

IDTOLÚ ENVIRONMENTAL SENSORS

IDTOLÚ: Advanced IoT Solutions

IDTOLÚ catalog offers an advanced line of IoT devices for environment measurement, electrical analysis and soil quality monitoring, aimed at sectors that require accuracy and reliability. Equipped with connectivity technologies such as LoRaWAN, LTE, 5G and WiFi, these devices enable real-time data collection in rural and urban environments, supporting extreme conditions and providing scalable solutions for precision agriculture, energy management and environmental control.

Designed with high quality standards, IDTOLÚ devices offer accuracy, durability and energy efficiency, adapting to continuous outdoor monitoring. IDTOLÚ's management platform facilitates centralized data monitoring and analysis using HTTP and MQTT, promoting informed decisions in key industries and contributing to sustainability as part of the digital transformation.

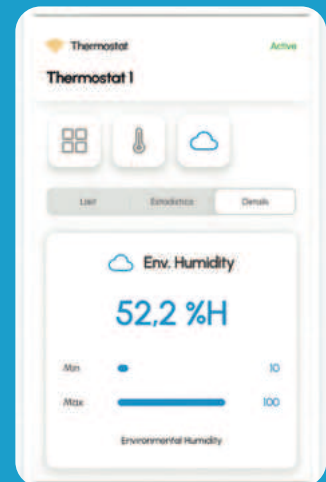
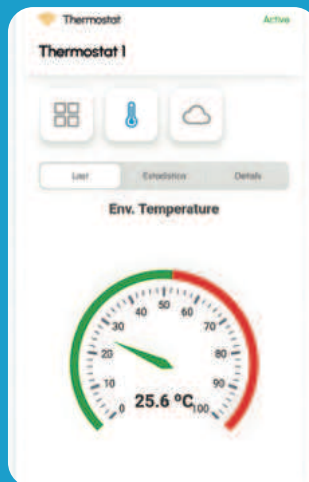


Applications



Sensor data access and monitoring

ELICO, our proprietary digital platform, delivers real-time, customizable access to data collected from sensors. It enables seamless monitoring across multiple devices and locations while providing in-depth analytics. The platform also enhances decision-making by identifying historical trends and patterns for better insights. Additionally, ELICO simplifies device integration with a QR-based onboarding system, allowing users to quickly add new sensors and expand their monitoring network effortlessly.



Graphical Representation of Data Trends by Time Period

The graphs show historical data points, highlighting variations and patterns for detailed analysis



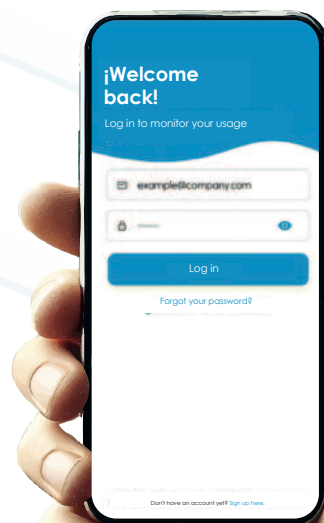
Device Management

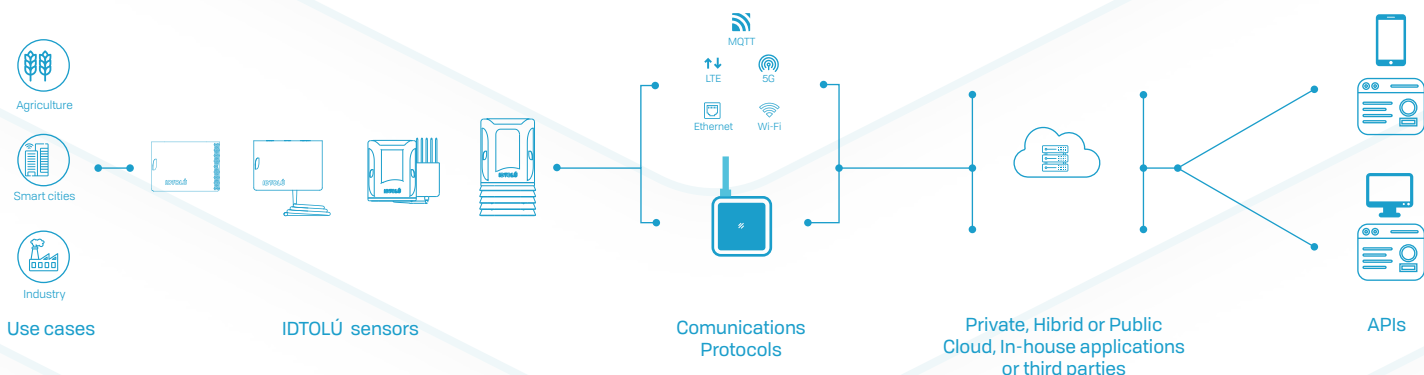
View and manage all connected devices from ELICO interface

ELICO APP

Stay Connected Anytime, Anywhere

Access ELICO seamlessly from your mobile device, ensuring real-time visibility into sensor data no matter where you are. Monitor key parameters, receive instant updates, and manage devices effortlessly from your smartphone, keeping your operations running smoothly at all times.





