IoT monitoring

Manhole Cover and Hazardous Gas Monitor

Model CS-iTWGM-01

Battery-powered monitor for manhole cover tilt (0° ~ 180°, ±2°) and hazardous gases including CO, methane and VOCs, reporting over NB-IoT or LoRaWAN, with IP67 protection.



Range	Accuracy
0° ~ 180°	±2°
Output	**Frequency**
FPC antenna	470MHz/868MHz/915MHz

Features

- Manhole cover tilt monitoring
- Hazardous gas monitoring (CO, methane, VOCs)
- Configurable alarm angle and gas alarm threshold
- Alarm delay 2s~60s
- Lithium battery ER34615, life ≥ 3 years

Applications

Manhole cover monitoring, Hazardous gas monitoring

Specifications

Wireless	
Working frequency (LoRaWAN)	470MHz/868MHz/915MHz
Working frequency (NB-IoT)	B3/B5/B8
Equipment type (LoRaWAN)	Class A
Antenna interface	FPC antenna

Electrical	
Operating voltage	Lithium battery ER34615 (3.6V), built-in, non-rechargeable
Battery life	≥ 3 years
Maximum working current (LoRaWAN)	<200mA
Maximum working current (NB-IoT)	<350mA
Sleeping current	<25.0μA

Performance	

Angle measurement range	0° ~ 180°
Angle measurement accuracy	±2°
Alarm delay	2s~60s (vibration of the manhole cover or poor network signal can cause alarm delay)

Mechanical

Protection level	IP67
Shell material	PC+ABS (anti-aging, anti-corrosion, anti-impact materials)

Environmental

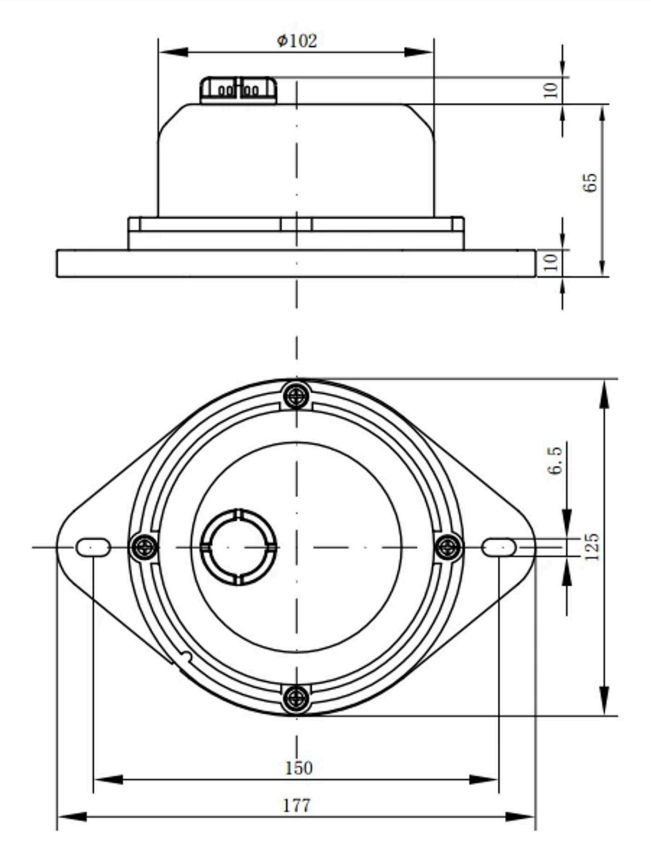
Operating temperature	(0–+60)°C
Storage temperature	(-40–+85)°C

Ordering and support

Pricing, samples, lead time and custom versions: dwinsales@163.com, +86 181 0280 8901.

Guangzhou Dwin Technology Co., Ltd., 4th Floor, Building 2, No. 4 Xingye Road, Xiaowu Second Industrial Zone, Dongyong Town, Nansha District, Guangzhou, China. Specifications are typical values and may change without notice; confirm critical values with DWIN before design-in. Revision 2026-11.

Dimensions and wiring



Drawings are for reference. Dimensions in millimetres unless stated.