



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

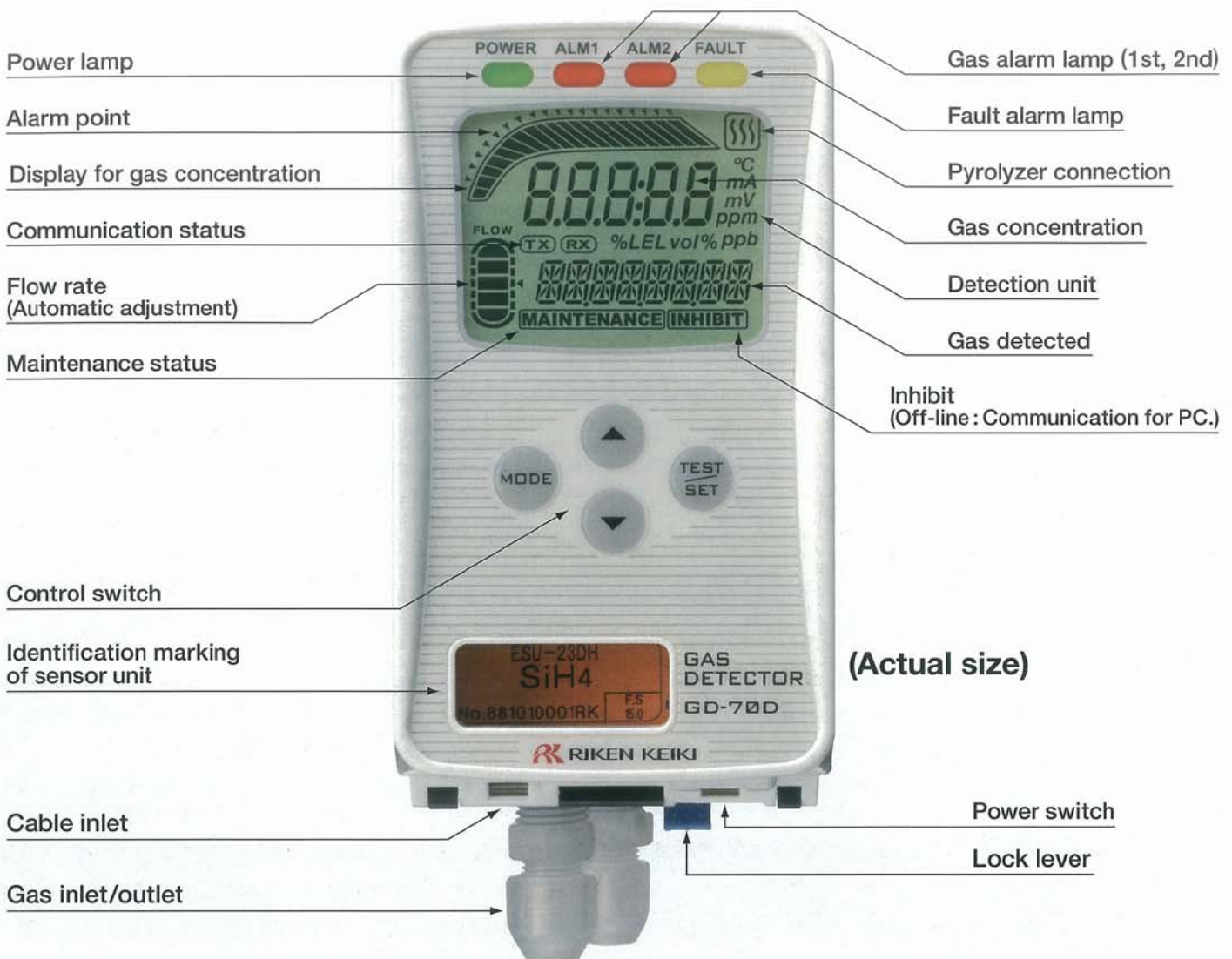


ISO 9001 95QR-007
ISO 14001 97ER-005
TOKYO PLANT • OKEGAWA MANUFACTURING
DIVISION • HAKODATE FACTORY

RIKEN KEIKI

▶ COMPONENT DESIGNATIONS

Front view

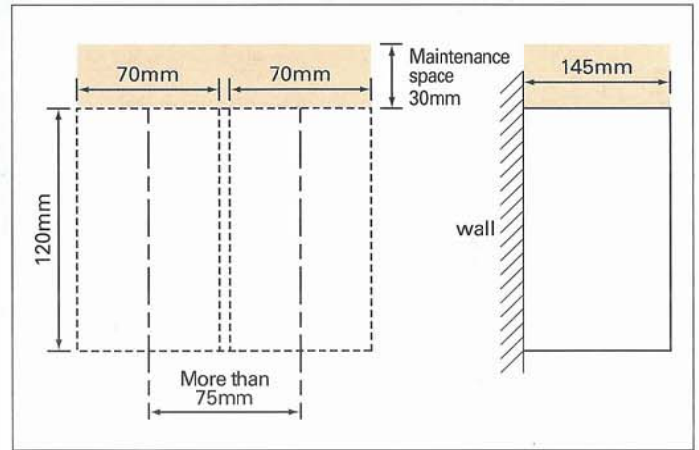


Front view



▶ INSTALLATION SPACE

Installation space can be saved.







