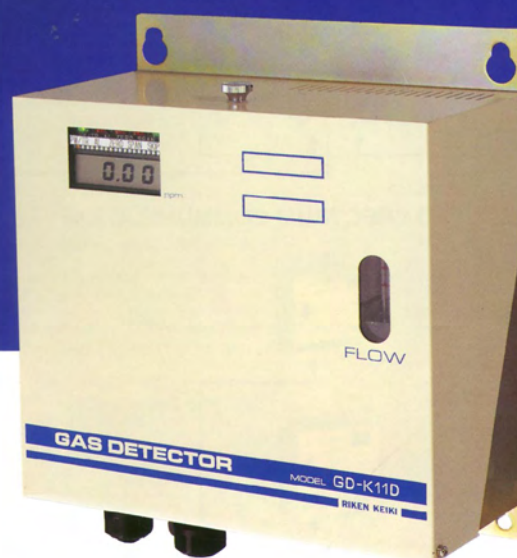


**RIKEN**

## SEMICONDUCTOR INDUSTRY AND LABORATORY USE SMART TRANSMITTER/GAS DETECTOR HEAD

MODEL	GD-K11D 4-20mA output
	GD-K11D BL Multiplex transmission
	GD-K11D AC Spread spectrum communication

**NEW!****Features**

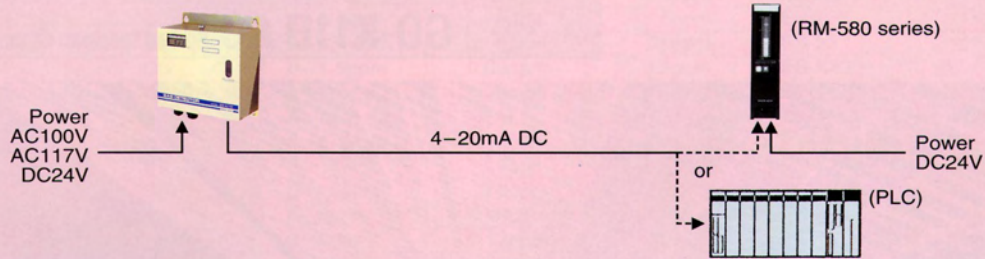
- Sample-drawing system
- Self-diagnosis function
- Simple adjustment and operation
- Zero suppression function
- Maintenance mode function
- Ability to indicate a flow failure alarm
- LCD readout display gas concentration at transmitter
- Simple detachable sensor/pump from instrument
- Expansion to the BL-NET (Multiplex transmission) system is available (GD-K11D-BL)

**RIKEN KEIKI CO.,LTD.**

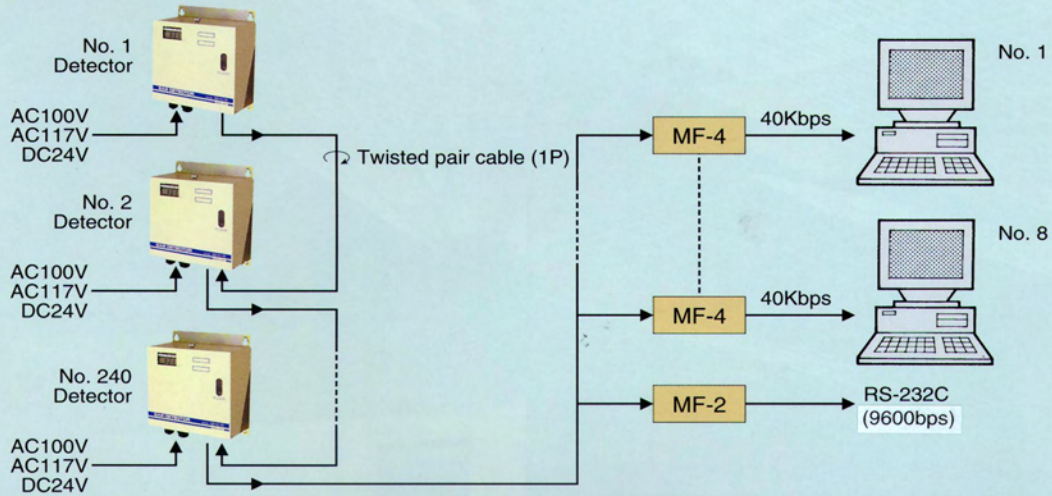
## COMPATIBLE FLEXIBILITY FOR EACH SYSTEM

