RIKEN

FOR SOLAR CELL, SEMICONDUCTOR & LCD FACTORIES

INTELLIGENT GAS DETECTOR

MODEL GD-70D series

RoHS compliant CE

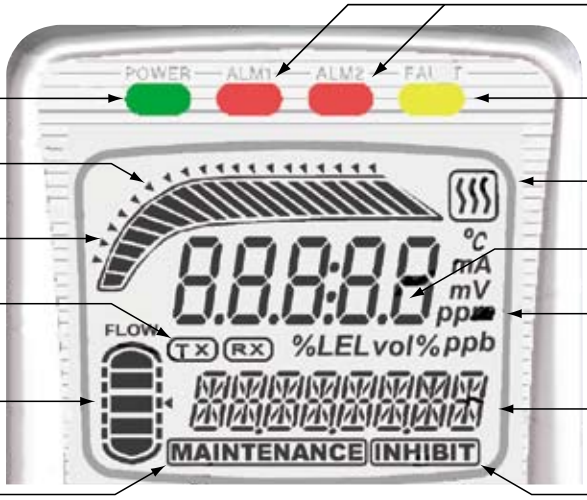
- Common platform (Main/Sensor/Pump) to all detection methods
- Universal Main-unit (All sensor types)
- Multifunctional Sensor unit (New Intelligent sensor)
- No internal tubing (Main unit) /No coil (Pump)
- Front access/No tool required/Easy replacement of sensor and pump
- Large size LCD (Easily viewable)
- Reduced maintenance through enhanced troubleshooting firm ware functions
- Smaller Footprint
- Simple upgrade from existing unit
- Reuse&Recycle
- Global standard

ISO 9001 95QR·007
TOKYO PLANT・OKEGAWA FACTORY
RIKEN KEIKI ESAN SEISAKUSHO CO.,LTD

ISO 14001 97ER·005
TOKYO PLANT・OKEGAWA FACTORY

RIKEN KEIKI

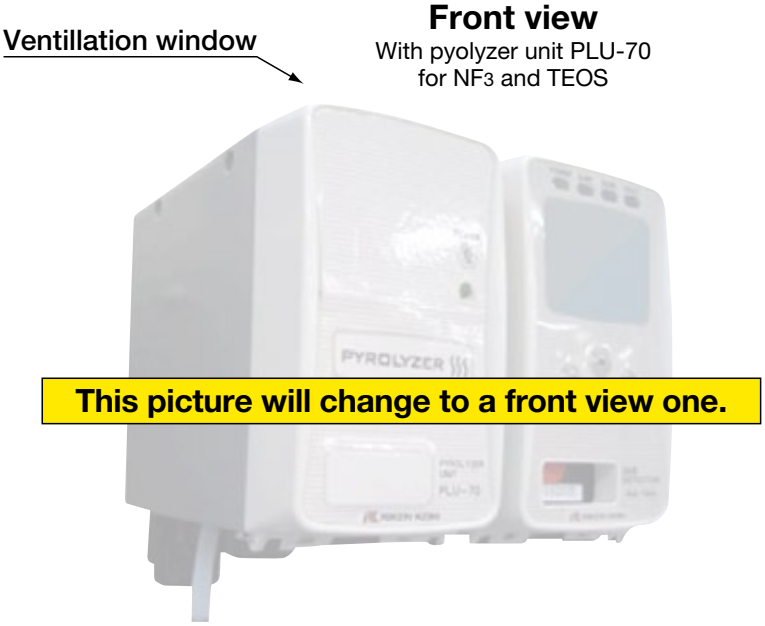
COMPONENT DESIGNATIONS



Front view

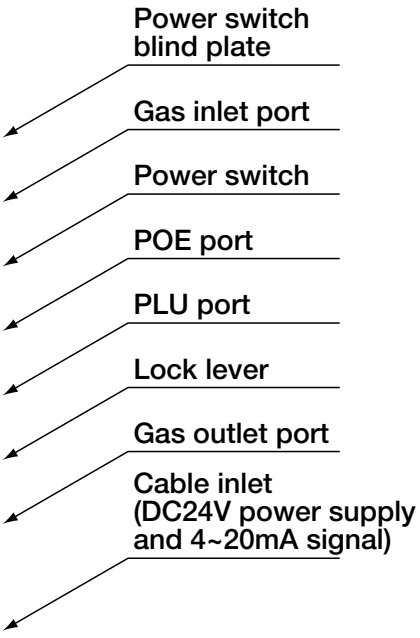
Front view

With pyolyzer unit PLU-70 for NF_3 and TEOS



Bottom view

Here is a picture of bottom view.



