



**FOR SOLAR CELL, SEMICONDUCTOR & LCD 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)
- Front access/No tool required/Easy replacement of sensor and pump
- Large size LCD (Easily viewable)
- Various communication methods available (4-20mA, NT and PoE)
- Minimal maintenance cost through enhanced troubleshooting firmware functions
- Smallest mounting space
- Simple upgrade from existing units
- Environmentally friendly
- Global standard

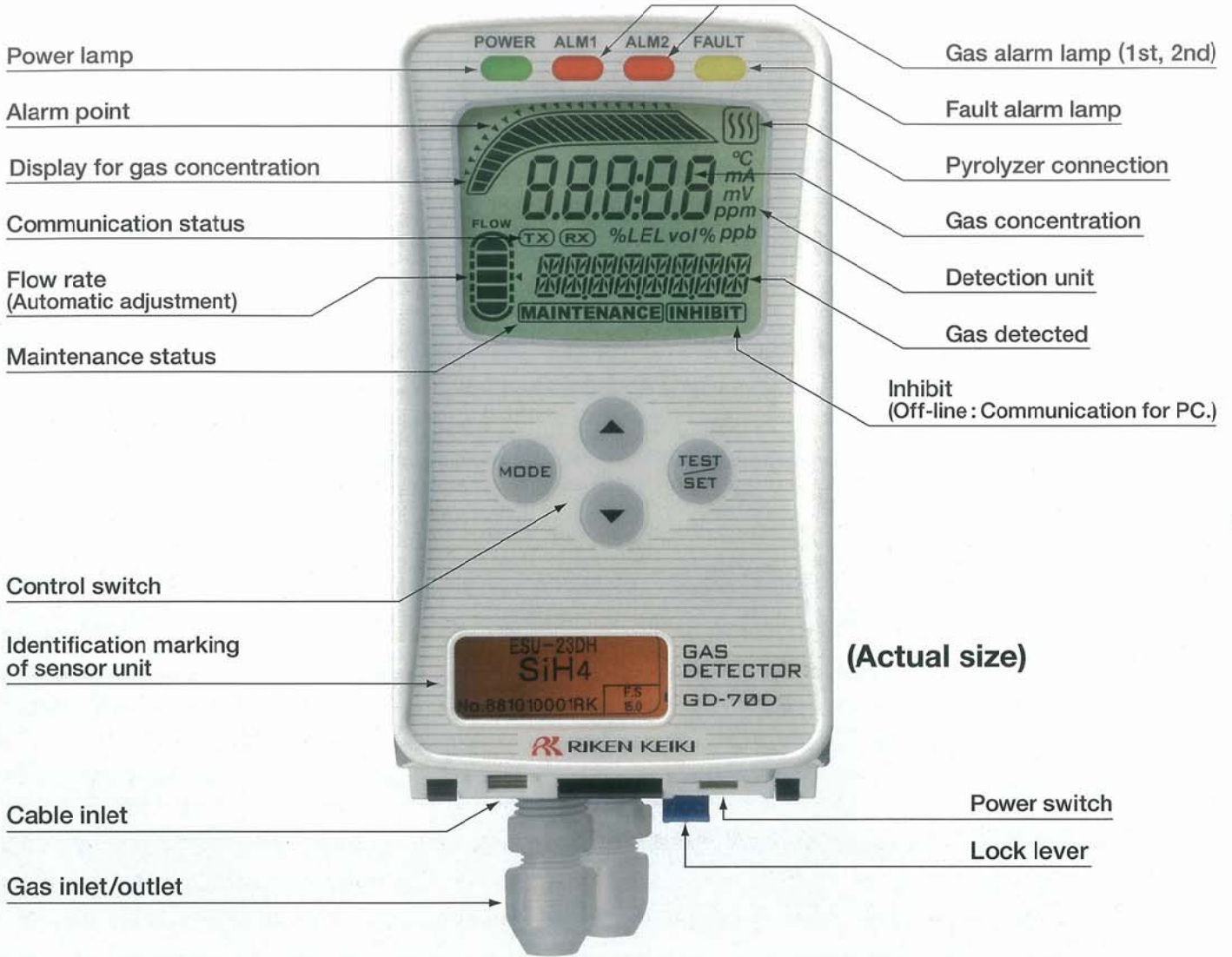


ISO 9001 95QR-007  
ISO 14001 97ER-005  
TOKYO PLANT • OKEGAWA MANUFACTURING  
DIVISION • HAKODATE FACTORY

**RIKEN KEIKI**

# ▶ COMPONENT DESIGNATIONS

## Front view

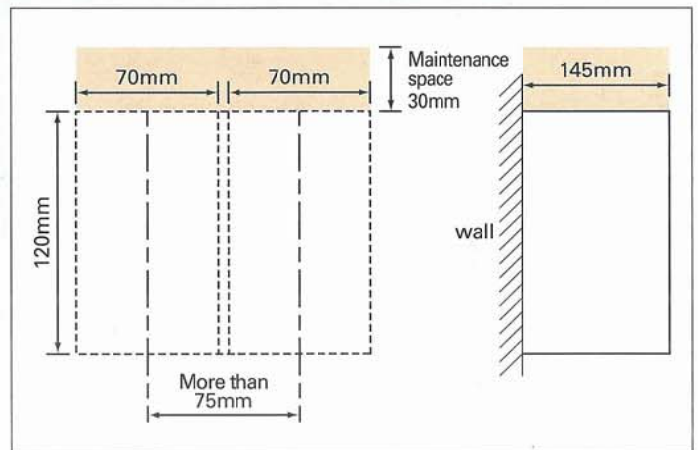


## Front view



# ▶ INSTALLATION SPACE

Installation space can be saved.







# SPECIFICATIONS

## Main unit

Model	GD-70D	GD-70D-NT	GD-70D-ET
Communication	4-20mADC	DC power line communication	PoE Method
Detection principle	Different type depending upon sensor unit and detectable gas (see table on back page for list of sensor types and detectable gases)		
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 detected Error code, Content of error		
Display	1 <sup>st</sup> alarm : Red 2 <sup>nd</sup> alarm : Red Fault alarm : Yellow		
External output	1 <sup>st</sup> alarm/2 <sup>nd</sup> alarm/Trouble alarm : Relay contact output for each alarm		
Self-diagnosis	System failure, Sensor failure, Flow failure, Communication failure (NT/ET)		
Date logging function	Event history, Alarm history, Calibration history Alarm trend (180 sec before/after 1 <sup>st</sup> 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	PoE standard arrangement	
