Copper

Nickel

KRK

Density Monitor for Processing of Copper / Nickel Plating Solution

CU-800

＜Range：0~80g/ℓ Cu＞

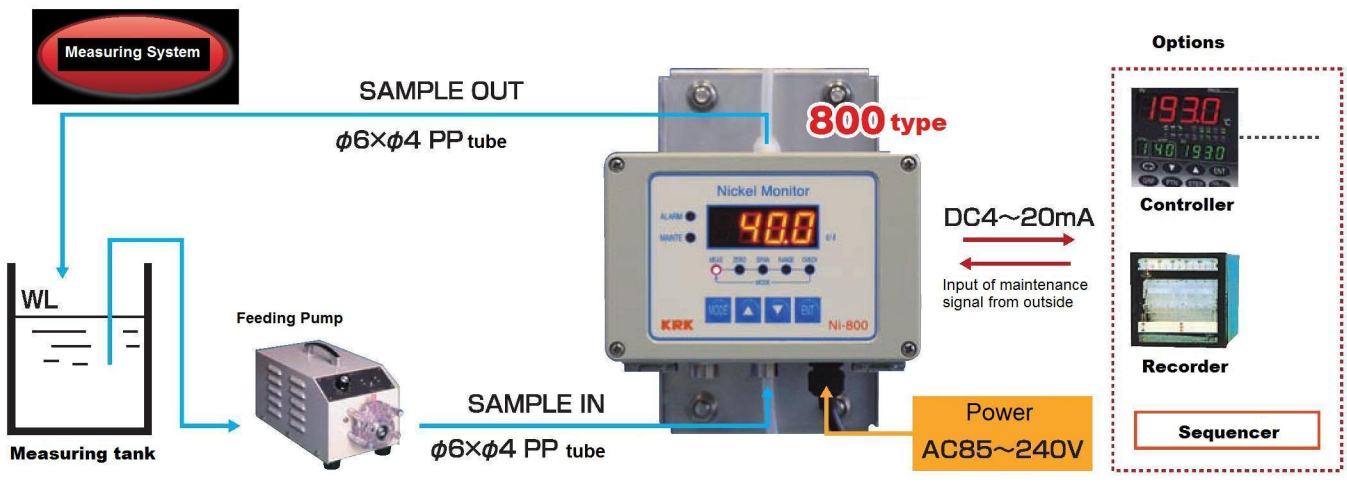
Copper monitor

Ni-800

＜Range：0～200g/ℓ Ni＞

Nickel Monitor

Measuring System



Kasahara

Copper Density Meter

CU-800

This is a In-Line type Copper Density Meter which continuously measures Copper density such as copper sulfate plating solution, copper etching solution, etc.
And Installation, Calibration and Maintenance is easy because detector and indicating converter are unified.
Density signal from the meter is connected to various kind of controller and is controlled to be appropriate copper density.

Meter Specifications

Product name	Copper Density Meter of Copper plating solution
Display	LED red 4 digits
Model (instructed)	CU-800 (for high density measurement) CU-800L (for low density measurement)
Measuring range	CU-800(High) : 0.0~80.0g/ℓ (Cu) CU-800L(Low) : 0.00~20.00g/ℓ (Cu)
Resolution	①0.1 g/ℓ (high density), ②0.01 g/ℓ (low density), ③1 g/ℓ (copper sulfate)
Transmittal output	DC 4~20mA (isolation type), load resistance 250~500Ω, Std

	Cu (high) FS:80g/ℓ	Cu (low) FS:20g/ℓ	Cu sulfate FS:300g/ℓ
Range 1	0~80	0~20	0~300
Range 2	0~50	0~10	0~200
Range 3	0~20	0~5	0~100

※Transmittal output is instructed as 4~20mA or RS-232C
※Transmittal output cable is 5m standard with Y terminal
※RS-232C output, Transmittal cable with plug and connector (max.10m) optional

