



Self-Diagnostic & Continuous

INTELLIGENT EXTRACTIVE GAS DETECTORS SH-1003HT-D/1007HT-D

- ◆ “Intelligent” sensor assembly permits quick and simple off-site calibration.
- ◆ Sensor information stored in sensor memory.
- ◆ Enhanced self-diagnostic capability — continuously checking sensor performance.
- ◆ Special maintenance mode permits in-situ gas testing without generating alarms.
- ◆ Compact and highly-densities design.



The new Bionics’ **SH-1003HT-D/1007HT-D** Gas Detector are designed to set new standards in toxic gas monitoring. Featuring a sophisticated electronic “brain” built directly into the sensor assembly, these well-proven continuous extractive detection systems significantly reduce the labor and downtime commonly associated with gas detector maintenance and service.

Equally important, the **SH-1003HT-D/1007HT-D** are specially engineered to permit high density installation, packing up to 3 times as much monitoring into the same, compact footprint as previous.

The instruments’ “smart” circuitry permits ex-situ or off-site calibration and maintenance of the sensor cell, significantly reducing the amount of time personnel must spend in restricted or sensitive areas. Plus, when used in conjunction with the Bionics **RX-1G** or **MDS-8** Controller, system operation is almost totally self-supervised to provide quick and easy fault identification and notification.

The special electronic “brain” built directly into the sensor assembly of the **SH-1003HT-D/1007HT-D** allows you to remove the sensor from the detector system for all routine calibration and maintenance.

This capability provides three important benefits:

1) **Enhanced Calibration Accuracy**

Test gas generation and calibration procedures may now be performed under laboratory conditions.

2) **Improved Safety**

No need to release potentially hazardous calibration gases in production, storage, or other areas.

3) **Less Intrusive**

Significantly reduces the amount of time that service personnel must spend in limited or restricted access areas, such as in clean rooms.

The **SH-1003HT-D/1007HT-D** are electrochemical-based detection systems capable of sampling areas up to 10 meters away.

SH-1003HT-D Detectors

System No-	Target Gas		Sensor GS-[*]HT-J (Unless otherwise indicated)	Monitoring Range (ppm)		TLV(ACGIH) (ppm)	Remarks	
				Low Range	Standard			
100	Cl ₂	Chlorine	160	0 - 1.5	0 - 3	0.5		
			161	0 - 0.3	0 - 1			
400	HCl	Hydrogen Chloride	480		0 - 6	2 (C)		
500	SO ₂	Sulfur Dioxide	550ET-J		0 - 6	0.25 (STEL)		
700	HF	Hydrogen Fluoride	780		0 - 9	0.5		
800	O ₃	Ozone	880	0 - 0.3	0 - 1	0.1		
900	Br ₂	Bromine	960		0 - 3	0.1		
			961		0 - 0.3			
1200	CO	Carbon Monoxide	1250ET-J		0 - 75	25		
1400	F ₂	Fluorine	1460		0 - 10	1		
			1461	0 - 1	0 - 3			
	ClF ₃	Chlorine Trifluoride	1463	0 - 0.3		0.1 (C)		
1500	H ₂	Hydrogen	1555ET-J	0 - 1000	0 - 4000	-		
1700	NO	Nitric Oxide	1790ET-J		0 - 100	25		
	NO ₂	Nitrogen Dioxide	1750	0 - 2	0 - 9	3		
	HNO ₃	Nitric Acid	1783		0 - 6	2		
2100	C ₂ H ₅ OH	Ethyl Alcohol	2150ET-J		0 - 1000	1000 (STEL)		
	IPA	Iso Propyl Alcohol				200		
2400	NH ₃	Ammonia	2460		0 - 75	25		
2500	N ₂ H ₄ ¹⁾	Hydrazine	2560	0 - 1	0 - 2	0.01		
	Ti[N(CH ₃) ₂] ₄	TDMAT ²⁾			0 - 1			
	C ₂ H ₄ (NH ₂) ₂	Ethylene Diamine			0 - 300	10		
3100	<i>General Acid</i>		3180	Depending on gas to be detected		-		
3200	H ₂ Se	Hydrogen Selenide	3260		0 - 1	0.05		
3400	<i>Chloride</i> ³⁾		3480		0 - 6	-		
	HBr	Hydrogen Bromine	3480		0 - 9	2 (C)		
3700	<i>Fluoride</i> ⁴⁾		3780		0 - 9	-		
4000	<i>Hydride</i>		4060				For scrubber monitoring No interference from H ₂ and IPA	
	PH ₃	Phosphine				0 - 1		0.3
	AsH ₃	Arsine				0 - 0.2		0.05
	SiH ₄	Silane				0 - 15		5
	B ₂ H ₆	Diborane			0 - 0.3	0.1		
5000	GeH ₄	Germane	5050ET-J			0 - 0.6	0.2	
	SiH ₄	Silane				0 - 15	5	
	PH ₃	Phosphine				0 - 1	0.3	
	(CH ₃) ₃ SiH	Trimethyl Silane				0 - 15		
	(CH ₃ O) ₃ SiH	Trimethoxy Silane				0 - 15		

