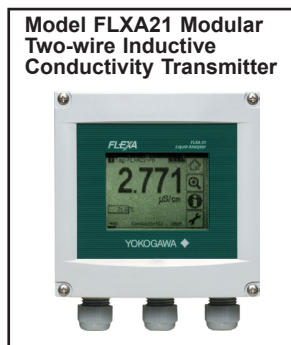


■ Conductivity / Resistivity Analyzers



■ Inductive Conductivity Analyzers



(*1) Model SC202SJ, ISC202SJ and ISC40SJ are available only in Japan.

■ Conductivity Sensor Selection Guide and Compatible Instruments

	2-Electrode System					
Model Name	SC4AJ-□-□□-□□-002	SC4AJ-□-□□-□□-010	SC10XB	SC8SG-R31-T	SC8SG-R61-T	
Specifications						
Cell constant	0.02 cm ⁻¹	0.1 cm ⁻¹	0.05 cm ⁻¹	0.01 cm ⁻¹	10 cm ⁻¹	
Minimum measuring range	0 to 0.5 μS/cm 0 to 100 μS/cm*1	0 to 5 μS/cm 0 to 500 μS/cm*2	0 to 200 μS/cm	0 to 0.5 μS/cm	0 to 1 mS/cm	
Maximum measuring range	0 to 200 μS/cm 0 to 1000 μS/cm*1	0 to 1000 μS/cm 0 to 5000 μS/cm*3	0 to 2000 μS/cm	0 to 100 μS/cm	0 to 1000 mS/cm	
Process temperature	0 to 110 °C	0 to 110 °C	0 to 70 °C	0 to 100 °C	0 to 100 °C	
Process pressure	0 to 1 MPa	0 to 1 MPa	0 to 500 kPa	0 to 1 MPa*4	0 to 1 MPa*4	
Cable length	3/5/10/15/20 m No extension cable available		3/5/10 m Extension cable*5	5.5/10/20 m No extension cable available		
Installation	Adapter mounting type Welding socked type Clamp type		Drop-in type Piping connection with optional adapter	Screw-in type Flow-through type (screw) Flow-through type (flange)		
Applications						
High purity water (0.1-50 μS/cm)	A	B	X	A	X	
Tap water, industrial water	B	A	B	X	B	
Industrial effluent, sewage	X	X	X	X	B	
Acid/alkaline solution, brackish water, seawater	X	X	X	X	X	
Food processing plant (interface detection)*6	X	X	X	X	X	
Food processing plant (control of cleaning chemicals)	X	X	X	X	X	
Converter/Transmitter Compatibility						
SC450G 4-Wire Conductivity/Resistivity Converter	B	B	X	B	B	
FLXA21/SC202G 2-Wire Conductivity/Resistivity Transmitter	B	B	X	B	B	
SC202SJ 2-Wire Conductivity/Resistivity Transmitter	B	B	X	B	B	
SC202S 2-Wire Conductivity/Resistivity Transmitter	B	B	X	B	B	
SC100 Panel Mount Conductivity Converter	B	B	B	X	X	
ISC450G 4-Wire Inductive Conductivity Converter	X	X	X	X	X	
FLXA21/ISC202G 2-Wire Inductive Conductivity Transmitter	X	X	X	X	X	
ISC202SJ 2-Wire Inductive Conductivity Transmitter	X	X	X	X	X	
ISC202S 2-Wire Inductive Conductivity Transmitter	X	X	X	X	X	

Rating: A=Recommended, B=Applicable, X=Not applicable

*1: Measuring range when used in conjunction with SC100 Panel Mount Conductivity Converter. In this case, only titanium sensor can be used.

*2: Minimum measuring range when used in conjunction with SC100.

*3: Maximum measuring range when titanium sensor is used in conjunction with SC100.
Maximum measuring range when SUS316L sensor is used in conjunction with SC100 is 0 to 1000 μS/cm.

*4: In case of PP (polypropylene) chamber, process pressure range is 0 to 500 kPa.

*5: Total length including extension cable should not exceed 50 m.

*6: Use SC500 Sanitary Conductivity Converter. SC500 is available only in Japan.

