

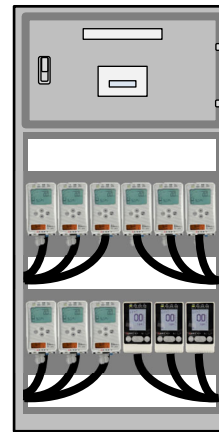
Fixed Gas Detector for Semiconductor Plants

Model: **GD-81D Series**



Compatibility

Compatible with existing systems for easy expansion



Previous model
GD-70D Series

Available with a wide range of sensors

[U sensor]

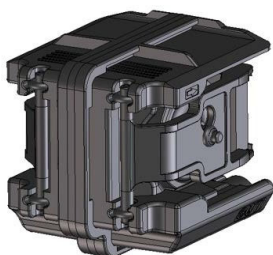
A lineup of more than 300 types; backed by the proven track record of previous models

[F sensor]

Incorporates new CO₂ sensor (supports ppm to vol%).

[M sensor]

Supports two-gas detection with two ESF sensors. Reduces piping and wiring installation costs by half.



Twin pumps for quiet operation and redundancy

[Quiet operation]

Two diaphragms to cancel vibration

[Redundancy]

If one pump fails, the other continues suction.

Communication methods and compatible sensors by model

Model	Communication method	Compatible sensors	Power supply		Contact output	
			24 V DC	PoE	Alarm	Fault
GD-81D	4 to 20 mA	U sensor (NCU, SGU, SHU, ESU, OSU, IRU, SSU) F sensor (NCF, SGF, SHF, ESF, IRF)	○	-	○	○
GD-81D-ETD	Ethernet	U sensor (NCU, SGU, SHU, ESU, OSU, IRU, SSU) F sensor (NCF, SGF, SHF, ESF, IRF)	○*1	○*1	○	○
GD-81D-ET		M sensor (ESF × 2)*2	-	○	-	-

*1: Do not supply power via a 24 V DC power source and PoE connection at the same time.

*2: The M sensor is a multi-sensor unit containing two ESF sensors. It is not supported by the GD-81D (4 to 20 mA).

Product specifications

Model	GD-81D	GD-81D-ETD	GD-81D-ET
Detection principles	Catalytic combustion method (NCF, NCU) / semiconductor method (SGF, SGU) / hot-wire semiconductor method (SHF, SHU) / electrochemical method (ESF, ESU*1, M sensor*2) / galvanic cell method (OSU) / non-dispersive infrared method (IRF, IRU) / pyrolysis-particle method (SSU)*3		
Detection target gas	Combustible gas / toxic gas / oxygen / carbon dioxide etc.		
Concentration display	Full-dot display		
Detection method (suction flow rate)	Pump suction (approx. 0.5 L/min)		
Power supply indication	POWER lamp lit (green)		
Display items	Gas name display, flow rate display, mode display, pyrolyzer connection display*4		
Gas alarm type	Two-step alarm (H-HH) / Oxygen (ESU) sensor: two-step alarm (L-LL) / Oxygen (ESF, OSU) sensor: two-step alarm (L-LL, L-H, H-HH)		
Gas alarm indication	First alarm: ALM1 lamp lit (red), second alarm: ALM2 lamp lit (red)		
Gas alarm pattern, fault alarm pattern	Non-latching / latching		
Gas alarm contact, fault alarm contact*5 (For each ALM1, ALM2, Fault)	Dry N.O. Contact: Closes on Alarm (Relay normally de-energized). Dry N.C. Contact: Opens on Alarm (Relay normally de-energized). Dry N.C. Contact: Opens on Alarm (Relay normally energized). Dry N.O. Contact: Closes on Alarm (Relay normally energized).		-
Fault alarm/self-diagnosis	System error, sensor error, flow error, communication error, pyrolyzer error		
Fault alarm indication	FAULT lamp lit (yellow), information display		
Contact capacity	24 V DC, 0.5 A (resistance load)		-
Contact cable	Cable 1.25 mm ² (AWG16), maximum 6 cores		-
Transmission method	3-wire analog transmission (common power and signal) / 2-wire analog transmission	Ethernet (10BASE-T / 100BASE-TX)	
Transmission cable	Shielded cable 1.25 mm ² (AWG16), 3 cores or 2 cores	Category 5 or better Ethernet cable	
Power source	24 V DC ± 10 %	24 V DC ± 10 % / PoE connection	PoE connection
Power supply cable	Cable 1.25 mm ² (AWG16), 2 cores (Not required for 3-wire analog transmission)	Cable 1.25 mm ² (AWG16), 2 cores (Shared with digital transmission cable when PoE connection is used)	Shared with digital transmission cable
Power consumption (for ESU, ESF)*6	Approx. 1.5 W, max. 4.0 W	24 V DC: 2.5 W, max. 4.5 W PoE: 3.5 W, max. 6.5 W	Approx. 3.5 W, max. 6.0 W
Tube connecting port	One-touch quick connect coupler, PTFE tube O.D. 6 mm × I.D. 4 mm (1/4 in × 1/8 in) / (1/4 in × 3/16 in)		
Functions	White backlight, alarm delay, suppression, zero follower, sensitivity correction, flow control, alarm trend history, event history		
Initialization	Approx. 25 seconds		
Operating temperature/humidity range*7	-10 °C to +40 °C (14 °F to 104 °F) (no sudden changes), 0 to 95 %RH (no condensation) (depend on the sensor used.)		
Construction, exterior color	Wall-mounted type, main unit: black, front door: white		
External dimensions (excluding projections), weight	Approx. 70 mm (W) × 120 mm (H) × 145 mm (D) (approx. 2.76 in × 4.72 in × 5.71 in), approx. 0.8 kg (approx. 1.76 lb)		

*3: For certain gas types, a pyrolyzer unit (PLU-80) is used. *4: With the pyrolyzer unit (PLU-80) in use. *5: When the M sensor is installed, the contact will operate if either of the two gases triggers a gas alarm or a fault alarm. *6: Power consumption varies depending on the sensor. *7: Depend on the sensor used.

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