Accuracy	Within ±2% of F.S
Ambient temperature	0~40℃
Hold function	DC output 4~20mA by inputting no-voltage contact point signal from outside
Power voltage	AC100/110V 50/60 Hz, Cable 5m, with plug, standard ※ In case of 200~240V or cable extension, instruction in advance is appreciated because Y terminal treatment is applied without 3p plug
Weight	About 2kg

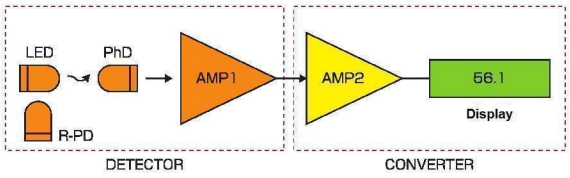
Cu DETECTOR SPECIFICATIONS

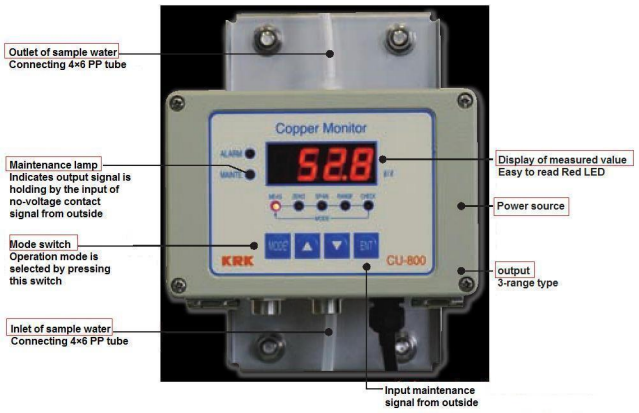
Model	High density : CUD-3C Low density : CUD-10C
Method	Light Absorbance Method, In-line type measurement
Liquid junction	PPS, Safire standard (or quartz), PP
Sample condition	Sample pressure : 0.2 MPa or less Sample temperature : 80℃ or less
Pyping	PP tube(φ6×φ4)
Installation	Pole or fix on the wall (SUS-304 fixing board is standard)
Std. component	Detector and converter are unified. Pole fixing board (SUS-304), PP tube (3m) , Power cable 5m, Current output signal cable 5m, Hold signal cable 5m, Handling Instruction, Written Guarantee
Optional ACCS.	RS232C output, exclusive plug, cable with connector (max. 10m), Standard solution for calibration, relay box, extension cable, feeding pump for supplying liquid (Tell us power source and frequency)

Cu-800/Ni-800

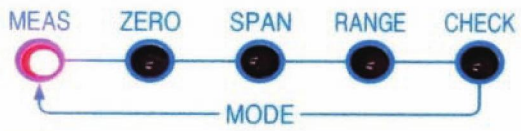
Measuring Theory

LED from light source, photo cell at receiver, signal related to the density from density sensor formed at optical windows, etc. are amplified at converter and digitally displayed. Also, in order to prevent deterioration of sensor LED and influence by temperature change, it has automatic temperature compensation system, and correctly measures density of plating solution.





Mode Lamp



Every time this mode switch is pressed, location of mode lamp changes like MEAS →ZERO→SPAN→RANGE→CHECK→MEAS→ .....

MEAS — displays under measurement

ZERO — select this lamp at zero calibration

SPAN — select this lamp at span calibration

RANGE — select this lamp when you need full scale of transmittal output

CHECK — select this lamp at detector maintenance

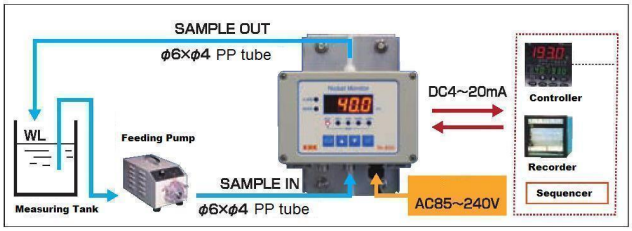
Nickel Density Meter

Ni-800

This is a In-Line type Nickel Density Meter which continuously measures Nickel density of nickel plating process of electronic parts and controls density. Density signal can be appropriately controlled by connecting to optional Recorder, Controller, Sequencer, etc.