Dimensions	70(W)×120(H)×150(D) mm (2.8"W×4.7"H×5.9"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	SSU	OSU
Detection principle	Electro-chemical cell	Semiconductor	Pyrolysis-particle	Galvanic cell
Gas detected and detection range	Refer to the table of the gases detected list	0-2000ppm H <sub>2</sub> , CH <sub>4</sub> or C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> (R-32) in air and others	0-15ppm TEOS in air	0-25% O <sub>2</sub> in air
Identification marking	 <p>ESU-234H PH<sub>3</sub></p>	 <p>SGU-8541 H<sub>2</sub></p>	 <p>SSU-1925 O<sub>2</sub></p>	 <p>OSU-8078 O<sub>2</sub></p>
Self-diagnosis function	Sensor trouble, System failure			
Date logging function	Event history, Alarm history, Calibration history Alarm trend (60 sec before/after 1 <sup>st</sup> 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
Application	NF <sub>3</sub> /TEOS gases detected 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)×150(D) mm (2.8"W×4.7"H×5.9"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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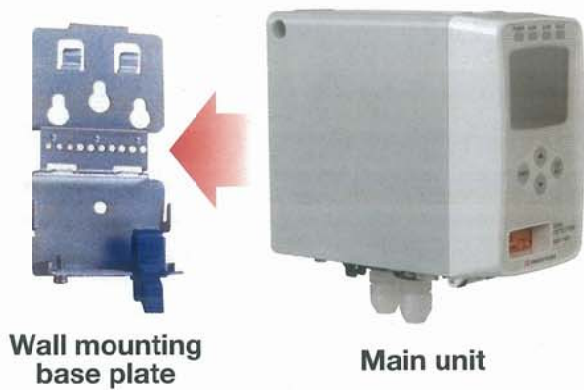
## Signal converter unit

Model	SD-70SC-NT	SD-70SC-ET
Application	For NT net work	For PoE
Display	Large LCD Display (White back light) Gas concentration : Digital & bar chart display Gas detected, Error code, Content of error	
Alarm	1 <sup>st</sup> alarm : Red 2 <sup>nd</sup> alarm : Red Trouble alarm : Yellow	
External output	1 <sup>st</sup> alarm/2 <sup>nd</sup> 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 <sup>st</sup> 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)×150(D) mm (2.8"W×4.7"H×5.9"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)	

