



Product Brief 2022

Ultrasonic Sensor Modules

The compact TDK Ultrasonic Sensor Module is a sensor that measures distances completely invisible and contact-free. It detects objects using inaudible ultrasonic waves, which are transmitted and received by a piezoelectric disc. All necessary electronics for analog/digital conversion and signal processing are built into the sensor itself which results in best reliability and best noise immunity. Detection thresholds and characteristics can be customized and optimized according to.

The very compact aluminum housing makes it a highly robust, dust and splash waterproof ultrasonic sensor. As such, it is ideally suitable for numerous harsh industrial applications and wherever build-size is a limiting factor and best object detection is desired.

- Robust aluminum design
- Dust and splash waterproof
- For harsh industrial applications
- TDK evaluation board available

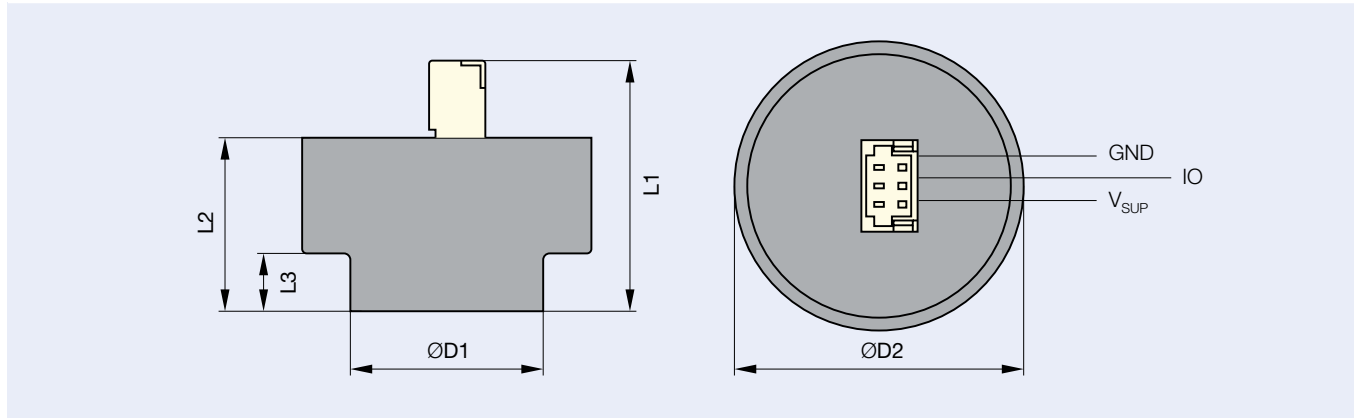


More information

www.tdk-electronics.tdk.com/en/ultrasonic_sensor_module
or contact your local sales office

Ultrasonic Sensor Module

B59150X0754P030



Dimensions

	Parameter	Symbol	Unit	Typical
1	Front diameter	D1	mm	10
2	Total diameter	D2	mm	15
3	Total length	L1	mm	13
4	Pot length	L2	mm	9
5	Length of front cylinder	L3	mm	3

Electrical specification

	Parameter	Symbol	Unit	Typical
1	Supply voltage	V_{SUP}	V	12
2	Current consumption	I	mA	5.5
3	Power down mode	I	mA	<1
4	Communication Interface ¹⁾	Proprietary bidirectional IO (3-wire), point to point architecture		
5	Connector	Harwin M40-3010346 or compatible		

1) The IO line is not equipped with a pull-up resistor

Functional parameters

	Parameter	Symbol	Unit	Typical
1	Minimal measuring distance ¹⁾	D_{min}	cm	15
2	Maximal measuring distance ¹⁾	D_{max}	cm	200
3	Directivity ²⁾	α	°	±30
4	Operating frequency ³⁾	f	kHz	73.5 ±1.5

1) Evaluated based on test target: cylindrical pole, 75 mm diameter, 1 m height, standard conditions for temperature and humidity.

2) -6 dB sound pressure level, circular beam

3) Parts are sorted, marked and packaged in classes with respect to their operating frequency to allow cooperative operation in send/receive mode.

Overall system performance depends on mounting conditions.