Copper Analyzer

SCU-9100
Highly reliable, accurate analysis without reagent

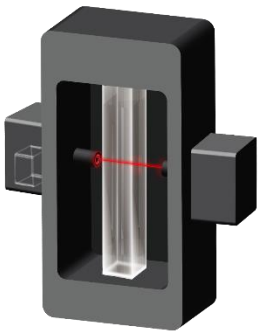
SCU-9100 copper ion analyzer offers precise and reliable measurements and is suitable for the manufacturing process of PCB, including monitoring copper solution, etching, and electroplating. Without reagents, copper ions are accurately detected through spectrophotometry. SCU-9100 is equipped with a peristaltic pump integrated design to realize automatic sampling. SCU-9100 is easy to calibrate, offering two-point calibration and adjustment of measured values. In addition to providing the graphic menu and easy operation, the SCU-9100 integrates the advantage of RS model features including measurement curve display, events logbook, and RS-485 interface.

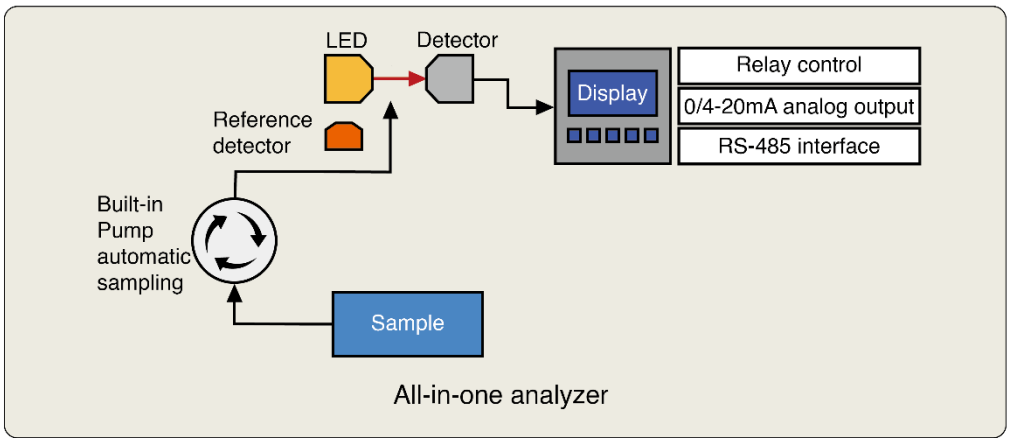
Product Specifications

Measurement Parameter	:	Copper ion (Cu^{2+}) / Concentration of $CuSO_4$		
Measurement Range	:	Copper ion (Cu^{2+})	SCU-9100-L	0-40 g/L
			SCU-9100-M	0-80 g/L
			SCU-9100-H	0-200 g/L
		Concentration of $CuSO_4$	SCU-9100-L	0-160 g/L
			SCU-9100-M	0-320 g/L
			SCU-9100-H	0-800 g/L
Resolution	:	SCU-9100-L	0.01 g/L	
		SCU-9100-M	0.1 g/L	
		SCU-9100-H	0.1 g/L	
Accuracy	:	< ±2% Full Scale		
Principle	:	Spectrophotometry		
Display	:	LCM (graphic menu display) with auto/manual illumination function, available for Text mode, Trace mode, and Chart mode		
Text Mode	:	Digit text reading, simultaneous displays the copperel ion and absorbance		
Trace Mode	:	Set up from 3 minutes to 4 weeks duration of the copper ion value trend graph to master the process history as well as the display of real-time copper ion and absorbance reading at the bottom.		
Chart Mode	:	3 minutes real-time dynamic copper ion measurement graph to monitor recent development in control as well as the display of real-time copper ion and absorbance reading at the bottom.		
Output Signal	:	One isolated DC 0/4~20 mA corresponding to copper ion One RS-485 (MODBUS RTU or MODBUS ASCII) interface		
Relay Contact	:	Two individual relays corresponding to copper ion, Hi/Lo selectable, limited programmable, 240 VAC, 0.5A max. (recommended)		

Logbook	:	50 event records
Power Supply	:	110 VAC, 30W Max, 60 Hz 220 VAC, 30W Max, 50/60Hz
Recorder	:	Record the date, time, measurement value, and machine status. A record can be made every minute and can be cycled for 160 days.
Installation	:	Platform setting
Ambient Temperature	:	0 ~ 50°C
Dimensions	:	405 mm × 321 mm × 253 mm (H×W×D)
Weight	:	Approx. 10 kg
Tubing	:	1/16”(1.59mm) ID, 1/8”(3.18mm) OD, PFA

