



FOR SEMICONDUCTOR, LCD & SOLAR CELL FACTORIES

INTELLIGENT GAS DETECTOR

MODEL GD-70D series



- Common platform (Main/Sensor/Pump) for all detection methods
- Universal main unit (All sensor types)
- Multifunctional sensor unit (New Intelligent Sensor)
- No internal tubing (Main unit) /No coil (Pump unit)
- Front access/No tool required/Easy replacement of sensor and pump
- Large size LCD (Easily viewable)
- Minimal maintenance cost through enhanced troubleshooting firmware functions
- Smallest mounting space
- Simple upgrade from old units
- Environmentally friendly
- Global standard

RIKEN KEIKI Co.,Ltd.

GASES DETECTED WITH RIKEN KEIKI's ELECTROCHEMICAL SENSOR UNIT "ESU"

Gases detected		ACGIH TLV-TWA	Detection range
Ammonia	NH ₃	25ppm	0-75ppm
Arsine	AsH ₃	5ppb	0-0.2ppm
Boron Trichloride	BCL ₃	(HCL 2ppm) (C)	HCL 0-6ppm or 0-15ppm
Boron Trifluoride	BF ₃	(HF 2ppm) (C)	HF 0-9ppm
Bromine	Br ₂	0.1ppm	0-1ppm
Carbon Monoxide	CO	25ppm	0-75ppm, 0-150ppm or 0-300ppm
Chlorine	CL ₂	0.1ppm	0-1.5ppm or 0-3.0ppm
Chlorine Trifluoride	CLF ₃	0.1ppm (C)	0-0.3ppm or 0-0.6ppm
Diborane	B ₂ H ₆	0.1ppm	0-0.3ppm
Dichlorosilane	SiH ₂ CL ₂	(HCL 2ppm) (C)	HCL 0-6ppm or 0-15ppm
Diethylamine	DEA	5ppm	0-15ppm
Difluoromethane	CH ₂ F ₂	-	0-60ppm
Dimethylamine	DMA	5ppm	0-15ppm
Disilane	Si ₂ H ₆	-	0-15ppm
Fluorine	F ₂	1ppm	0-3ppm
Germane	GeH ₄	0.2ppm	0-0.8ppm
Hydrogen	H ₂	-	0-1000ppm or 0-2000ppm
Hydrogen Bromide	HBr	2ppm (C)	0-6ppm or 0-9ppm
Hydrogen Chloride	HCL	2ppm (C)	0-6ppm or 0-15ppm
Hydrogen Fluoride	HF	0.5ppm	0-9ppm
Hydrogen Selenide	H ₂ Se	0.05ppm	0-0.2ppm
Hydrogen Sulfide	H ₂ S	1ppm	0-1ppm or 0-30ppm
Nitric Oxide	NO	25ppm	0-100ppm
Nitrogen Dioxide	NO ₂	0.2ppm	0-9ppm or 0-15ppm
Nitrogen Trifluoride	NF ₃	10ppm	0-30ppm
Ozone	O ₃	0.1ppm	0-0.6ppm
Phosphine	PH ₃	0.05ppm	0-1ppm
Phosphorus Oxychloride	POCL ₃	0.1ppm	HCL 0-6ppm or 0-15ppm
Silane	SiH ₄	5ppm	0-15ppm
Silicon Tetrachloride	SiCL ₄	(HCL 2ppm) (C)	HCL 0-6ppm or 0-15ppm
Silicon Tetrafluoride	SiF ₄	(HF 2ppm) (C)	HF 0-9ppm
Sulfur Dioxide	SO ₂	0.25ppm (STEL)	0-6ppm
Titanium Tetrachloride	TiCL ₄	(HCL 2ppm) (C)	HCL 0-6ppm or 0-15ppm
Trichlorosilane	SiHCL ₃	(HCL 2ppm) (C)	HCL 0-6ppm or 0-15ppm
Trimethylamine	TMA	5ppm	0-15ppm
Tungsten Hexafluoride	WF ₆	(HF 2ppm) (C)	HF 0-9ppm

For gases and detection range not listed above, contact RIKEN KEIKI.

Specifications subject to change without notice.

