

# Li-Battery Electrolyte Leakage Monitoring Sensor



**ATRS-1050**

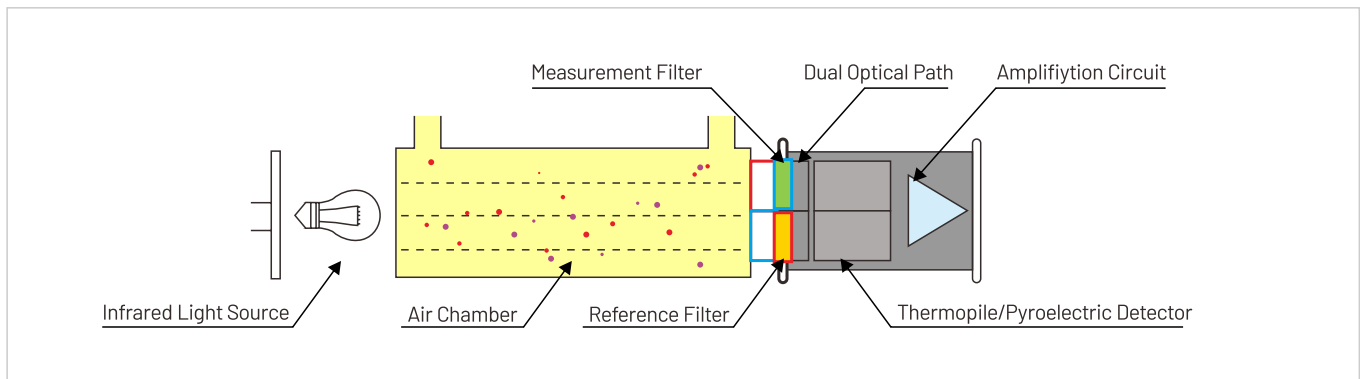
Cubic ATRS-1050 is a lithium-ion battery electrolyte leakage sensor based on non-dispersive infrared (NDIR) technology, specifically designed for the efficient detection of DMC, EMC, and EC vapor leaks. ATRS-1050 can continuously monitor the electrolyte leaks in the battery and promptly generate alarm signals to implement effective safety warning strategies.

## Features and applications

ATRS-1050 features early detection, low power consumption, less cross interference with other gases, long lifespan, can be widely used for thermal runaway monitoring in electric vehicles, battery energy storage systems, and gas leak detection during the battery manufacturing process, providing an effective solution for the safety monitoring.

## Working principle

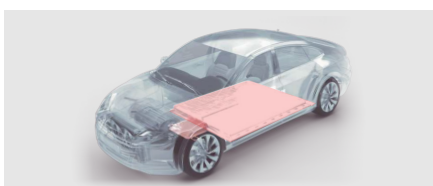
The electrolyte leakage monitoring sensor is mainly composed of an infrared light source, a gas chamber, two filters and a detector. The infrared light source radiates infrared light, which passes through the narrow-band filter and reaches the infrared detector. By measuring the intensity of infrared light entering the infrared detector, the concentration of the measured gas can be calculated.



## Advantages

- Early detection of thermal runaway event
- Fast response time (<1s)
- Less cross interference with other gases
- Low power consumption

## Applications



Electric vehicle thermal runaway



BESS thermal runaway



Battery manufacturing process  
DMC/EMC/EC leakage

## Specifications

Detection Category	DMC, EMC, EC electrolyte vapor
Operating Principle	NDIR (Non-dispersive Infrared)
Measurement Range	0~10000ppm
Measurement Accuracy	0~2000ppm: $\pm 200$ ppm 2000ppm~10000ppm: $\pm 10\%$ of reading
Response Time	$< 1$ s
Average Working Current	Normal Working Mode: $\leq 30$ mA Low Power Mode: $\leq 240\mu$ A
Lifetime	$\geq 10$ years
Working Condition	$-40 \sim +85^{\circ}\text{C}$ ; 0~95%RH (non-condensing)
Storage Condition	$-40 \sim +95^{\circ}\text{C}$ ; 0~95%RH (non-condensing)
Power Supply	6V~32VDC (Rated voltage +12VDC)
Communication	CAN

\* For details of technical parameters, please refer to the specification sheet.

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All products are in continuous development and therefore specifications may be subject to change without prior notice.