HORIBA
Semiconductor

For Semiconductor Process

Dissolved Ozone / Hydrogen Peroxide Concentration Monitor

HZ-960 / HZ-960HPO-M Series

CE marking compliant

Ideal for controlling the concentration of ozone and hydrogen peroxide in wet processing applications for semiconductor devices, liquid crystal, and glass manufacturing

High concentration ozonated water is widely in used semiconductor wet process applications such as Post-CMP Cleans, FEOL Cleans, and Resist Stripping. The increasingly high functionality of smart phones and tablet computers have been driving demand for miniaturization of semiconductors and overall reduction in COO as low chemical concentration wet process applications come to predominate leading edge device manufacturing.
The HZ-960 provides a wide range of ozone concentration measurement up to a maximum of 500 ppm. The HZ-960HPO-M provides highly precise concentration measurement of hydrogen peroxide solutions with a maximum resolution of 1 ppm.

In-line type detector

●A wide selection of measurement ranges

In addition to the standard ranges 0 to 100 mg/L for ozone and 0 to 1 mass% for hydrogen peroxide, three additional measuring ranges are now available. Please consult with HORIBA to determine the optimum range for your application.

●A wide range of connecting piping sizes to choose from

In addition to the standard 3/4 inch, 1/2 inch and 1 inch are also available.

●Remote calibration

Equipped with a remote calibration mechanism which is controlled by external inputs for in-line use. This enables monitoring for errors through a self-diagnosis feature.

●Highly accurate repeatability and stability

Repeatability: FS ±0.2%

Specifications Converter

Product name	Dissolved Ozone Concentration Monitor (converter)				Hydrogen Peroxide Concentration Monitor (converter)			
Model	HZ-960				HZ-960HPO-M			
Corresponding detector	ZH-10	ZH-40	ZH-100	ZH-500	ZH-10HPO	ZH-40HPO	ZH-100HPO	ZH-500HPO
Measurement target	Dissoleved ozone concentration in pure water				Hydrogen peroxide concentration in pure water			
Display resolution	0.01mg/L (Minimun digit shows "0" over 10 mg/L)			0.1mg/L	1ppm		0.001%	
Transmission output	Number of output:2 4 to 20 mA DC or 0 to 20 mA DC: input/output isolated type							
Contact output	Number of output: 5							
	ALARM contact R1, R2, R3, and R4 Contact type: No-voltage contact out put, Relay contact, SPST (1a) Contact function: · ON/OFF control · UV Low alarm · Remote zero calibration judgement signal				ALARM contact R1, R2, R3, and R4 Contact type: No-voltage contact out put, Relay contact, SPST (1a) Contact function: · ON/OFF control · UV Low alarm · In process of remote zero calibration signal · Remote zero calibration complete signal			
	Self diagnosis contact RF Contact type: No-voltage contact output, Relay contact, SPDT (1c) Contact function: Fail							
Contact input	Number of input: 2 Contact type: No-voltage "a" contact (Open collector) Contact function: Input 1: Remote zero calibration command (Calibration is started after receiving the signal. The reading value is held during signal received.) Input 2: Hold the reading value command							
Communication output	RS-485 communication							
Calibration function	Zero point calibration, span sensitivity adjustment							
Power supply	Rated voltage 24 ±10% V DC, 15 W (max.)							
Conforming standards	CE Marking	EMC Directive (2004/108/EC) EN61326-1: IP00						
	FCC Rule	FCC Part15						
Mass	Approx. 550g							

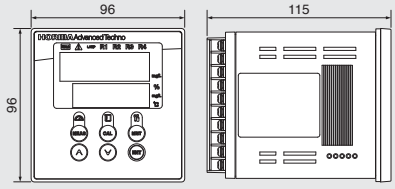
Detecter

Product name		Dissolved Ozone Concentration Monitor (detector)				Hydrogen Peroxide Concentration Monitor (detector)			
Model		ZH-10	ZH-40	ZH-100	ZH-500	ZH-10HPO	ZH-40HPO	ZH-100HPO	ZH-500HPO
Corresponding converter		HZ-960				HZ-960HPO-M		HZ-960HPO HZ-960HPO-M	
Measurement target	Chemical	Dissoleved ozone concentration in pure water				Hydrogen peroxide concentration in pure water			
	Concentration	0 to 10.00 mg/L	0 to 40.00 mg/L	0 to 100.0 mg/L	0 to 500.0 mg/L	0 to 1000 ppm	0 to 4000 ppm	0 to 1.000 mass%	0 to 5.000 mass%
	Supply temperature	5 to 30°C *1			5 to 80°C *1	5 to 30°C *1			5 to 80°C *1
	Supply pressure	Within 0.5 Mpa							
Tube diameter conditions		1/2 inch: 2 - 10 L/min *2				1/2 inch: 2 - 10 L/min *2			
		3/4 inch: 2 - 40 L/min *2				3/4 inch: 2 - 40 L/min *2			
		1 inch: 2 - 100 L/min *2				1 inch: 2 - 100 L/min *2			
Measurement principle		UV absorption (254 nm)							
Chemical contact material		PFA, PTFE, quartz glass							
Repeatability		Within ±0.2% of full scale							
Linearity		Within ±1.0% of full scale							
Stability		Zero point drift within 0.35%/week				Within ±0.7%/ week of full scale		Within ±0.35%/week of full scale	
Responce		Response is 99% within 60s							
Ambient temperature		5 to 40°C							
Relative humidity		85% or less (need to purge by clean dry air under the condition of internal condensation)							
Purge air inlet		ϕ6 mm							
Mass		Approx. 2 kg							
Expandable		Low-pressure mercury lamp Guaranteed life: i year Replacement cycle: 2 year							
Connecting cable		CK-05ZH (standard): 5m							

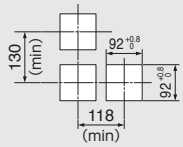
External Dimensions Unit: mm

Converter

HZ-960 / HZ-960HPO-M



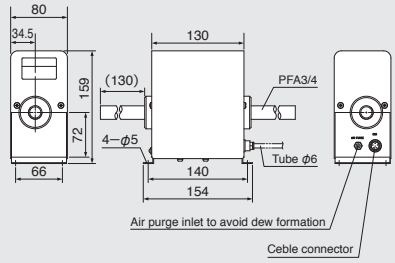
Panel cut size



Detecter

Dissolved Ozone Concentration Monitor
ZH-10, ZH-40, ZH-100, ZH-500

Hydrogen Peroxide Concentration Monitor
ZH-10HPO, ZH-40HPO, ZH-100HPO, ZH-500HPO



*1 Unit should be purged with clean dery air in conditions where condensation is likely to occure.

*2 Measurement can be made even when there is no flow. But, make a flow over 2L/mi for preventing the bubbles from forming on the cell.

Please read the operation manual before using this product to assure safe and proper handling of the product.

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http://www.horiba-adt.jp/index_e.htm

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