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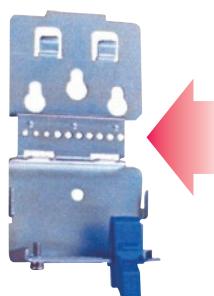
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► NO NEED FOR SPECIAL TOOLS

a Main unit



Wall mounting base plate

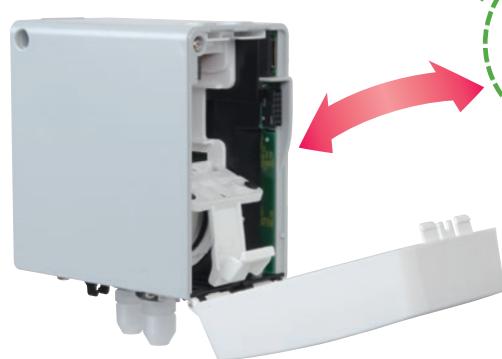


Main unit

b Sensor unit



c Pump unit



► SIMPLE UPGRADE FROM OLD UNITS TO OTHER COMMUNICATION METHODS (4-20mA or POE)

Dimensions for installation

The Installation space for GD-70D is the same as our old units.

Power requirements

Power requirements for GD-70D is DC24V, same as our old units.

Cable

The cable for the GD-70D is the same as one used for existing Riken units.
You can use the existing cable installed for connecting to the GD-70D.