Common Features

Measuring system



Common Features

1 Detector/Converter Unified Type In-line Density Meter

Easy to install, calibrate and maintain

2 During operation, measuring value display can be OFF

Measured value can be controlled by the remotely-installed recorder and controller

3 3-range type transmittal output 4~20mA DC

Recording range and control range of measured value is changeable

4 Excellent chemical-resistant, heat-resistant Detector

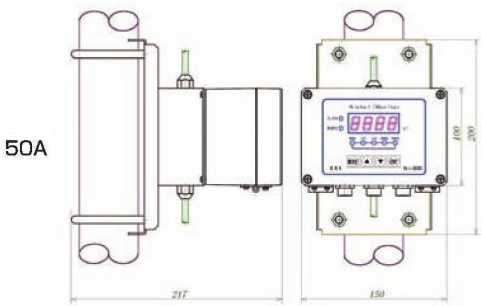
Main material are Safire, PPS, PP, etc.

5 Easy, and 4-Key Operation is OK

4-keys : MODE 、▲、▼、ENT

Function display lamp : MEAS→ZERO→SPAN→RANGE→CHECK→···

Outer Dimensions



Left side view Front view

Meter Specifications

Product name	Nickel Density Meter of Nickel plating
Display	**LED red 4 digits**
Model (instructed)	Ni-800 for High Density measurement Ni-800L for Low Density measurement
Measuring range	Ni-800 (High) : 0.0~200.0g/ℓ Ni Ni-800L (Low) : 0.00~20.00g/ℓ Ni
Resolution	0.1g/ℓ (for High Density Measurement) 0.01g/ℓ (for Low Density Measurement)
Transmittal output	DC 4~20mA (isolation type), load resistance 250~500Ω

	Ni (High) FS:200g/ℓ	Ni (Low) FS:20g/ℓ
Range 1	0~200	0~20
Range 2	0~100	0~10
Range 3	0~50	0~5

※Transmittal output is instructed as RS-232C or 4~20mA
※Transmittal output cable is 5m standard with Y terminal
※RC-232C output, Transmittal cable with plug and connector (max.10m) optional

Accuracy	Within ± 2% of F.S
Hold function	DC output 4~20mA is held by inputting no-voltage contact point signal from outside
Power voltage	AC100/110V 50/60 Hz, Cable 5m, with plug, standard ※ In case of 200~240V or cable extension, instruction in advance is appreciated because Y terminal treatment is applied without 3p plug

Ni DETECTOR SPECIFICATIONS

Model	High density : NCD-3C Low density : NCD-10C
Method	Light Absorbance Method, In-line type measurement
Material	Automatic temperature compensation by semi-conductor
Sample condition	Sample pressure : 0.2 MPa or less Sample temperature : 80℃ or less
Pyping	PP tube(φ6×φ4)
Installation	Pole or fix on the wall (SUS-304 fixing board is standard)
Std. component	Detector and instruction converter are unified. Pole fixing board (SUS-304), PP tube (3m) , Power cable 5m, Current output signal cable 5m, Hold signal cable 5m, Handling Instruction, Written Guarantee

Optional component	RS232C output, exclusive plug, cable with connector (max. 10m), Standard solution for calibration, relay box, extension cable, feeding pump