Bottom view

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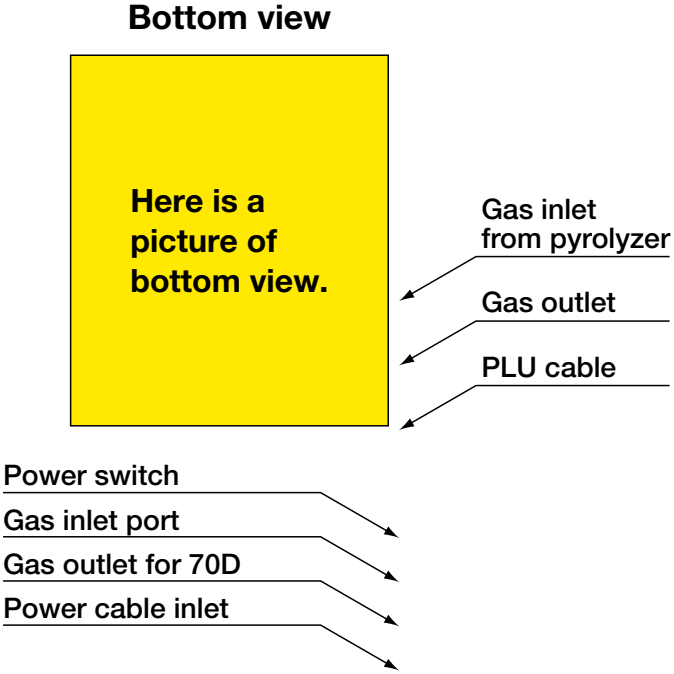

SPECIFICATIONS

Main Unit

Model	GD-70D	GD-70D-NT	GD-71D-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)		
Display	Large LCD Display (White back light) • Gas concentration • Flow rate/Communication status/Pyrolyser status/Character display • Measuring gas/Error code/Content of error/character message display		
Display	1st alarm : red/2nd alarm : Red/Fault alarm : Yellow		
External Output	1st alarm/2nd alarm/Trouble alarm : Each relay contract output		
Self-diagnosis	• System failure • Sensor failure • Flow failure • Communicaion failure (NT/ET)		
Date logging function	• Event history/Alarm history • Calibration history • Alarm trend (180 sec Before/after 1st alarm)		
Operating temp. & humidity	0-40˚C (Without rapid change) • 30-70%RH (non-condensing)		
Operation/Setting	All the operation and setting can be conducted on the front panel		
Power requirement	DC24V±10% Approx.5W (Including Sensor unit)		PoE standard arrangement
Dimensions	70(W)×120(H)×150(D) mm		
Weight	Approx. 0.9kg (Including sensor unit)		
Mounting	Wall-mounting (Fixed to Wallmount-unit on the wall)		
Pipe	Ø6-1t PTFE pipe (PP)		
Cable	Cable type varies depending on communication method (Cable grand optional)		

specifications subject to change without notice.

Sensor Unit

Model	ESU	SGU	SSU	OSU	NCU
Detection principle	Electro-chemical cell	Semiconductor	Pyrolysis-Particle	Garvanic Cell	New Ceramic
Target gas and detection range	Refer to the table of gas detectable	H_2 in air, 0-2000ppm CH_4 in air, 0-2000ppm $C_2H_2F_2$ (RH_2) in air, 0-2000ppm and others	TEOS in air 0-15ppm	O_2 in air, 0-25%	CH_4 in air, 0-2000ppm
Identification Marking					
Usage	Built into Main unit : GD-70				
Self-diagnosis function	Sensor trouble System failure				
Date-logger function	Event history/Alarm history Calibration history Alarm trend (60 sec Befor/After 1st alarm)				

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

specifications subject to change without notice.

Pyrolyser Unit

Model	PLU-70
Application	Measuring NF_3/TEOS gases
Usage	Used by connecting to “GD-70D” (Main unit)
Power lamp	• LED (Green color) • Normal : light-on/Warming-up : flashing 1sec interval/ Trouble : flashing 0.2sec interval
Self-diagnosis function	• Pyrolyser unit trouble • Fan trouble • System trouble
Operational temp. & humidity	• 0-40˚C (Without rapid change) • 30-70%RH(non-condensing)
Setting/Operation	All the operation can be conducted on the front panel
Power supply	DC24V±10% Approx. 36W (MAX)
Dimension	70(W)×120(H)×150(D) mm
Weight	Approx. 1.2kg
Mount-type	Wall-mounting (Fixed Wallmount-unit on the wall)
Pipe	Ø6-1t PTFE pipe (“PP half union” is standard accesories)
Cable	Cable type varies depending on communication method (Cable grand optional)

specifications subject to change without notice.