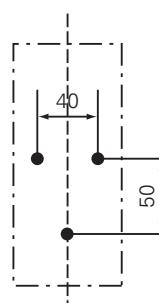
Indicator alarm unit

RM-5000 series



4-20mA/ADC Transmission

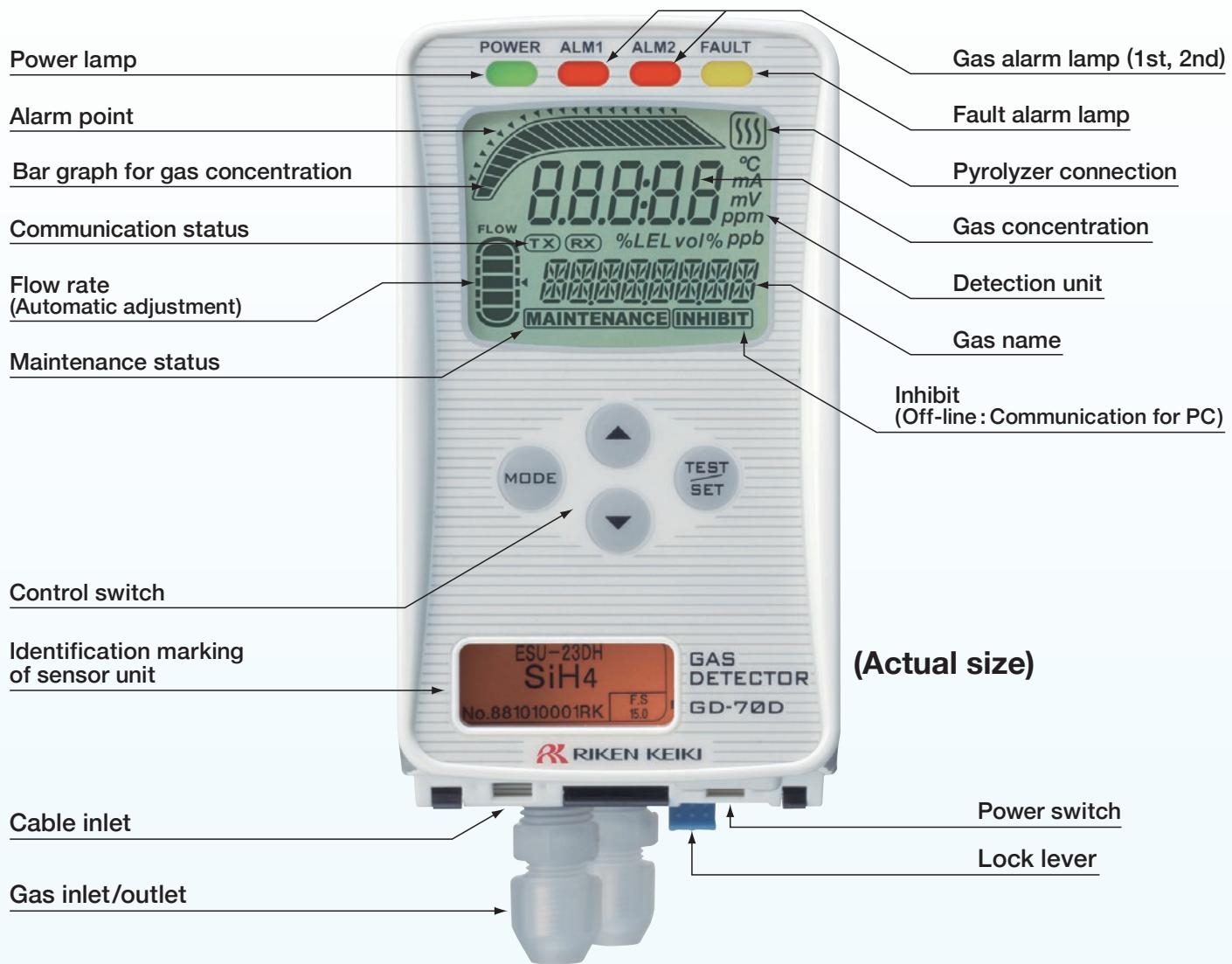
Sample installation space



Dimensions for installation

► COMPONENT DESIGNATIONS

Front view

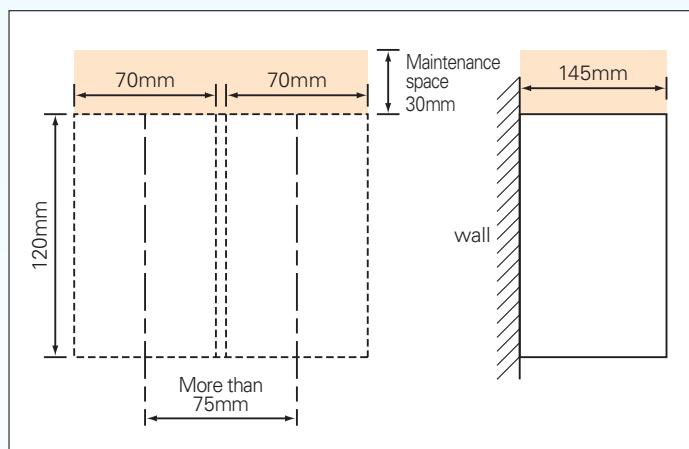


Front view



► INSTALLATION SPACE

Installation space can be saved.



(PLU-70)

SPECIFICATIONS

Main unit

Model	GD-70D		GD-70D-EA		
Communication	4-20mADC		4-20mADC/POE		
Detection principle	Several kinds of detection principle available. It depends upon measuring gas and range.				
Sampling method	Sample-drawing (Auto-adjustment of flow rate) 0.5ℓ/min ±10%				
Display	Large LCD display (White back light) Gas concentration Flow rate, Communication status, Pyrolyzer status, Gas name Error code, Content of error				
Display (Alarm lamp)	1 st alarm : Red 2 nd alarm : Red Fault alarm : Yellow				
External output	1 st alarm/2 nd alarm/Trouble alarm : Relay contact output for each alarm				
Self-diagnosis	System failure, Sensor failure, Flow failure, Communication failure (EA)				
Data logging function	Event history, Alarm history, Calibration history Alarm trend (180 sec before/after 1 st alarm)				
Operating temp. & humidity	0-40°C, 30-70%RH (non-condensing)				
Operational settings	All operational settings are user adjustable through front panel				
Power requirements	DC24V±10%, approx 1.5W (Max 4W including sensor unit) Note : Approx 2.5W (Max 5W) with SGU sensor unit	DC24V±10% / POE			
Dimensions	70(W)×120(H)×145(D) mm (2.8"W×4.7"H×5.7"D)				
Weight	Approx. 0.9kg (2.0lbs), including sensor unit				
Mounting	Wall-mounting base plate by 2 or 3 screws				
Sampling tubing	4x6mm PTFE tubing recommended. PP half union fittings provided as standard accessories				
Gland	Cable type varies depending on communication method (Cable gland optional)				

Specifications subject to change without notice.