IDTOLÚ environmental sensors



IDT-AQ-101
Temperature sensor



IDT-AQ-102
Temperature and humidity sensor

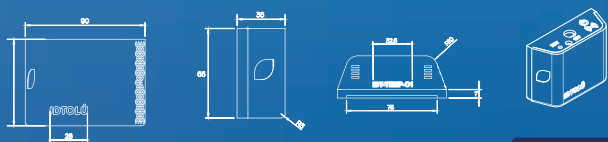


IDT-AQ-103
Air quality monitor

Specifications

Parameters	IDT-AQ-101	IDT-AQ-102	IDT-AQ-103
Temperature			
Range	-40° C – 80° C	-40° C – 80° C	-40° C – 80° C
Accuracy	± 0.5° C	± 0.5° C	± 0.5° C
Resolution	0.1° C	0.1° C	0.1° C
Humidity			
Range	N/A	0 – 100% RH	0 – 100% RH
Accuracy	N/A	± 2% RH	± 2% RH
Resolution	N/A	0.1 % RH	0.1 % RH
CO₂			
Range	N/A	N/A	400 ppm – 5000 ppm
Accuracy	N/A	N/A	3% + 50 ppm o. 10%
Resolution	N/A	N/A	1 ppm
CH₂O (Formaldehyde)			
Range	N/A	N/A	0 µg/m ³ – 2000 µg/m ³
Accuracy	N/A	N/A	10%
Resolution	N/A	N/A	1 µg/m ³
TVOC			
Range	N/A	N/A	0 µg/m ³ – 999 µg/m ³
Accuracy	N/A	N/A	± 10% o ± 10%
Resolution	N/A	N/A	1 µg/m ³
PM_{2.5}			
Range	N/A	N/A	0 µg/m ³ – 999 µg/m ³
Accuracy	N/A	N/A	± 10% o ± 10%
Resolution	N/A	N/A	1 µg/m ³
PM₁₀			
Range	N/A	N/A	0 µg/m ³ – 1000 µg/m ³
Accuracy	N/A	N/A	± 10% o ± 10%
Resolution	N/A	N/A	1 µg/m ³
General parameters			
Connectivity	LoRaWAN - Wi-Fi		
Supported protocol	Class A		
Transmission power	MAX 19dBm		
Sensitivity	-116 dBm		
Communication distance	2 to 5 Km (depending on the gateway antenna and gateway and environment)		
Data upload interval	Configurable		
Power supply	9v - 24v, 500 1A		

Dimension



All measures in mm



IDT-SL-001
Soil parameters

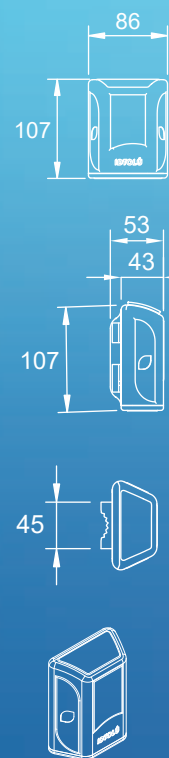


IDT-AQ-002
Air quality monitor

Specifications

Parameters	IDT-SL-001	IDT-AQ-002
Temperature		
Range	-40° C 80° C	-40° C a 80° C
Accuracy	±0.5° C (a 25° C)	± 0.5° C
Resolution	± 0.1° C / year	0.1° C
Response time	± 15 s	N/A
Humidity		
Range	0 – 100% RH	0 a 100% RH
Accuracy	2% within 0 – 50%, 3% within 50 – 100%	± 2% RH
Resolution	N/A	0.1 % RH
Long-term stability	± 1% RH/year	N/A
Response time	± 4 s	N/A
Conductivity (CE)		
Range	0 – 20000 µS/cm	N/A
Accuracy	±3% (0 – 10000 µS/cm); ±5% (10000 – 20000 µS/cm)	N/A
Resolution	N/A	N/A
Long-term stability	± 1% µS/cm/year	N/A
Response time	± 1 s	N/A
pH		
Range	3 – 9 Ph	N/A
Accuracy	± 0.3 pH	N/A
Resolution	± 5% / year	N/A
Response time	± 1 s	N/A
Nitrogen, Phosphorus and Potassium (NPK)		
Range	1 – 9 mg/kg (mg/L)	N/A
Accuracy	1 mg/kg (mg/L)	N/A
Response time	± 10 s	N/A
CO₂		
Range	N/A	400 ppm – 5000 ppm
Accuracy	N/A	± 3% + 50 ppm o. 10%
Resolution	N/A	1 ppm
CH₂O (Formaldehyde)		
Range	N/A	0 µg/m ³ – 2000 µg/m ³
Accuracy	N/A	± 10%
Resolution	N/A	1 µg/m ³
TVOC		
Range	N/A	0 µg/m ³ – 5000 µg/m ³
Accuracy	N/A	± 25%
Resolution	N/A	1 µg/m ³
PM_{2.5}		
Range	N/A	0 µg/m ³ – 999 µg/m ³
Accuracy	N/A	± 10% o ± 10%
Resolution	N/A	1 µg/m ³
PM₁₀		
Range	N/A	0 µg/m ³ – 1000 µg/m ³
Accuracy	N/A	± 10% o ± 10%
Resolution	N/A	1 µg/m ³
General parameters		
Connectivity	LoRaWAN - Wi-Fi	
Supported protocol	Class A	
Transmission power	MAX 19dBm	
Sensitivity	-116 dBm	
Communication distance	2 to 5 Km (depending on the gateway antenna and gateway and environment)	
Data upload interval	Configurable	
Power supply	9v - 24v, 500 1A	

Dimension



All measures in mm



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