02-U-15			15 m	95ASE1150
	CS-A1-02-U-25			25 m	95ASE1160
ETHERNET TO HOST CABLES	CAB-ETH-M01 M12-IP67 ETHERNET CAB. (1 M)	4 pin male	RJ45	1 m	93A051346
	CAB-ETH-M03 M12-IP67 ETHERNET CAB. (3 M)			3 m	93A051347
	CAB-ETH-M05 M12-IP67 ETHERNET CAB. (5 M)			5 m	93A051348
	CAB-ETH-M10 M12-IP67 ETHERNET CAB. (10 M)			10 m	93A051391

LED NUMBER	COLOR	DESCRIPTION
PWR	GREEN	Shows the status of powered devices. OFF = no power; ON = powered
Q1	RED	Blinks when the temperature is out of range.
Q2	RED	Blinks when a diagnostic internal test fails.
ERR	RED	Shows the unavailability of the device. OFF: device available; Blinking: device not yet available; ON: Device unavailable for internal error.



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