Panel Instrumentation Type! DIN size 92×92 mm

Nickel Density Meter
Ni-502

Meter Specifications

Measuring object	Nickel density of Nickel plating solution
Model	Ni-502
Display	LED red 3 1/2 digit
Measuring range	high density 0.0～199.9g/ℓ (standard) low density 0.00～19.99g/ℓ (instructed)
Resolution	high density 0.1g/ℓ (in case of FS : 199.9g/ℓ) low density 0.01g/ℓ (in case of FS : 19.99g/ℓ)
Accuracy	Within ±2%
Transmittal output	DC4～20mA (isolation type) 3-range switch
Contact point output	High, low, each a, b point (no-voltage) Point capacity : AC 200V 1A (resistant load) or less
Hold output	Transmittal output and contact point output is held by inputting no-voltage point signal from outside
Power voltage	AC85～240V 50／60Hz

	FS:199.9	FS:19.99
Range 1	0.0～50.0g／ℓ	0.00～5.00g／ℓ
Range 2	0.0～100.0g／ℓ	0.00～10.00g／ℓ
Range 3	0.0～199.9g／ℓ	0.00～20.00g／ℓ

Detector Specifications

		FS:199.9g／ℓ	FS:19.99g／ℓ
Model	In-line type	NCD-3F	NCD-3F-10
	Probe type	NCD-3P	NCD-3P-10
	Immersion type	NCD-3PH	NCD-3PH-10
Cable length	6 m (standard)		
Sample condition	Sample temperature : 0～40℃(probe type) : 0～90℃(in-line type)		

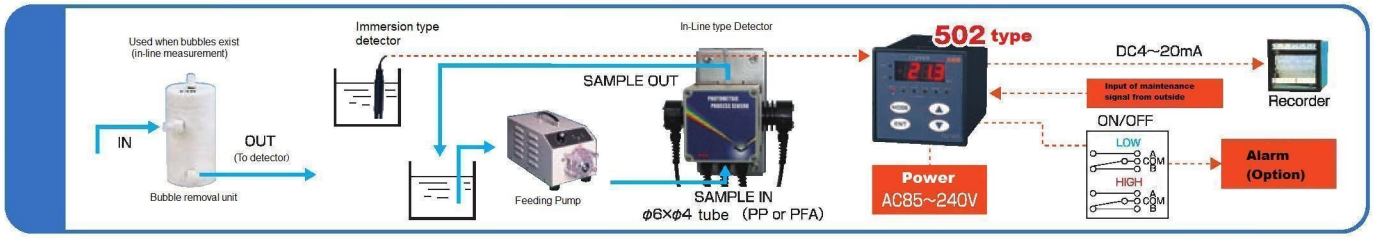
Copper Density Meter
CU-502

Meter Specifications

Measuring object	Copper density of copper plating solution
Model	CU-502
Display	LED red 3 1/2 digit
Measuring range	①High density : 0.0~80.0g/ℓ (standard) ②Low denstiy : 0.00~19.99g/ℓ (instructed) ③CuSO4 : 0~300g/ℓ (instructed)
Resolution	①High density : 0.1g/ℓ (FS: 80.0g/ℓ) ②Low denstiy : 0.01g/ℓ (FS: 19.99g/ℓ) ③CuSO4 : 1g/ℓ (FS: 300g/ℓ)
Accuracy	Within ±2% of F.S
Transmittal output	DC4～20mA (isolation type) 3-range switch Copper (high density) : 0～20 / 50 / 80g/L standard Copper (low density) : 0～5 / 10 / 20g/L standard Copper sulfate(CuSO4) : 0～100 / 200 / 300g/L standard
Contact point output	High, low, each a, b point (no-voltage) Point capacity : AC 200V 1A (resistant load) or less
Hold output	Transmittal output and contact point output is held by inputting no-voltage point signal from outside
Power voltage	AC85～240V 50／60Hz

Detector Specifications

		FS:80.0g／ℓ	FS:19.99g／ℓ
Model	In-line type	NCD-3F	NCD-3F-10
	Probe type	CUD-110K-3	CUD-110K-10
	Immersion type	CUD-110HK-3	CUD-110HK-10
Method	Light absorbance method		
Cable length	6 m (standard)		
Sample condition	Sample temperature : 0～40℃(probe type) : 0～90℃(in-line type)		



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