



For plant safety and disaster prevention
management

Fixed Wireless Gas Detectors

Model SDWL-1 Series

ATEX (European directive for explosion-proof equipment)
explosion-proof certified

IECEX (IEC explosion-proof electrical equipment
standard test) certified

CE marking compliant

<Intrinsically safe explosion-proof construction>

II 1G Ex ia IIC T4 Ga

● Allows wireless communication with various measuring devices.

Adopts ISA100.11a (IEC 62734) wireless communication standard.
Ideal for improving safety management in locations where wiring is impractical.

ISA100.11a is an open standard that allows connection between a wide range of
measuring devices from various manufacturers. It promotes safety management,
allowing new connections to be established via other devices if the main
communication route becomes unusable for some reason.

● Internal battery eliminates wiring.

The product is completely standalone, eliminating the need for power supply wiring.

● Reduced initial and running costs

Gas concentration signal is transmitted via wireless communication, eliminating the need
for cable wiring.

This greatly expands the area monitored and ensures safe, stable operation.

● Mounting configuration allows easy installation anywhere.

Can be mounted on a horizontal or vertical pole or a wall using mounting brackets.

● Also supports suction type gas detection.

Connecting the SDWL-1 Series suction cap (with gas flow inlet/outlet) to the product sensor
allows suction type gas detection.

*Use for suction type gas detection requires a suction pump and aspirator unit (available separately), together with a power supply.



Specifications

Model	SDWL-1RI	SDWL-1EC	SDWL-1OX
Detection principle	Non-dispersive infrared type	Electrochemical type	Galvanic cell type
Detection target gas	Methane/isobutane	Hydrogen sulfide/ carbon monoxide/chlorine	Oxygen
Detection range	0 to 100 %LEL	H ₂ S: 0 to 30 ppm or 0 to 50/100 ppm CO: 0 to 75 ppm or 0 to 150/200/250/300 ppm/500 ppm Cl ₂ : 0 to 1.5 ppm	0 to 25.0 vol%
Concentration display	LCD		
Detection method*	Diffusion type		
Alarm setpoints (standard settings)	ALM1: 25 %LEL ALM2: 50 %LEL	Depends on detection target gas	ALM1: 18.0 vol% ALM2: 18.0 vol%
Alarm delay time (for identical conditions)	Within 30 seconds after providing gas at 1.6 times the alarm setpoint		18.0 vol% alarm: Within 5 seconds after detecting a 10 to 11 vol% gas
Power source	Thionyl chloride lithium battery		
Continuous operating time	1 year	2 years	
	In 25 °C installation environment with no alarms		
Operation method	Operated using magnet control key		
Operating temperature range	-20 °C to +60 °C (no sudden fluctuations)	-10 °C to +40 °C (no sudden fluctuations)	
Operating humidity range	95 %RH or less (no condensation)	30 to 80 %RH (no condensation)	95 %RH or less (no condensation))
IP class	IP65 (excluding sensor)		
Mounting method	Pole mounting or wall mounting		
Explosion-proof construction	Intrinsically safe explosion-proof construction		
Explosion-proof class	II 1G Ex ia IIC T4 Ga		
External dimensions	Approx. 157 mm (W) × 297 mm (H) × 206 mm (D)	Approx. 157 mm (W) × 292 mm (H) × 206 mm (D)	Approx. 157 mm (W) × 297 mm (H) × 206 mm (D)
Weight	Pole mounted type: approx. 4.5 kg; wall-mounted type: approx. 5.5 kg		
Exterior color	Munsell 7.5BG5/2		

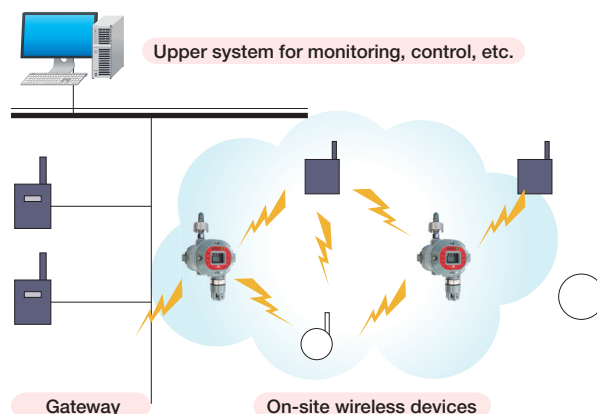
*Connecting the SDWL-1 Series suction cap (with gas flow inlet/outlet) to the product allows suction type gas detection.

Wireless specifications

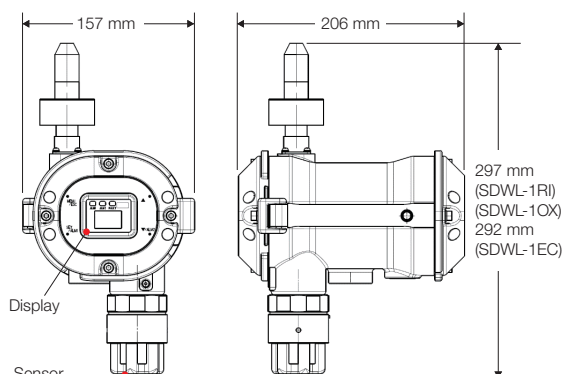
Model	SDWL-1 Series
Wireless communication standard	ISA100.11a (IEC 62734)
Frequency band	2,400 MHz to 2,483.5 MHz
Wireless output power	Not more than 12 dBm
Applicable wireless standards	Construction type certification (JPN), R&TTE (EU), FCC (USA), IC (CANADA)
Applicable EMC standards	EN 50270, EN 61326-1

Control system configuration example

(Mesh type network)

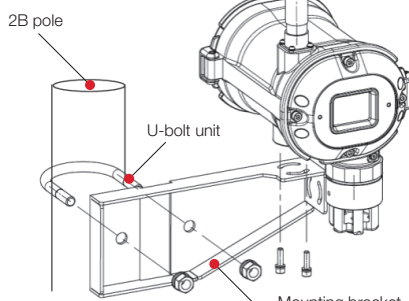


Exterior drawings

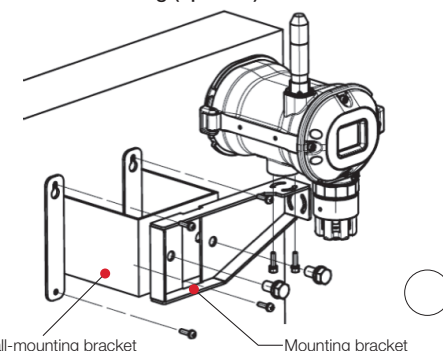


Installation schematic

● Vertical pole mounting



● Wall mounting (optional)



Accessories

- Control key
- U-bolt unit
(for 2B pole)
- Mounting bracket set
- Hex key wrench
- Battery pack
(Battery case + thionyl chloride
lithium battery)
- Antenna connector cap

Optional items

- Remote antenna cable*
(3 m, 10 m, 20 m)
- Wall-mounting bracket (N-5)
- Small-diameter pole mounting bracket
- Calibration adapter
- Antenna module
- Solvent protection cover
(Protects LCD display.)
- Aspirator unit
(Model: AS-1)

*Note that configurations incorporating the remote antenna cable are not explosion-proof.

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