

INDUSTRIAL WATER LEAK DETECTION SENSOR



ORDER CODE: FD-100
PRODUCT CATEGORY: SENSORS

Catch Leaks Early. Avoid Costly Equipment Damage.

PRODUCT OVERVIEW

General Description

E4A's water leak detection sensor delivers reliable, Bluetooth® 5-enabled water leak detection for industrial environments where early awareness is critical. Featuring a rugged wall-mounted unit paired with a floor-level sensor, it provides accurate monitoring of leaks, drips, and pit overflows exactly where they occur. Its wireless Bluetooth® connectivity ensures instant alerts to personnel and seamless reporting to a central gateway, enabling rapid response and facility-wide visibility.

Designed for harsh, high-risk locations, the FD-100 sensor offers a simple, durable, and cost-effective solution to prevent equipment damage, reduce downtime, and maintain operational safety across industrial sites.



MEASURED PARAMETERS

WATER LEAK



Detects leaks and pooled water.
Be alerted instantly!!!

DEVICE ANGLE



Monitors if the sensor is tilted or tipped.

MOTION







Alerts if the sensor has been moved from its position.

PRODUCT BENEFITS AND FEATURES

- 01 Asset Protection**
Monitors drips, leaks, and pit overflows, providing instant awareness before water causes damage
- 02 Labor Savings**
Eliminate routine manual facility leak inspections with automated, continuous leak monitoring
- 03 Downtime Reduction**
Minimize operational disruptions by addressing issues before they lead to system failures or shutdowns
- 04 Flexible Deployment**
Cable-free sensor unit allows flexible positioning and simple, frequent relocation as site needs change
- 05 Sensor Integrity Alert**
Detects if the sensor has been moved, tilted, or flipped—ensuring monitoring remains accurate and reliable
- 06 Industrial Durability**
IP65-rated housing provides strong protection from dust and water, making it ideal for demanding industrial sites

SYSTEM COMPONENTS


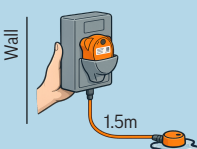
 <p>Sensor Unit</p>	<p>Wireless sensor that can be docked in the wall unit or placed standalone near a potential leak. Communicates with the gateway.</p>	 <p>Wall Unit</p>	<p>Wall-mounted dock that powers the floor unit. Utilizes rechargeable and non-rechargeable battery packs, extending system life.</p>
 <p>Floor Unit</p>	<p>Floor-placed water sensing disc that detects leaks, and alerts the sensor unit when a leak is found. Tethered to the wall unit.</p>	 <p>Battery Pack</p>	<p>Rechargeable and non-rechargeable battery packs dock into the wall unit to power the floor unit.</p>

QUICK START: DEPLOYING YOUR WATER LEAK SENSOR

COMMON STEPS (Apply to Both Configurations)

- 1. Connect Gateway to Network**
Connect your E4A Gateway to the internet via LTE, Wi-Fi, or Ethernet.
- 2. Pair Sensor Unit to Gateway**
Utilizing the sensor unit pushbutton, pair the sensor to the E4A Gateway.
- 3. Connect to E4A IoT Manager**
Login to [E4A IoT Manager](#) to monitor real-time data and setup alerts.

CHOOSE A CONFIGURATION

<p>COMPACT Best for: Hard-to-access areas with maximum placement flexibility</p>  <p>4A. Deploy Sensor Unit Place the sensor unit in areas where leaks are likely or require monitoring – in this configuration the sensor unit works standalone.</p>	<p>EXTENDED BATTERY Best for: Minimal maintenance and longer battery life</p>  <p>4B. Deploy Floor Unit Mount the wall unit with the sensor on a suitable surface, insert a battery pack, and place the floor unit where leaks are likely.</p>
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TECHNICAL SPECIFICATIONS

Power Supply

Sensor Unit	
Main Power	Internal Battery (CR123A)
Nominal Voltage	3VDC
Typical Capacity	1500mAh
Battery Life	3+ years @5 min. reporting

Wall Unit	
Main Power (Rechargeable)	BP-100R External Battery Pack
Cell Type	2 x 18650 Li-ion
Total Capacity	6800mAh
Main Power (Non-Rechargeable)	BP-100 External Battery Pack
Cell Type	4 x CR123A Li/MnO2
Total Capacity	6000mAh
Battery Life	6+ years @5 min. reporting

Operating Specifications

Operating Temperature	-20°C to +65°C
Operating and Storage Humidity	20-85% RH
Altitude	2000m
Pollution Degree	2
Ingress Protection	IP65: Sensor Unit IP65: Floor Unit IP30: Wall Unit

Measurement Characteristics

Detected Fluid	Water
Device Angle	0-180° Angle
Wake-on-Motion	125mg motion threshold

User Interface

Pushbuttons	1 pushbutton (pairing, unpairing, enabling/disabling UART to communicate to sensor unit)
Status LED	2 status LED's (red, green)

Physical Characteristics

Sensor Unit	
Housing Material	Flame Retardant Polycarbonate/ABS
Physical Dimensions	Height: 31.5mm / 1.2inch Width: 76.2mm / 3.0inch Depth: 81.4mm / 3.2inch
Weight	87g
Mounting	Docked into Wall Unit Free-standing (portable placement)

Wall Unit	
Housing Material	Flame Retardant Polycarbonate/ABS
Physical Dimensions	Height: 118mm / 4.6inch Width: 104.5mm / 4.1inch Depth: 99.0mm / 3.9inch
Weight	352g (without external battery pack)
Mounting	Wall mount, 4x Neodymium magnets

Floor Unit

Housing Material	Flame Retardant Polycarbonate/ABS
Physical Dimensions	Height: 49.5mm / 1.9inch Width: 39.0mm / 1.5inch Depth: 11.0mm / 0.4inch
Weight	62g
Mounting	Floor mount, tether to Wall Unit (1.5m)

Communications

Wireless Module	2.4GHz Bluetooth® 5.0 transceiver
Communication Range	200m line of sight
Communication Interval	User programmable in 10s increments

Security

Encryption	ES 128-bit crypto accelerator ECC and RSA public key accelerator (PKA) SHA2 accelerator (full suite to SHA-512) True Random Number Generator (TRNG)
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PRODUCT CERTIFICATIONS

FCC ID	2AXVKFD100
Industry Canada Standards	26661-FD100 UL 61010-1: Ed.3, 2012 (R2024) UL 61010-2-030: Ed. 2, 2018 (R2023) CSA C22.2 No. 61010-2-030:18 CSA C22.2 No. 61010-1:12, UPD 1:2015; UPD 2:2016; UPD 2:2023; UPD 4:2024; A1:2018

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