Sensor unit

Model	ESU	SGU	OSU	SSU
Detection principle	Electro-chemical cell	Semiconductor	Galvanic cell	Pyrolysis-particle
Gas detected and detection range	Refer to the table of the gases detected list on back page	0-2000ppm H ₂ or CH ₄ in air and others	0-25% O ₂ in air	0-15ppm TEOS in air
Identification marking	 注意 本製品には、電解液が入っていますので、絶対に分解しないでください。 万一電解液に触れた場合は、洗めた手を直ちに水で十分洗浄してください。 CAUTION – Do not disassemble this sensor. If electrolyte comes in contact with skin, flush immediately with water. ESU-23AH PH₃ 623015001ES 1.00 RIKEN KEIKI	 ご注意 本製品を分解しないでください。 CAUTION Do not disassemble this sensor. SGU-8541 H₂ 999990002RN 2000 RIKEN KEIKI	 注意 本製品には、電解液が入っていますので、絶対に分解しないでください。 万一電解液に触れた場合は、洗めた手を直ちに水で十分洗浄してください。 CAUTION – Do not disassemble this sensor. If electrolyte comes in contact with skin, flush immediately with water. OSU-8078 O₂ 623010000ET 25.0 RIKEN KEIKI	 放射性 Radioactive 特定放射能認証機器 内蔵、1.1倍輸送物相当 〒174-8744 東京都練馬区小川町 2-7-6 TEL: 03-3966-1112 ご注意 管理下に置かれていないままセンサを見つかった場合 無効へご連絡してください。 本センサを分解しないでください。 不要になった場合は、産業廃棄物 方法で弊社に返却してください。 Ionization Chamber CAUTION Do not disassemble. When sensor is removed from service, return intact to Riken Keiki for disposal. 熱伝子化式センサ:SSU-1925 24-Ar - 37Ar 飲料水・生活用水・温水 623010001R1 RIKEN KEIKI
Self-diagnosis function	Sensor trouble, System failure			
Data logging function	Event history, Alarm history, Calibration history Alarm trend (60 sec before/after 1 st alarm)			

For other gases and/or detection range, contact us or our nearest agent.

Specifications subject to change without notice.

Pyrolyzer unit

Model	PLU-70
Gas detected	NF ₃ /TEOS etc in air
Usage	Used by connecting to "GD-70D" (Main unit)
Power lamp	LED (Green color) Normal : Light-on Warming-up : Flashing at every 1 sec interval Trouble : Flashing at every 0.2 sec interval
Self-diagnosis function	Pyrolyzer unit trouble Fan trouble System trouble
Operating temp. & humidity	0-40°C, 30-70%RH (non-condensing)
Operational Settings	All operational settings are user adjustable through front panel
Power requirements	DC24V±10%, approx. 25W (MAX)
Dimensions	70(W)×120(H)×145(D) mm (2.8"W×4.7"H×5.7"D)
Weight	Approx. 1.2kg (2.6lbs)
Mounting	Wall-mounting base plate by 2 or 3 screws
Sampling Tubing	4×6mm PTFE tubing recommended. PP half union fittings provided as standard accessories
Gland	1.25sq 2 core cable for power supply DC24V (Cable gland optional)

Specifications subject to change without notice.

Signal converter unit

Model	SD-70SC-ET
Application	For POE
Signal input	4-20mA Linear
Signal output	POE
Display	Large LCD Display (White back light) Gas concentration : Digital & bar chart display Gas detected, Error code, Content of error
Alarm	1 st alarm : Red 2 nd alarm : Red Trouble alarm : Yellow
External output	1 st alarm/2 nd alarm/Trouble alarm : Each relay contact output
Self-diagnosis function	Analog line trouble System trouble
Data logging function	Several types of event history recorded Alarm trend (180sec before/after 1 st alarm)
Operating temp. & humidity	0-40°C, 30-70%RH (non-condensing)
Operational settings	All operational settings are user adjustable through front panel
Power requirements	DC24V±10% approx. 1.5W (Max. 4W)
Dimensions	70(W)×120(H)×145(D) mm (2.8"W×4.7"H×5.7"D)
Weight	Approx. 0.9kg (2.0lbs)
Mounting	Wall-mounting base plate by 2 or 3 screws
Gland	Cable type varies depending on communication method (Cable gland optional)

Specifications subject to change without notice.