IoT monitoring

Manhole Cover and Combustible Gas Monitor

Model CS-iTWGM-02

Battery-powered manhole cover monitor with combustible gas monitoring, measuring tilt over 0° ~ 180° with ±2° accuracy and reporting by NB-IoT, LoRaWAN or GPRS, IP68.



Range	Accuracy
0° ~ 180°	±2°
Output	**Frequency**
FPC antenna	B1/B3/B5/B8/B20

Features

- NB-IoT, LoRaWAN and GPRS transmission
- Lithium battery ER26500+SPC1550 (3.6V)
- PC+ABS shell
- Easy mounting, stable operation

Applications

Manhole cover monitoring, Combustible gas monitoring

Specifications

Wireless

Working frequency (LoRaWAN)	433MHz/470MHz/868MHz/915MHz
Working frequency (NB-IoT)	B1/B3/B5/B8/B20
Working frequency (GPRS)	850/900/1800/1900MHz
Equipment type (LoRaWAN)	Class A
Antenna interface	FPC antenna

Electrical

Operating voltage	Lithium battery ER26500+SPC1550 (3.6V), not rechargeable
Battery life	3-5 years (test condition: work normally and report data up to twice a day)
Maximum working current (LoRaWAN)	<200mA
Maximum working current (NB-IoT)	<350mA
Maximum working current (GPRS)	<2000mA
Sleeping current	<25.0uA

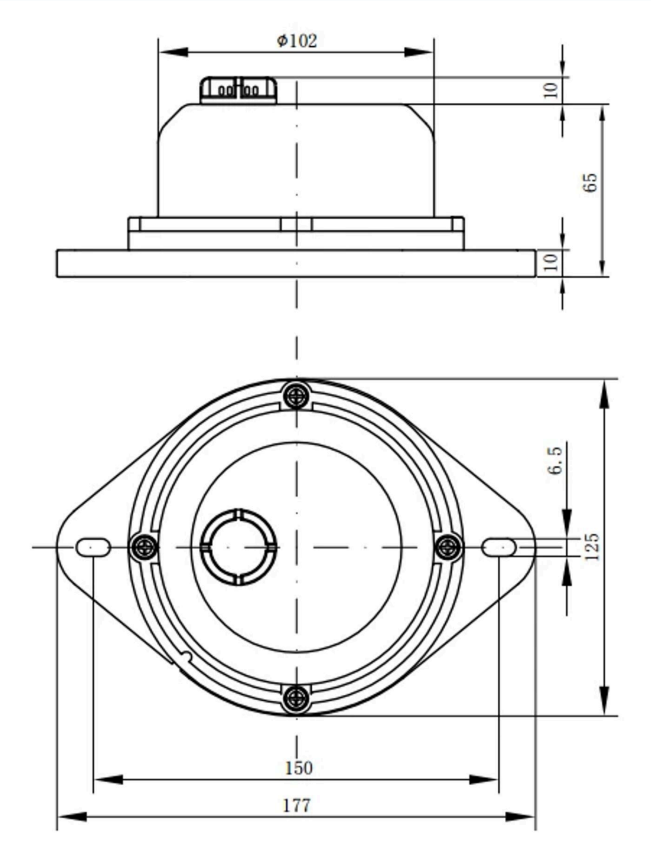
Performance	
Measuring range	0° ~ 180°
Measurement accuracy	±2°
Mechanical	
Protection level	IP68
Shell material	PC+ABS (anti-aging, anti-corrosion, anti-collision materials)
Environmental	
Operating temperature (consumer SIM card)	(-25–+85)°C
Operating temperature (industrial SIM card / LoRaWAN)	(-40–+85)°C
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.