### SYSTEM APPLICATIONS

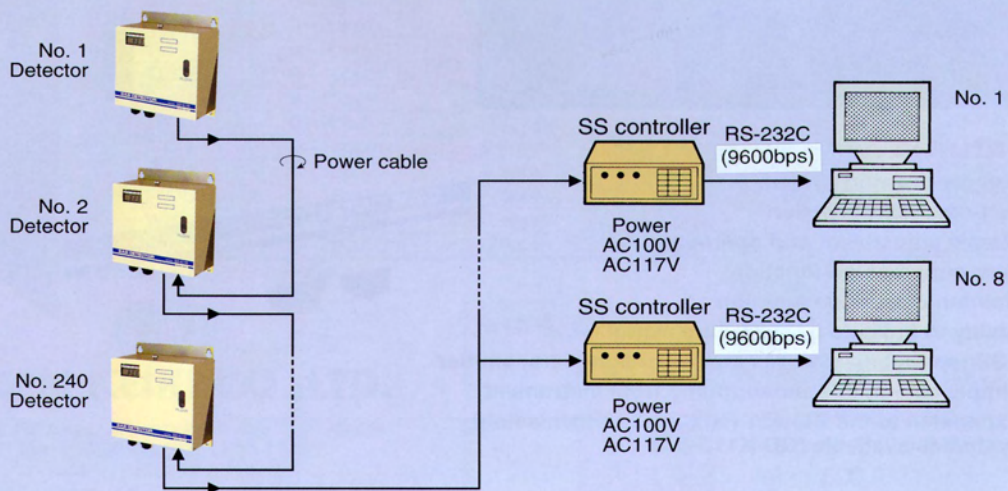
- 1** ANALOG TRANSMISSION — Model GD-K11D either indicator/alarm unit (RM-580 series) or PLC (Programmable Logic Controller)

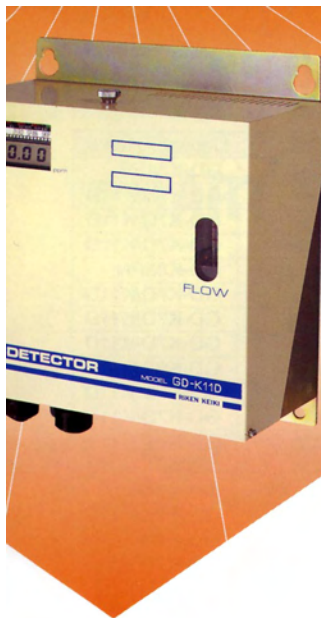


- 2** MULTIPLEX TRANSMISSION — Model GD-K11D BL and LAN (Local Area Network)

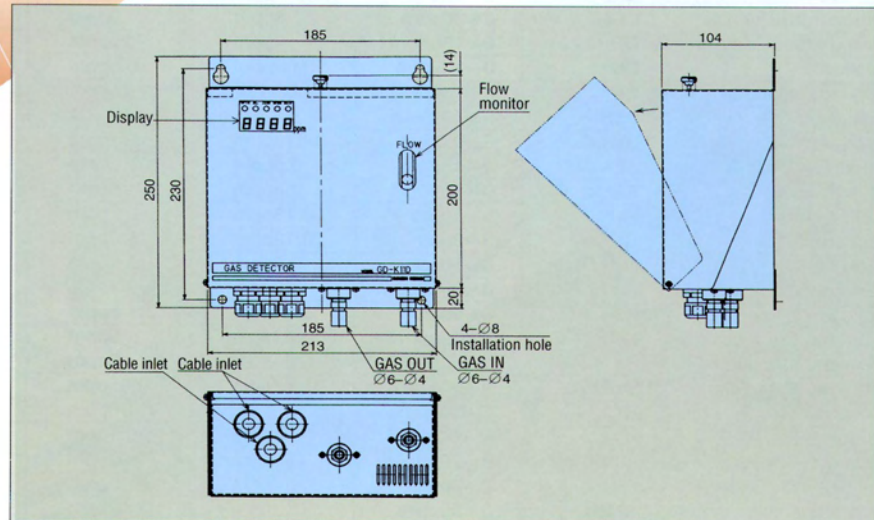


- 3** SPREAD SPECTRUM COMMUNICATION — Model GD-K11D AC and LAN (Local Area Network)