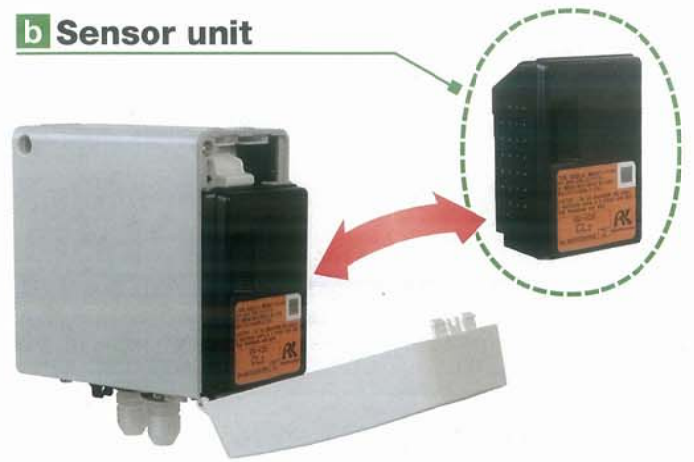
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# ▶ NO NEED FOR SPECIAL TOOLS; QUICK PLUG AND PLAY

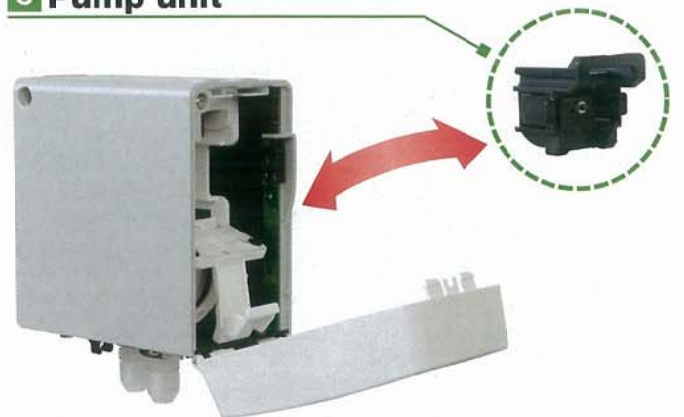
## a Main unit



## b Sensor unit



## c Pump unit



# ▶ SIMPLE UPGRADE FROM EXISTING UNITS VARIOUS COMMUNICATION METHODS AVAILABLE (4-20mA, NT&POE)

## Dimensions for installation

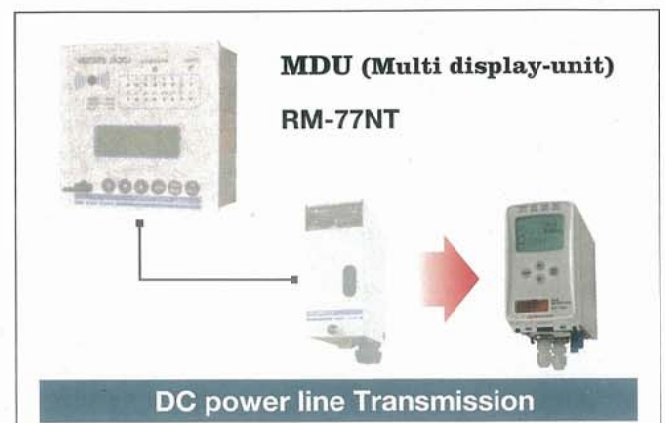
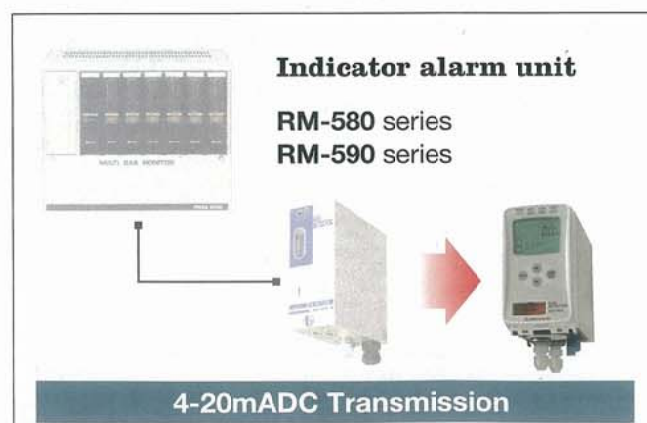
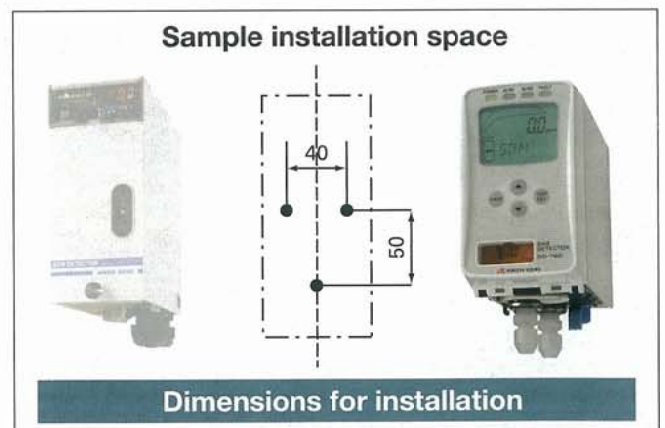
The Installation space for GD-70D is the same as existing units.