Measuring Principle

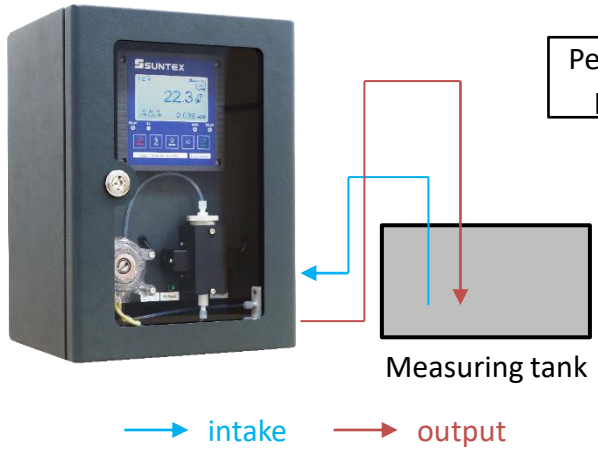


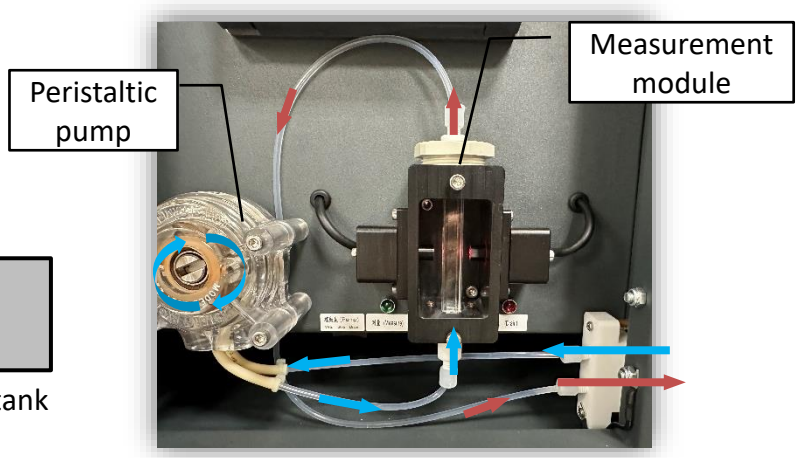


Incident light from the LED is measured at an angle of 180 degree. The detector receives the signal formed by the amplified converter and signal conversion to digitally displayed. in addition to the signal detector, there is a reference detector at the side of the LED light source. It offers an automatic compensation system, and prevents distortion of signal by the deterioration of sensor LED.

Sampling Technique

SNI-9100 built-in peristaltic pump for automatic sampling. When the sample is extracted by the peristaltic pump and fills the flow cell in the measurement module, the concentration of nickel ions can be detected by a specific wavelength.





Advantage

- Display icons in the menu of the controller to provide intuitive operation
- Water-repellent design: The door frame is equipped with gaskets to protect the controller and pipelines from environmental factors
- It can be easily set in platform/wall-mounted without taking up space
- Quick and convenient to remove
- Built-in peristaltic pump for automatic sampling
- The principle of spectrophotometry and providing different models (measure range) can choose
- Measure without reagent reduces the maintenance frequency
- Trace mode can display historically measured value curve from 3-minute to 4-week program
- Equipped with events logbook function and password protection
- 4-20 mA current output or RS-485 Modbus RTU Interface
- LED light source offer a longer lifespan

Calibration Method

- Zero: Pure water or activated charcoal-filtered water calibration
- Span: Use standard solution or sample solution with known concentration for calibration, and then obtain the slope
- Two Points calibration: Prepare two solutions of known concentrations, the first solution can obtain the intercept and the second solution can obtain the slope

Applications

- Manufacturing process of PCB
- Monitoring copper solution
- Etching
- Electroplating

Order Information

Please select the measuring range and power supply that suitable for your region

SCU	-	9100	-	L	-	220	-	60
				L: 0~40 g/L M: 0~80 g/L H: 0~200 g/L		110: AC110V 220: AC220V		50: 50Hz 60: 60Hz

Order Information

Order Number	Description
SCU-9100	Copper Analyzers (please selected the measuring range and power supply)
5418090	Peristaltic pump tubing, PharMed BPT Tubing L/S #14
5420070	O-ring for flow cell
5418091	PFA tubing, ID1.59mm×OD3.18mm
5418085	ETFE tube fitting, 1/8" OD,1/4-28
5418086	ETFE fitting plug, 1/8" OD,1/4-28
5219005	Induction Motor, 220V/50Hz, 6W
5219008	Reducer 6A25 for induction Motor, 220V/50Hz, 6W
5219007	Induction Motor, 220V/60Hz, 6W
5219003	Induction Motor, 110V/60Hz, 6W
5219009	Reducer 6A30 for induction Motor, 220V/60Hz, 6W and induction Motor, 110V/60Hz, 6W

Transmitter Dimensions