## OUTER DIMENSIONS



## SPECIFICATIONS

Model	GD-K11D	GD-K11D BL	GD-K11D AC	GD-F11A	GD-V11D
Detection method	Electrochemical cell			Galvanic cell	Semiconductor cell
Sampling method	Sample-drawing type by built-in pump			Diffusion type	Sample-drawing by built in pump
Measurable gas & range	Refer to last range			Oxygen (O <sub>2</sub> )	Hydrogen (H <sub>2</sub> )
Transmission method	4-20mA	Multiplex transmission	Spread spectrum communication	4-20mA	
Readout	Gas readout by LCD				
Alarm indication	Non-latched mode *Output → Dry contact 1a (N.O.) *Alarm display → LED lamp (Red)				
Alarm delay	Within 60 seconds when exposed to gas concentration of 1.6 times alarm level (The delay time for sample tube is not included)				
Self-diagnosis function	*Contents—Flow failure alarm, Watch-dog timer memory check, *Trouble display—Flashing by power lamp and LCD message				
Display function	*LCD—4 digit, 7 segments *LED lamp ① Power trouble display: ② Gas alarm: ③ Maintenance display: ④ Transitory function stop condition display:				
Operating temperature & humidity	0-40°C, 30-85%RH				
Power source	AC100V/110V/117V, 50/60Hz or DC24V	AC100V/110V/117V, 50/60Hz or DC24V	AC100V/110V/117V, 50/60Hz	AC100V/110V/117V, 50/60Hz or DC 24V	
Power consumption	Approx 10VA				
Transmission cable	CVVS 2C 1.25 or 2.0 Sq	KPEVS 1.25 Sq/pair	—	CVVS 2C1.25 or 2.0Sq	
Structure	Wall mounting type				
Dimensions & weight	213(W) × 220(H) × 104(D)mm, Approx 4kg				

Specifications subject to change without notice.