## Power requirements

Power requirements for GD-70D is DC24V, same as existing 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.



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

Gases detected		ACGIH TLV-TWA	Detection range*
Ammonia	NH <sub>3</sub>	25ppm	0~75ppm
Antimony Pentachloride	SbCl <sub>5</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Arsenic Pentachloride	AsCl <sub>5</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Arsenic Trichloride	AsCl <sub>3</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Arsenic Pentafluoride	AsF <sub>5</sub>	(HF 2ppm)(C)	HF 0~9ppm
Arsenic Trifluoride	AsF <sub>3</sub>	(HF 2ppm)(C)	HF 0~9ppm
Arsine	AsH <sub>3</sub>	5ppb	0~0.2ppm
Boron Tribromide	BBr <sub>3</sub>	(HBr 2ppm)(C)	HBr 0~6ppm
Boron Trichloride	BCl <sub>3</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Boron Trifluoride	BF <sub>3</sub>	(HF 2ppm)(C)	HF 0~9ppm
Carbon Monoxide	CO	25ppm	0~75ppm, 0~150ppm or 0~200ppm
Chlorine	Cl <sub>2</sub>	0.5ppm	0~1.5ppm
Chlorine Trifluoride	ClF <sub>3</sub>	0.1ppm(C)	0~0.6ppm
Diborane	B <sub>2</sub> H <sub>6</sub>	0.1ppm	0~0.3ppm
Dichlorosilane	SiH <sub>2</sub> Cl <sub>2</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Fluorine	F <sub>2</sub>	1ppm	0~3ppm
Germanium Tetrachloride	GeCl <sub>4</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Hydrogen Bromide	HBr	2ppm(C)	0~6ppm
Hydrogen Chloride	HCl	2ppm(C)	0~6ppm or 0~15ppm
Hydrogen Fluoride	HF	2ppm(C)	0~9ppm
Molybdenum Hexafluoride	MoF <sub>6</sub>	(HF 2ppm)(C)	HF 0~9ppm
Molybdenum Pentachloride	MoCl <sub>5</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Nitric Oxide	NO	25ppm	0~100ppm
Nitrogen Trifluoride	NF <sub>3</sub>	10ppm	0~30ppm
Ozone	O <sub>3</sub>	0.1ppm	0~0.6ppm
Phosphine	PH <sub>3</sub>	0.3ppm	0~1ppm
Phosphorus Oxychloride	POCl <sub>3</sub>	0.1ppm	HCl 0~6ppm or 0~15ppm
Phosphorus Pentachloride	PCl <sub>5</sub>	0.1ppm	HCl 0~6ppm or 0~15ppm
Phosphorus Pentafluoride	PF <sub>5</sub>	(HF 2ppm)(C)	HF 0~9ppm
Phosphorus Trichloride	PCl <sub>3</sub>	0.2ppm	HCl 0~6ppm or 0~15ppm
Silane	SiH <sub>4</sub>	5ppm	0~15ppm
Silicone Tetrachloride	SiCl <sub>4</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Silicone Tetrafluoride	SiF <sub>4</sub>	(HF 2ppm)(C)	HF 0~9ppm
Sulfur Tetrafluoride	SF <sub>4</sub>	(HF 2ppm)(C)	HF 0~9ppm
Tin Tetrachloride	SnCl <sub>4</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Trichlorosilane	SiHCl <sub>3</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Tungsten Hexachloride	WCl <sub>6</sub>	(HCl 2ppm)(C)	HCl 0~6ppm or 0~15ppm
Tungsten Hexafluoride	WF <sub>6</sub>	(HF 2ppm)(C)	HF 0~9ppm

1) For gases and/or detection range not listed above, contact us or our nearest agent.

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★ Distributed by:

## RIKEN KEIKI Co., Ltd.

2-7-6 Azusawa, Itabashi-ku, Tokyo 174-8744, Japan

Phone : +81-3-3966-1113

Telefax : +81-3-3558-9110

E-mail : [intdept@rikenkeiki.co.jp](mailto:intdept@rikenkeiki.co.jp)

Web site : <http://www.rikenkeiki.co.jp>