SH-1007HT-D Detectors

System No.	Target Gas		Sensor GS-[*]HT-J	Monitoring Range (ppm)		TLV(ACGIH) (ppm)	Remarks
				Low Range	Standard		
4100	NF ₃	Nitrogen Trifluoride	4150		0 - 30	10	CEC (Combined Electro-chemical Cell)
4200	HCFC ⁵⁾		4280		0 - 200		
4300	Chlorinated Hydrocarbons ⁶⁾		4380		0 - 200		
4400	CH ₃ Br	Methyl Bromine	4460		0 - 50		
4500	SF ₆	Sulfur Hexafluoride	4580		0 - 200		
4700	HFC ⁷⁾		4780	Depending on gas to be detected ¹¹⁾		—	
	PFC ⁸⁾					—	

¹⁾ N₂H₄: MMH– Monomethyl Hydrazine, DMH– Dimethyl Hydrazine

²⁾ TDMAT: Tetrakis dimethylamido titaniums

³⁾ Chloride: HBr, SiCl₄, SiH₂Cl₂, POCl₃, SnCl₄, SbCl₅, BCl₃

⁴⁾ Fluoride: SiF₄, BF₃, WF₆, AsF₃, PF₅, AsF₅, MoF₆

⁵⁾ HCFCs

(Hydrochlorofluorocarbons)

HCFC-22 CHClF₂
 HCFC-123 CHClCF₃
 HCFC-124 CHClFCF₃

HCFC-141b CH₃CCl₂F
 HCFC-142b CH₃CClF₂
 HCFC-225 C₃HCl₂F₅

⁶⁾ Chlorinated Hydrocarbons

Chlorobenzene C₆H₅Cl
 Perchloroethylene CCl₂:CCl₂
 Trichloroethylene CHCl:CCl₂
 Carbon Tetrachloride CCl₄

Methylene Chloride CH₂Cl₂
 Chloroform CHCl₃
 1, 2-Dichloroethylene C₂H₂Cl₂

⁷⁾ HFCs

HFC-23 CHF₃
 HFC-125 CHF₂CF₃
 HFC-134a CH₂FCF₃

HFC-143a CH₃CF₃
 HFC-152a CH₃CHF₂

⁸⁾ PFCs

C₄F₆ **C₅F₈** CF₄
 C₂F₆ C₃F₆ C₄F₈ **C₆F₆**

⁹⁾ Monitoring ranges available upon request.

Example: 5000 ppm for CF₄

SENSORS

SH-1003HT-D/SH-1007HT-D



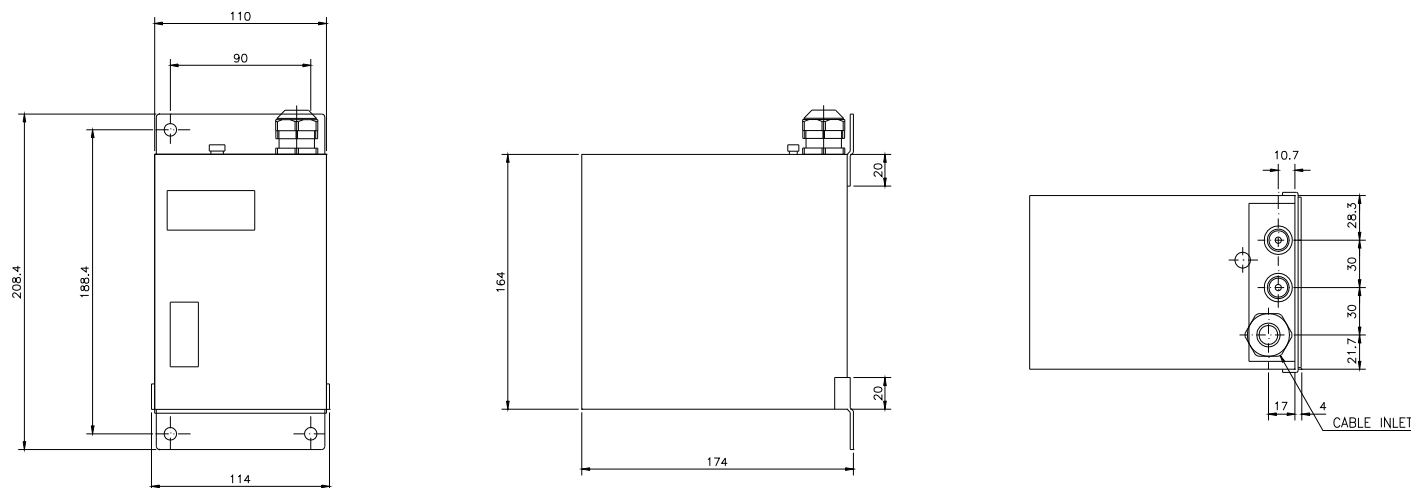
GS-[*]HT-J
(renewable)



GS-[*] ET-J
(disposable)

	SH-1003HT-D	SH-1007HT-D
Sensor Model	GS-[*]HT-J / ET-J	
Monitoring Configuration	Continuous, single-point, extractive	
Sensor Type	Electrochemical Cell	Combined Electrochemical Cell
Installation Method	Indoor, Wall-mount	
Operating Temperature	0 ~ 40 °C	
Operating Humidity	5 ~ 95% RH (non-condensing)	
Power Requirement	24V DC, 10W	
Analog Output	4 ~ 20 mA DC	
Alarm	A1: Orange LED	
	A2: Red LED	
	System Error: Show error No. on LED display	
Indicator	4-digit LED Display	
Sampling Pump	DC operated diaphragm pump	
Pyrolyzer	Not provided	Built-in
Dimensions (mm)	110(W) × 208.4(H) × 174(H)	
Weight	Approx. 4kg	

DIMENSIONS



Unit: mm

※We reserve the right to change specifications without notice.

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