■ Conductivity Converter / Transmitter Selection Guide

Model Name	SC450G	FLXA21/SC202G	SC202SJ *1	SC202S	SC100	
Product Name	4-Wire Conductivity/Resistivity Converter	2-Wire Conductivity/Resistivity Transmitter	2-Wire Conductivity/Resistivity Transmitter	2-Wire Conductivity/Resistivity Transmitter	Panel Mount Conductivity Converter	
Installation Site						
Indoors	B	B	B	B	B	
Outdoors (non-hazardous area)	B	B	B	B	X	
Outdoors (hazardous area)	X	X	A	A	X	
Application						
For integration, small-scale instrumentation	B				A	
General purpose, medium-scale instrumentation	A	B	B	B	B	
Remotely located instrument panel room		A	A	A	X	

Rating: A=Recommended, B=Applicable, X=Not applicable

*1: This product is TIIS Intrinsically Safe type and available only in Japan

2-Electrode System		4-Electrode System		Inductive Conductivity System			
SC210G-A	SC210G-B	SC85G-R61-F		ISC40GJ	ISC40SJ	ISC40S	Model Name
Specifications							
0.05 cm ⁻¹	5 cm ⁻¹	10 cm ⁻¹					Cell constant
0 to 0.5 μS/cm	0 to 200 μS/cm	0 to 1 mS/cm		0 to 100 μS/cm	0 to 100 μS/cm	0 to 100 μS/cm	Minimum measuring range
0 to 200 μS/cm	0 to 20 mS/cm	0 to 1000 mS/cm		0 to 1999 mS/cm	0 to 1999 mS/cm	0 to 1999 mS/cm	Maximum measuring range
0 to 100 °C	0 to 100 °C	0 to 100 °C		-10 to 130 °C	-10 to 130 °C	-10 to 130 °C	Process temperature
0 to 1 MPa*4	0 to 1 MPa*4	0 to 1 MPa*4		0 to 2 MPa	0 to 2 MPa	0 to 2 MPa	Process pressure
3/5/10/15/20 m No extension cable available		5.5/10/20 m No extension cable available		5/10/15/20 m Extension cable*5	5/10/15/20 m No extension cable available	5/10/15/20 m No extension cable available	Cable length
Screw in type Flange type Flow-through type (screw or flange) Screw in type with gate valve		Screw-in type Flow-through type (screw) Flow-through type (flange)		with optional screw-in adapter with optional flange adapter with optional immersion type holder			Installation
Applications							
B	X	X	X	X	X	X	High purity water (0.1-50 μS/cm)
B	A	B	B	B	B	B	Tap water, industrial water
X	B	A	A	A	A	A	Industrial effluent, sewage
X	X	X	A	A	A	A	Acid/alkaline solution, brackish water, seawater
X	X	X	X	X	X	X	Food processing plant (interface detection)*6
X	X	X	A	A	A	A	Food processing plant (control of cleaning chemicals)
Converter/Transmitter Compatibility							
B	B	B	X	X	X	X	SC450G 4-Wire Conductivity/Resistivity Converter
B	B	B	X	X	X	X	FLXA21/SC202G 2-Wire Conductivity/Resistivity Transmitter
B	B	B	X	X	X	X	SC202SJ 2-Wire Conductivity/Resistivity Transmitter
B	B	B	X	X	X	X	SC202S 2-Wire Conductivity/Resistivity Transmitter
X	X	X	X	X	X	X	SC100 Panel Mount Conductivity Converter
X	X	X	B	X	X	X	ISC450G 4-Wire Inductive Conductivity Converter
X	X	X	B	X	X	X	FLXA21/ISC202G 2-Wire Inductive Conductivity Transmitter
X	X	X	X	X	A	X	ISC202SJ 2-Wire Inductive Conductivity Transmitter
X	X	X	X	X	X	A	ISC202S 2-Wire Inductive Conductivity Transmitter

Rating: A=Recommended, B=Applicable, X=Not applicable

*1: Measuring range when used in conjunction with SC100 Panel Mount Conductivity Converter. In this case, only titanium sensor can be used.

*2: Minimum measuring range when used in conjunction with SC100.

*3: Maximum measuring range when titanium sensor is used in conjunction with SC100.
Maximum measuring range when SUS316L sensor is used in conjunction with SC100 is 0 to 1000 μS/cm.

