



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**

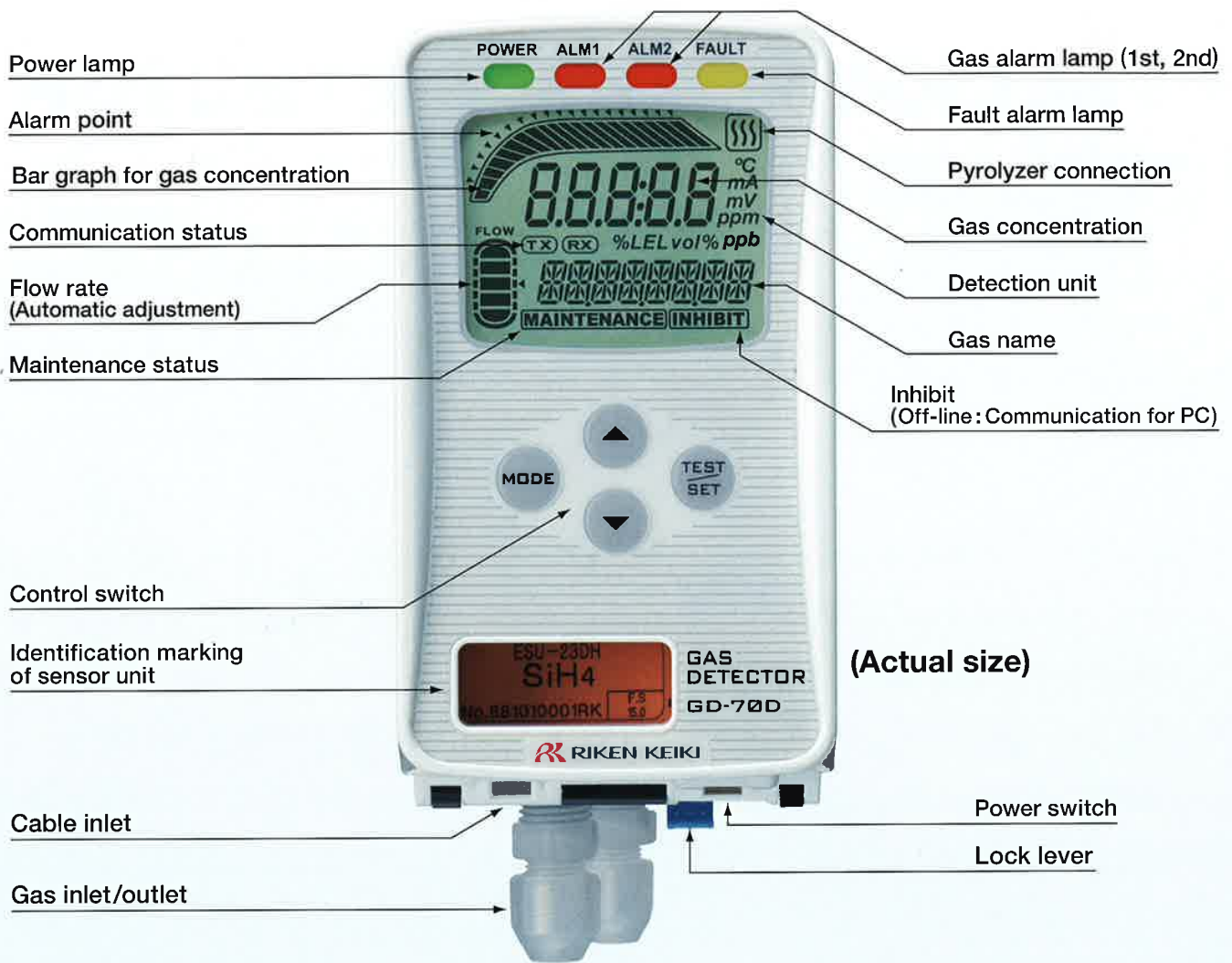


ISO 9001 95QR-007
ISO 14001 97ER-005
TOKYO PLANT • OKEGAWA MANUFACTURING
DIVISION • HAKODATE FACTORY

RIKEN KEIKI Co., Ltd.

▶ COMPONENT DESIGNATIONS

Front view

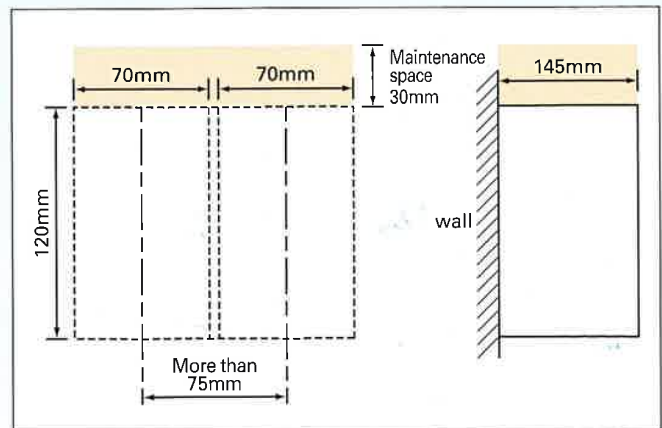


Front view



▶ INSTALLATION SPACE

Installation space can be saved.







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	4×6mm 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				
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	Pyrolyser 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)

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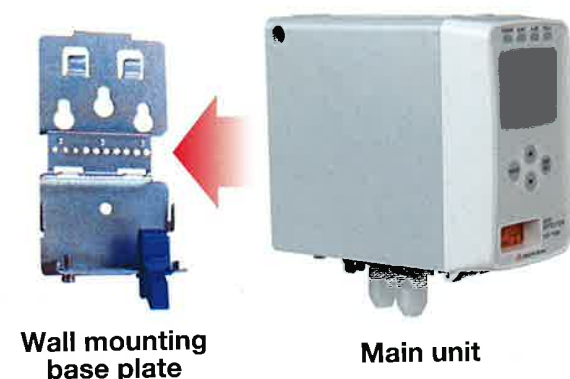
Signal converter unit

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 contract 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)

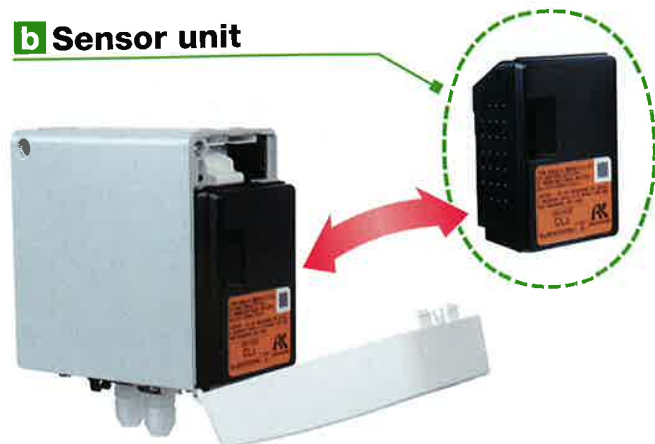
Specifications subject to change without notice.

▶ NO NEED FOR SPECIAL TOOLS

a 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-580 series
RM-590 series

4-20mADC Transmission

Sample installation space

Dimensions for installation

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	0.5ppm	0-1.5ppm or 0-3.0ppm
Chlorine Trifluoride	CLF ₃	0.1ppm (C)	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	2ppm (C)	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	0.3ppm	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	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.

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