Signal converter Unit

Model	SD-70SC-NT	SD-70SC-ET
Application	For NT signal	For ET signal
Display	• Large LCD Display (White back light) • Gas concentration : Digital & bar chart display • Measuring gas • error code • content of error : character message display	
Alarm	1st alarm : Orange/2nd alarm : Red/ Trouble alarm : Yellow	
External output	1st alarm • 2nd alarm • Trouble alarm : Each relay contract output	
Self-diagnosis function	• Analog line trouble • System trouble	
Data-logger function	• All sort of event history • Alarm trend (180sec Before/after 1st alarm)	
Operating temp. & humidity	• 0-40˚C (Without rapid change) • 30-70%RH (non-condensing)	
Operation/Setting	All the operation can be conducted on the front panel of GD-70D (Main-unit)	
Power supply	DC24V±10% Approx. 5W	
Dimension	70(W)×120(H)×150(D) mm	
Weight	Approx. 0.9kg	
Mounting	Wall-mount (Fixed to Wall-mount unit on the wall)	
Cable	Cable type varies depending on communication method (Cable grand optional)	

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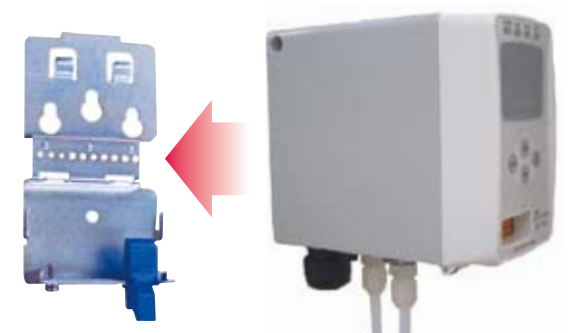
NO NEED FOR SPECIAL TOOL, QUICK PLUG IN AND PLAY

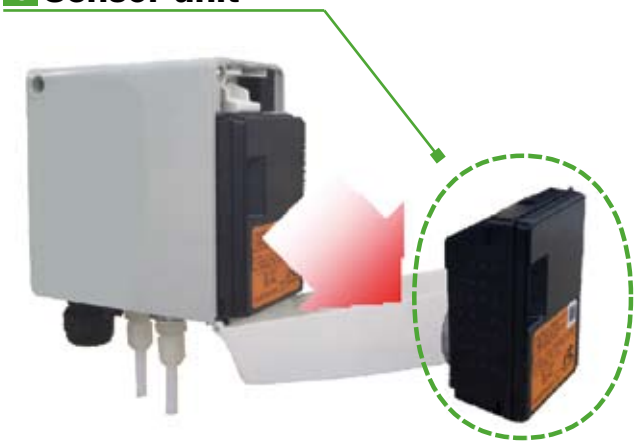
a Main unit



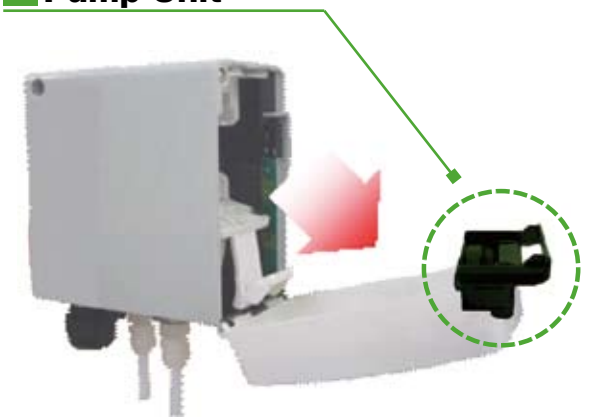
Wall mounting base plate

Main unit

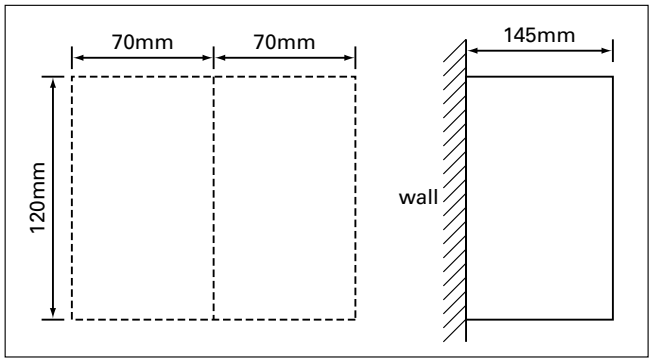
b Sensor unit



c Pump Unit



SAVING SPACE



EASY REPLACEMENT WITH EXISTING MODEL

Dimensions for installation

Installation footprint for GD-70D is the same as exisiting model

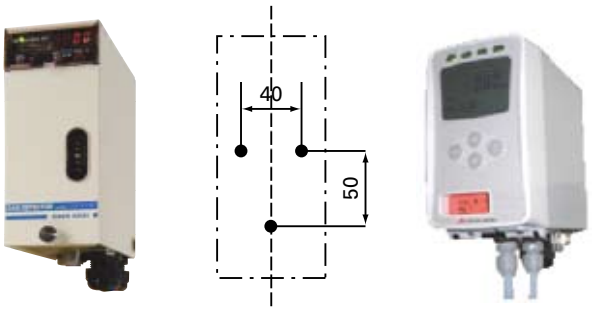
Power supply

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

Cable

The cable for GD-70D is as same as the one existing model. You can use installed cable to GD-70D.