## GASES DETECTABLE WITH RIKEN KEIKI'S ELECTROCHEMICAL SENSORS

Detection of Toxic Gases (Additional Ranges Available)						
Gas		Measuring Range	LDL	TLV-TWA	Sensor	Detector Heads
Acetic Acid	CH <sub>3</sub> COOH	0~30ppm	1.8ppm	10ppm	ES-733PXB	GD-K34PF
Ammonia	NH <sub>3</sub>	0~75ppm	4.5ppm	25ppm	ES-23PX	GD-K7D/K11D
Antimony Pentachloride	SbCl <sub>5</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Arsenic Pentafluoride	AsF <sub>5</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Arsine	AsH <sub>3</sub>	0~0.2ppm	0.12ppm	0.05ppm	ES-1131AXJ	GD-K35PN
Boron Trichloride	BCl <sub>3</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Boron Trifluoride	BF <sub>3</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Bromine	Br <sub>2</sub>	0~1ppm	0.06ppm	0.1ppm	ES-K233	GD-K7D/K11D
Carbon Tetrachloride	CCl <sub>4</sub>	0~30ppm	1.8ppm	5ppm	ES-23E	GD-K8DT
Carbon Monoxide	CO	0~150ppm	9ppm	25ppm	ES-23	GD-K7D/K11D
Chlorine	Cl <sub>2</sub>	0~1.5ppm	0.09ppm	0.5ppm	ES-K233	GD-K7D/K11D
Chlorine Trifluoride	ClF <sub>3</sub>	0~1ppm	0.06ppm	0.1ppm	ES-K233	GD-K7D/K11D
Combustibles	LEL	0~100%LEL	2%LEL	—	HW-6211	GD-A8
Diborane	B <sub>2</sub> H <sub>6</sub>	0~0.3ppm	0.018ppm	0.1ppm	ES-731AXY	GD-K34PNX
Dichlorosilane	SiH <sub>2</sub> Cl <sub>2</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Disilane	Si <sub>2</sub> H <sub>6</sub>	0~15ppm	0.9ppm	5ppm	ES-23AH	GD-K7D/K11D
Fluorine	F <sub>2</sub>	0~3ppm	0.18ppm	1ppm	ES-K233	GD-K7D/K11D
Germane	GeH <sub>4</sub>	0~2ppm	0.12ppm	0.2ppm	ES-1131AXJ	GD-K35PN
Hydrazine	N <sub>2</sub> H <sub>4</sub>	0~10ppm	0.6ppm	0.1ppm	ES-731AX	GD-K34PN
Hydrogen	H <sub>2</sub>	0~2000ppm	120ppm	LEL=4VOL%	SG-8541	GD-A8V
Hydrogen Bromide	HBr	0~9ppm	0.54ppm	3ppm	ES-23E	GD-K7D/K11D
Hydrogen Chloride	HCl	0~15ppm	0.09ppm	5ppm	ES-K233	GD-K7D/K11D
Hydrogen Fluoride	HF	0~9ppm	0.54ppm	3ppm	ES-K233	GD-K7D/K11D
Hydrogen Selenide	H <sub>2</sub> Se	0~0.2ppm	0.012ppm	0.05ppm	ES-1131AXJ	GD-K35PN
Hydrogen Sulfide	H <sub>2</sub> S	0~30ppm	1.8ppm	10ppm	ES-937	GD-K3
Iodine	I <sub>2</sub>	0~1ppm	0.06ppm	0.1ppm	ES-K233	GD-K7D/K11D
Isopropyl Alcohol (IPA)	CH <sub>3</sub> CHOHCH <sub>3</sub>	0~2000ppm	120ppm	400ppm	SG-8521	GD-A8V
Molybdenum Fluoride	MoF <sub>4</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Nitric Acid	HNO <sub>3</sub>	0~20ppm	1.2ppm	2ppm	ES-733PXB	GD-K34PF
Nitric Oxide (Nitrogen Monoxide)	NO	0~100ppm	6ppm	25ppm	ES-23A	GD-K7D/K11D
Nitrogen Dioxide	NO <sub>2</sub>	0~15ppm	0.9ppm	2ppm	ES-23AH	GD-K7D/K11D
Nitrogen Trifluoride	NF <sub>3</sub>	0~30ppm	1.8ppm	10ppm	ES-K233	GD-K8DG
Nitrogen Tetraoxide	N <sub>2</sub> O <sub>4</sub>	0~15ppm	0.9ppm	NO <sub>2</sub> 3ppm	ES-23AH	GD-K7D/K11D
Oxygen	O <sub>2</sub>	0~25VOL%	0.5VOL%	—	OS-B11	GD-F3A
Ozone	O <sub>3</sub>	0~1ppm	0.06ppm	0.1ppm	ES-K233	GD-K7D/K11D
Phosphine	PH <sub>3</sub>	0~1ppm	0.06ppm	0.3ppm	ES-23AH	GD-K7D/K11D
Phosphorus Oxychloride	POCl <sub>3</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Phosphorus Pentafluoride	PF <sub>5</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Phosphorus Trichloride	PCl <sub>3</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Phosphorus Trifluoride	PF <sub>3</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Silane	SiH <sub>4</sub>	0~15ppm	0.9ppm	5ppm	ES-23AH	GD-K7D/K11D
Silicone Tetrachloride	SiCl <sub>4</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Silicone Tetrafluoride	SiF <sub>4</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Sulfur Dioxide	SO <sub>2</sub>	0~30ppm	0.9ppm	2ppm	ES-23E	GD-K7D/K11D
Sulfur Tetrafluoride	SF <sub>4</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Tantalum Fluoride	TaF <sub>5</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Tetraethyl Orthosilicate	TEOS	0~15ppm	5ppm	10ppm	SS-1921	GD-S8DG
Tin Tetrachloride	SnCl <sub>4</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Titanium Fluoride	TiF <sub>4</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
Titanium Tetrachloride	TiCl <sub>4</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Trichlorosilane	SiHCl <sub>3</sub>	0~15ppm	0.9ppm	HCl 5ppm	ES-K233	GD-K7D/K11D
Trimethoxy Phosphate	P(OCH <sub>3</sub> ) <sub>3</sub>	0~15ppm	5ppm	2ppm	SS-1921	GD-S8DG
Tungsten Hexafluoride	WF <sub>6</sub>	0~9ppm	0.54ppm	HF 3ppm	ES-K233	GD-K7D/K11D
1,1,1-Trichloroethane	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	0~2000ppm	120ppm	350ppm	SG-8523	GD-A8V

For gases not listed above, contact us or our nearest agent.



A9812



ISO 9001:2000

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