SPECIFICATIONS

Main unit

| Model | GD-70D | GD-70D-NT | GD-70D-ET |
|----------------------------|--|-----------------------------|------------|
| Communication | 4-20mA DC | 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 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 (NT/ET) | | |
| Date 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 | 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 ₂ , CH ₄ or C ₂ H ₂ F ₂ (R-32) in air and others | 0-15ppm TEOS in air | 0-25% O ₂ in air |
| Identification marking |  |  |  |  |
| Self-diagnosis function | Sensor trouble, System failure | | | |
| Date 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 |
| Application | NF ₃ /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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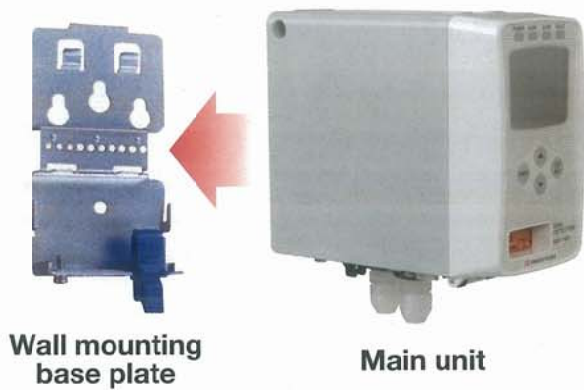
Signal converter unit

| 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 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)×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) | |

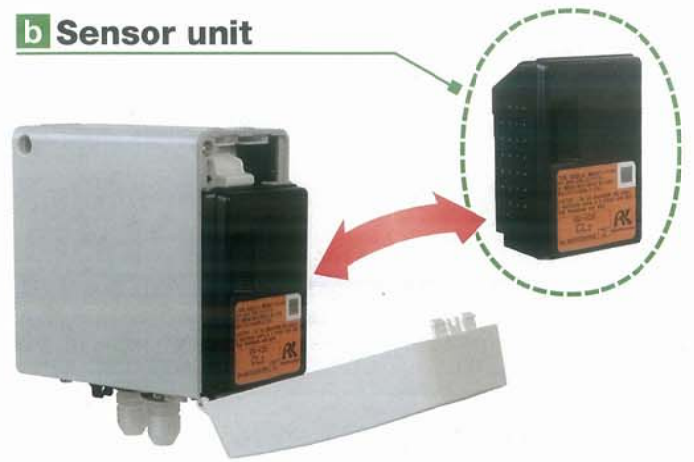
Specifications subject to change without notice.