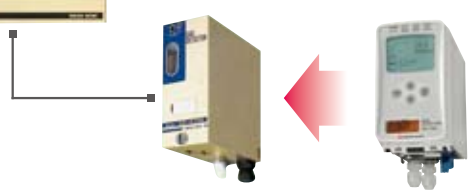
Same installation footprint



Dimension for installation

Indicator alarm unit

RM-580 series
RM-590 series



4-20mADC Transmission

MDU (Multi display-unit)

RM-77NT

DC power line Transmission

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

Target gases		ACGIH TLV-TWA	Detection range*
Ammonia	NH_3	25ppm	0~75ppm
Antimony Pentachloride	$SbCl_5$		HCl 0~15ppm
Arsenic Pentachloride	$AsCl_5$		HCl 0~15ppm
Arsenic Trichloride	$AsCl_3$		HCl 0~15ppm
Arsenic Pentafluoride	AsF_5		HF 0~9ppm
Arsenic Trifluoride	AsF_3		HF 0~9ppm
Arsine	AsH_3	5ppb	0~1ppm
			0~0.2ppm
Boron Tribromide	BBr_3	1ppm	HBr 0~6ppm
Boron Trichoride	BCl_3		HCl 0~15ppm
Boron Trifluoride	BF_3	1ppm	HF 0~9ppm
Bromine	Br_2	0.1ppm	0~1ppm
Carbon Monoxide	CO	25ppm	0~75ppm
Chlorine	Cl_2	0.5ppm	0~1.5ppm
Chlorine Trifluoride	ClF_3	0.1ppm(C)	0~0.6ppm
Diethyl Amine (DEA)	$(CH_3CH_2)2NH$	5ppm	0~15ppm
Dimethyl Amine (DMA)	$(CH_3)2NH$	5ppm	0~15pm
Diborane	B_2H_6	0.1ppm	0~0.3ppm
Dichlorosilane	SiH_2Cl_2		HCl 0~15ppm
Disilane	Si_2H_6	5ppm	0~15ppm
Fluorine	F_2	1ppm	0~3ppm
Germane	GeH_4	0.2ppm	0~0.8ppm
Germanium Tetrachloride	$GeCl_4$		HCl 0~15ppm
Hydrogen Bromide	HBr	2ppm(C)	0~6ppm
Hydrogen Chloride	HCl	2ppm(C)	0~15ppm
Hydrogen Cyanide	HCN	4.7ppm(C)	0~15ppm
Hydrogen Fluoride	HF	2ppm(C)	0~9ppm
Hydrogen Iodine	HI		0~5ppm
Hydrogen Peroxide	H_2O_2	1ppm	0~3ppm
Hydrogen Selenide	H_2Se	0.05ppm	0~0.2ppm
Hydrogen Sulfide	H_2S	10ppm	0~30ppm
Molybdenum Hexafluoride	MoF_6		HF 0~9ppm
Molybdenum Pentachloride	$MoCl_5$		HCl 0~15ppm
Monomethyl Amine (MMA)	CH_3NH_2	5ppm	0~15ppm
Nitric Acid	HNO_3	2 ppm	0~20ppm
Nitric Oxide	NO	25ppm	0~100ppm
Nitrogen Dioxide	NO_2	3ppm	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 0~15ppm
Phosphorus Pentachloride	PCl_5	0.1ppm	HCl 0~15ppm
Phosphorus Pentafluoride	PF_5		HF 0~9ppm
Phosphorus Trichloride	PCl_3	0.2ppm	HCl 0~15ppm
Silane	SiH_4	5ppm	0~15ppm
Silicone Tetrachloride	$SiCl_4$		HCl 0~15ppm
Slicone Tetrafluoride	SiF_4		HF 0~9ppm
Sulfur Tetrafluoride	SF_4		HF 0~9ppm
Tin Tetrachloride	$SnCl_4$		HCl 0~15ppm
Trichlorosilane	$SiHCl_3$		HCl 0~15ppm
Trimethyl Amine (TMA)	$(CH_3)3N$	5 ppm	0~15ppm
Tungsten Hexachloride	WCl_6		HCl 0~15ppm
Tungsten Hexafluoride	WF_6		HF 0~9ppm

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

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