



- High accuracy over the whole range
- Not affected by temperature gradients
- Not affected by wind and rain

# Description

TLR radar technology is the most suitable solution for applications requiring high precision standards of measurement, as TLR is a very performant device in terms of accuracy and resolution.

The measuring principle is affected neither by variations in atmospheric temperature, nor by suspended dust between the sensor and the measured surface, ensuring a very reliable data acquisition even in harsh environmental conditions. The technology is based on the emission of a radar impulse towards the surface to measure, and on the subsequent reception of the reflected signal. The distance between the sensor and the surface is calculated through the time of flight the radar emission needs to reach the surface and go back to the sensor.

TLR is a non-contact instrument. Furthermore, it allows to speed up and simplify the installation and maintenance steps. The sensor is available with either digital (SDI12 and RS485) or analog (current 4-20 mA) outputs. It is supplied with power and signal cable (12m).



## Main features

- **Non-contact sensor**
- **Millimetric precision**
- **Not affected by temperature gradients and harsh weather conditions**
- **Protection against overvoltages**

## Technical Specifications\*

### Measurement performance

#### Distance [m]

Transducer	K band radar (26 GHz)
Measurement range (TLR3)	0.2 ÷ 30 m
Measurement range (TLR4)	0.2 ÷ 40 m
Accuracy	± 2 mm
Resolution	1 mm
Beam width (3dB)	8°

#### Operating conditions

Temperature	-40°C ÷ +80°C
Humidity	0% ÷ 100%

#### Outputs

	TLR3	TLR4
RS485-Modbus / SDI-12	Distance 0 ÷ 30 m	Distance 0 ÷ 40 m
Current (2 wires loop 4 ÷ 20 mA)	4 ÷ 20 mA ↔ 0 ÷ 30 m	4 ÷ 20 mA ↔ 0 ÷ 40 m

### Power supply and Consumption

#### TLR3/4-I Version

Voltage supply	7 ÷ 30 Vdc		
Power consumption (mA)	Min	Typical	Max
4 ÷ 20 mA	4	-	20

#### TLR3/4-SDI12 Version

Voltage supply	7 ÷ 15 Vdc		
Power consumption (mA)	Min	Typical	Max
Voltage supply 12 Vdc	5	-	30
Voltage supply 7 Vdc	10	-	50

### Mechanical specifications

Protective body	FKM, PTFE, 316L	
Level of protection	IP68	
Weight	~ 3 kg	
Dimensions	160 x 175 x 310 mm	
Electrical connections	2 pole terminal block (TLR-I),	7 pole male connector (TLR-SDI12)

### Ordering codes

Range 0÷30 m, Current output	t030a-TLR3-I
Range 0÷30 m, SDI-12 and RS485-Modbus serial outputs	t030b-TLR3-SDI12
Range 0÷40 m, Current output	t030c-TLR4-I
Range 0÷40 m, SDI-12 and RS485-Modbus serial outputs	t030d-TLR4-SDI12

\*Changes on technical performances can be applied upon request of specific calibration