

Isolated Output Inductive Proximity Sensor UIPS 1

Powered by Voltage or Current Source

Quick Selection Guide			
Technology:	Inductive. Responsive to metal proximity.	Sensing Distance:	Adjustable to about 4 mm
Isolated Current Supply:	10 mA at 1.2 V typ	Voltage Supply:	+2.2V to +16V 5 μ A max
Output Type:	NPN	Output	Normally Closed (NC)
Connection:	Solder Pads	Package/Case	PCB

Features:

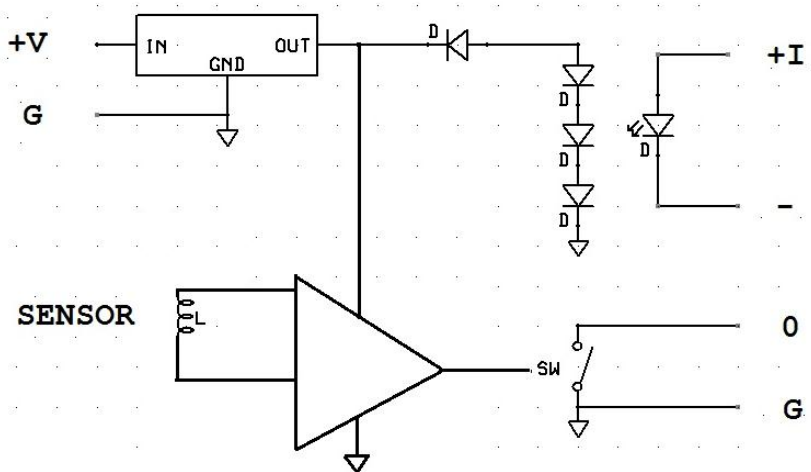
- Choice of either using external voltage or current power source
- Low power voltage supply: +2.2V to +16V, 5 μ A max
- On board isolated power supply: 10mA at 1.2V typ.

PATENTED USA 9,140,579

Description:

UIPS 1 Inductive Proximity Sensor provides extremely flexible by allowing choices of multiple different types of power sources. The options are to use power from either an external voltage source of 3uA or a 10mA current sources. The external current source is isolated from the sensor's output load by using an on board isolated power supply. The voltage source's low minimum operating voltage of +2.2V at 3uA makes this sensor also directly compatible with battery and solar cell operation.

Wiring Diagram:



Isolated Output Inductive Proximity Sensor UIPS 1

Powered by Voltage or Current Source

Specifications: Ta=+25°C unless otherwise specified

Package / Case	PCB X cm x Xcm .												
Target	24 x 24 x 1 mm Aluminum. See correction factor table below for other metals. Ferrous metal: The sensing distance decreases with ferrous or high permittivity metal.												
Correction Factors ^{Note 1}	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Metal</th> <th style="text-align: left;">Correction Factors</th> </tr> </thead> <tbody> <tr> <td>Aluminum</td> <td>1.00</td> </tr> <tr> <td>Copper</td> <td>0.89</td> </tr> <tr> <td>Brass</td> <td>0.88</td> </tr> <tr> <td>Stainless steel</td> <td>0.63</td> </tr> <tr> <td>Iron</td> <td>0.40</td> </tr> </tbody> </table>	Metal	Correction Factors	Aluminum	1.00	Copper	0.89	Brass	0.88	Stainless steel	0.63	Iron	0.40
Metal	Correction Factors												
Aluminum	1.00												
Copper	0.89												
Brass	0.88												
Stainless steel	0.63												
Iron	0.40												
Voltage Power Supply (Operating Voltage Range)	+2.2 ~ +16 V D.C. at 5µA max.												
Isolated Power Supply (Operating Current Range)	10 mA ~ 20mA D.C. at 1.2V typ.												
Output Types ^{note 2}	NC (Normally Closed)												
Shielding	None												
Output Voltage	27V max.												
Output Leakage Current	2 µA max.												
Output Load Current	250 mA max.												
Output Voltage Drop	0.4 V max.												
Sensing Distance ^{note 3}	Adjustable to 4 mm typ.												
Response Frequency	5 KHz (200 µ sec.) typical												
Hysteresis	Yes												
Temperature Influence	±10% typical over -20°C to +60°C												
Supply Voltage Influence	±1% max. of sensing distance in rated voltage range												
Operating Temperature Range	-20°C to +60°C												
Storage Temperature Range	-40°C to 85°C (with no icing or condensation)												
Ingress Protection	N/A. Option: Conformal coating.												
Termination Style	Solder Pads on PCB												