▶ NO NEED FOR SPECIAL TOOLS; QUICK PLUG AND PLAY

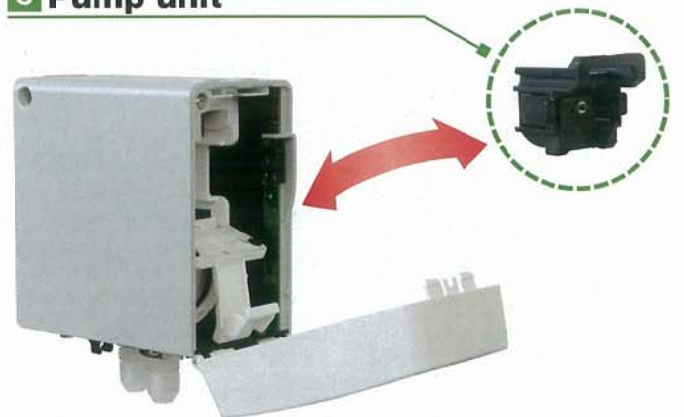
a Main unit



b Sensor unit



c Pump unit



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

Dimensions for installation

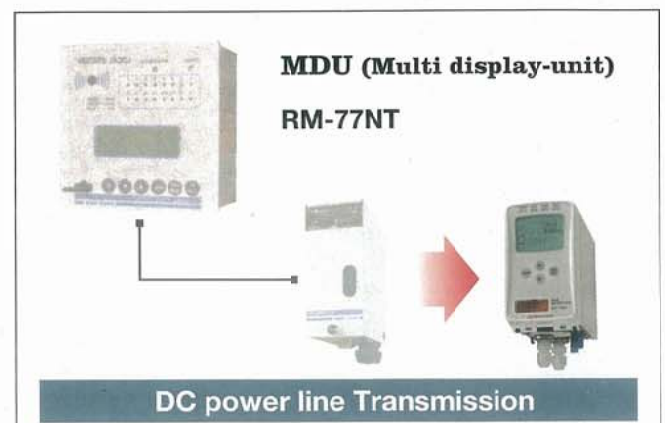
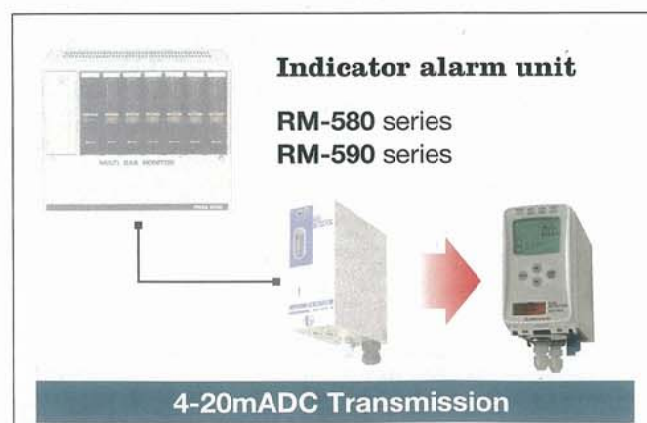
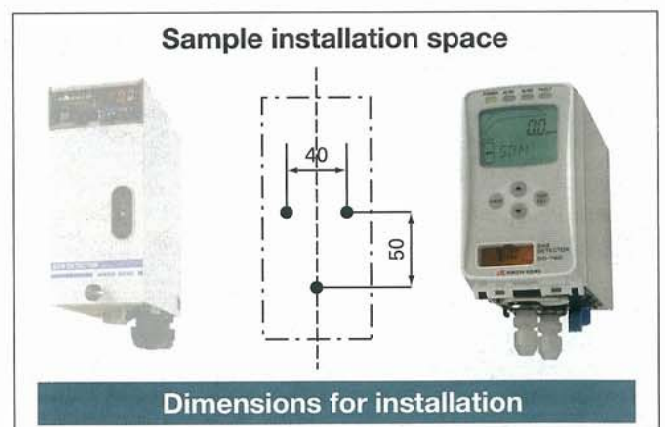
The Installation space for GD-70D is the same as existing units.

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 ₃ | 25ppm | 0~75ppm |
| Antimony Pentachloride | SbCl ₅ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Arsenic Pentachloride | AsCl ₅ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Arsenic Trichloride | AsCl ₃ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Arsenic Pentafluoride | AsF ₅ | (HF 2ppm)(C) | HF 0~9ppm |
| Arsenic Trifluoride | AsF ₃ | (HF 2ppm)(C) | HF 0~9ppm |
| Arsine | AsH ₃ | 5ppb | 0~0.2ppm |
| Boron Tribromide | BBr ₃ | (HBr 2ppm)(C) | HBr 0~6ppm |
| Boron Trichloride | BCl ₃ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Boron Trifluoride | BF ₃ | (HF 2ppm)(C) | HF 0~9ppm |
| Carbon Monoxide | CO | 25ppm | 0~75ppm, 0~150ppm or 0~200ppm |
| Chlorine | Cl ₂ | 0.5ppm | 0~1.5ppm |
| 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 |
| Fluorine | F ₂ | 1ppm | 0~3ppm |
| Germanium Tetrachloride | GeCl ₄ | (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 ₆ | (HF 2ppm)(C) | HF 0~9ppm |
| Molybdenum Pentachloride | MoCl ₅ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Nitric Oxide | NO | 25ppm | 0~100ppm |
| 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 |
| Phosphorus Pentachloride | PCl ₅ | 0.1ppm | HCl 0~6ppm or 0~15ppm |
| Phosphorus Pentafluoride | PF ₅ | (HF 2ppm)(C) | HF 0~9ppm |
| Phosphorus Trichloride | PCl ₃ | 0.2ppm | HCl 0~6ppm or 0~15ppm |
| Silane | SiH ₄ | 5ppm | 0~15ppm |
| Silicone Tetrachloride | SiCl ₄ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Silicone Tetrafluoride | SiF ₄ | (HF 2ppm)(C) | HF 0~9ppm |
| Sulfur Tetrafluoride | SF ₄ | (HF 2ppm)(C) | HF 0~9ppm |
| Tin Tetrachloride | SnCl ₄ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Trichlorosilane | SiHCl ₃ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Tungsten Hexachloride | WCl ₆ | (HCl 2ppm)(C) | HCl 0~6ppm or 0~15ppm |
| Tungsten Hexafluoride | WF ₆ | (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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