

**1. GENERAL DESCRIPTION**

The SLS-220 series distance sensor measure distances of up to 150 meters, at output rates of up to 50 Hz, using the proven phase comparison method, which allows accuracy of few millimeters. On natural surfaces, within a range of 30 m, the accuracy falls below one millimeter.

The SLS-220 series is available in several models for different industrial field-buses standards based on wired or wireless ethernet.

**1.1 MODELS**

The sensors of the SLS-220 series are available in several models, which must be specified at order time:

MODEL	INTERFACE	PROTOCOL
SLS-220 PN	Ethernet 10/100Mb	ProfiNet-RT IO-DEVICE Class B
SLS-220 EP		Ethernet/IP
SLS-220 IT		Modbus/TCP, MQTT, HTTP
SLS-220 WF	Wi-Fi 802.11 a/b/g/n	

## TECHNICAL SPECIFICATIONS

SLS-220 – LASER DISTANCE SENSOR

Doc: SLS-220-en

Rev: A01EN Date: 20210203

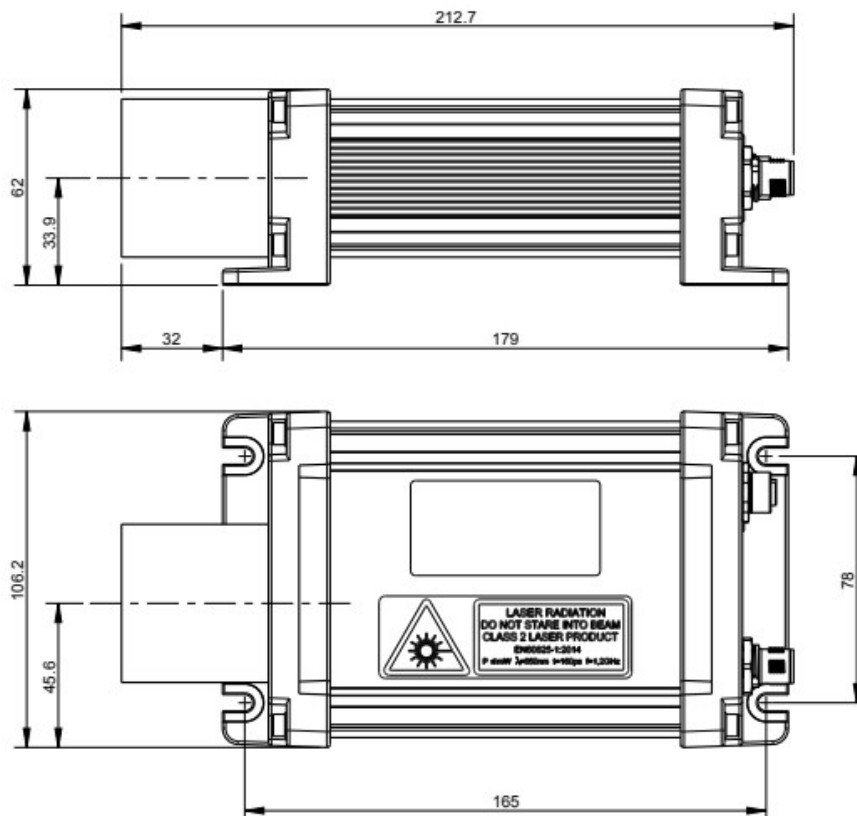
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### 1.2 ASCII TCP/IP PROTOCOL

All the models implement, simultaneously with the communication functions over the field-bus, the ASCII communication protocol based on TCP/IP socket, which can be used both for the set-up of the sensor and for the communication of the measurements results.

## 2. MECHANICAL SPECIFICATIONS

Dimension (L x W x H)	211 x 106.2 x 62 mm
Weight	<TBD>
Protection level	IP67 (connectors plugged and locked)
Materials and Finishes	Body: extruded aluminum 6063, neutral anodization End panel: diecast aluminum, black powder coated Light shield: aluminum 6082, black anodization Screws: inox steel A2
Storage temperature	from -20°C to +60°C
Operating temperature	from -10°C to +50°C
Humidity	from 10% to 90%, without condensation
Mounting	4x M4
Optics accessory thread	M45x2



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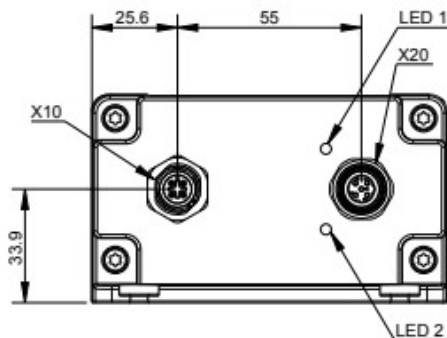
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### 3. MEASUREMENT PROCESS SPECIFICATIONS

Measure method	Phase comparison
Laser source	
Divergence	0.6mrad
Class	Laser Class 2, EN 60825-1:2014
Power	≤ 1mW
Wave length $\lambda$	650nm (red)
Measurement mode	Single shot Continuous Continuous, up to 7m Continuous, cooperative target External trigger
Frequency	up to 50Hz
Resolution	0.1mm
Working range	
Nominal	from 0.1m to 150m
Collaborative target	from 25m to 150m
Natural surface <sup>1</sup>	from 0.1m to 30m
Accuracy	
from 15°C a +30°C	± 3mm (±1mm up to 30m)
from -10°C a +50°C	± 5mm

<sup>1</sup> Measurement range and accuracy for naturally diffuse reflecting surface, depending on target reflectivity, stray light and environmental conditions.

### 4. ELECTRICAL SPECIFICATIONS



**TECHNICAL SPECIFICATIONS****SLS-220 – LASER DISTANCE SENSOR**

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## 4.1 CONNECTOR X10, POWER SUPPLY / TRIGGER

Connector type	M12 4 pin, male, A-coded
Supply voltage	from 10VDC to 30VDC
Current consumption	<TBD>
Trigger input	according to IEC 61131-2 Type 3 ( $U_L \leq 5V$ , $U_H \geq 11V$ , $I_L 2.5mA$ )

PIN	COLOR		DESCRIPTION
1	BROWN	L+	POWER SUPPLY 10V .. 30V DC
2	WHITE	I/Q	EXTERNAL TRIGGER INPUT
3	BLUE	L-	GND
4	BLACK	C/Q	NOT USED

## 4.2 CONNECTOR X20, ETHERNET

Connector type	M12 4 pin, female, D-coded
Communication speed	10/100Mb/s
ESD protection	IEC 61000-4-2, $\pm 30kV$ contact, $\pm 30kV$ air

PIN	COLOR		
1	YELLOW	TD+	
2	WHITE	RD+	
3	ORANGE	TD-	
4	BLUE	RD-	

NOTES:

- (1) Connector X20 (Ethernet) is fitted on PN (ProfiNet-RT), EP (Ethernet/IP) and IT models.
- (2) Model WF uses a RP-SMA male connector.
- (3) Model type must be specified at order time.

## 4.3 INDICATORS

LED	COLORE	DESCRIZIONE
1	YELLOW/RED/GREEN	SENSOR / LINK STATE
2	YELLOW/RED/GREEN	FIELD-BUS STATE

**NOTE**

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGES WITHOUT NOTICE