Isolated Output Inductive Proximity Sensor UIPS 1

Powered by Voltage or Current Source

Note 1 Correction Factors -A percentage of the rated operating distance (A1) that represents the operating distance for targets constructed from materials other than Aluminum. Deviations maybe due to variations in the oscillator frequency, alloy compositions, purity & target geometry.

Note 2 Normally Closed ("NC"): The output is **OFF** when the target is detected by the sensor.

Note 3 Sensing Distance: A distance at which the target approaching the sensing face, along the reference axis, causes the output signal to change.

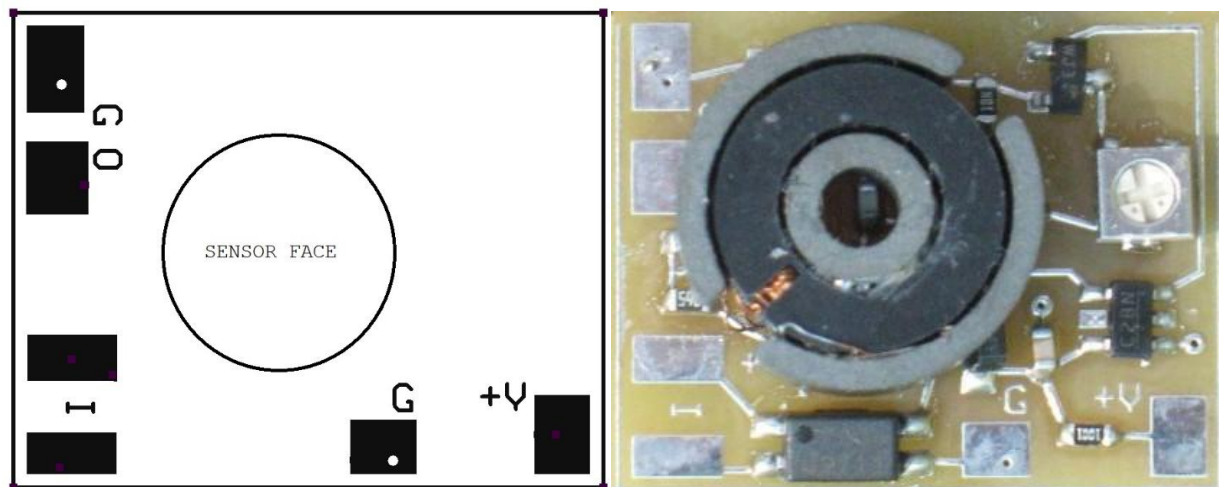
Absolute Maximum Ratings

Power Supply Voltage V_{DD}	0 V min.;+18 V max. D.C.
Output Voltage	0 V min.; +30 V max.
Output Current	0.5 A max.
Temperature	-40°C min.; +85°C max.

How to Order:

Part Number: UIPS1

Outline Dimensions and Pad Wiring L: 23mm W: 18mm H: 7.6mm



Warranty

Isolated Output Inductive Proximity Sensor UIPS 1

Powered by Voltage or Current Source

Micro Oscillator, Inc. does not assume any liability arising out of the application or use of any product or circuit described herein. Our products are not authorized for use as components in devices used for life support or other critical application where failure can cause death or bodily injury. In the case of this product being defective in manufacturing, labeling, packaging or shipping, it will be replaced with a satisfactory unit or the purchase price refunded. This is the exclusive remedy, even if the defect or damage is caused by negligence or other fault.