*4: In case of PP (polypropylene) chamber, process pressure range is 0 to 500 kPa.

*5: Total length including extension cable should not exceed 50 m.

*6: Use SC500 Sanitary Conductivity Converter. SC500 is available only in Japan.

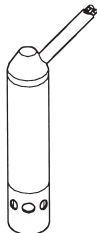

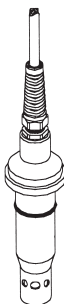
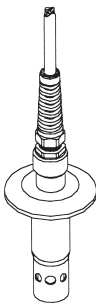




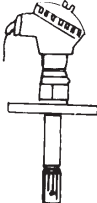
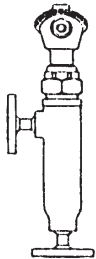

ISC450G	FLXA21/ISC202G	ISC202SJ *1	ISC202S	Model Name
4-Wire Inductive Conductivity Converter	2-Wire Inductive Conductivity Transmitter	2-Wire Inductive Conductivity Transmitter	2-Wire Inductive Conductivity Transmitter	Product Name
Installation Site				
B	B	B	B	Indoors
B	B	B	B	Outdoors (non-hazardous area)
X	X	A	A	Outdoors (hazardous area)
Application				
B				For integration, small-scale instrumentation
A	B	B	B	General purpose, medium-scale instrumentation
	A	A	A	Remotely located instrument panel room

Rating: A=Recommended, B=Applicable, X=Not applicable

*1: This product is TIIS Intrinsically Safe type and available only in Japan

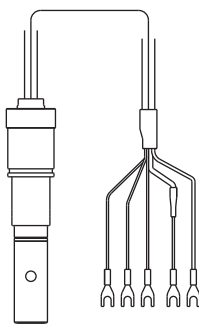

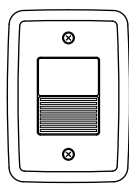
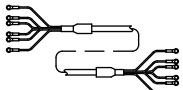

■ Four-wire Conductivity / Resistivity Analyzers

System Configuration

Conductivity Sensors						Conductivity Converter
SC4AJ		SC8SG				SC450G
						
Adapter Mounting Type	Welding Socket Type	Welding Socket Type	Welding Clamp Type	Screw-in Type	Flow-through Type	
SC210G						
						
Screw-in Type	Flange Type	Flow-through Type	Screw-in Type with Gate Valve			

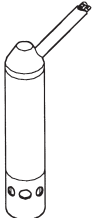

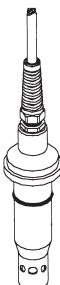
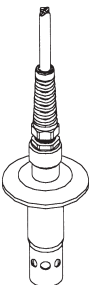




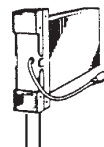
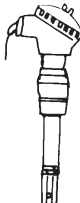
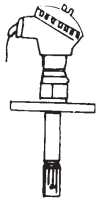
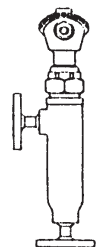

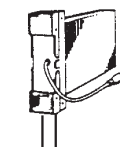
■ Panel mounted Conductivity Analyzer

System Configuration

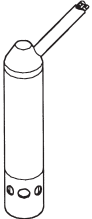

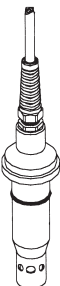
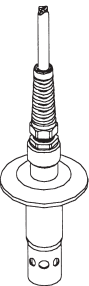





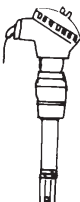
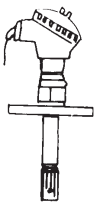
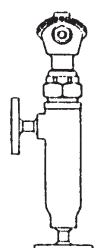
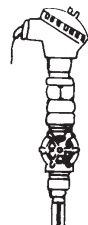



Conductivity Sensor	Conductivity Converter	
<p>SC10XB Dedicated Conductivity Sensor</p>  <p>SC10XB Optional Adapter (when "/ADP" option is specified)</p>  <p>Note: SC4AJ 2-electrode Conductivity Sensor may be used.</p>	<p>WTB100-SC Terminal Box</p>  <p>Note: Terminal box and extension cable are used where converter is installed remotely more than 10 m from sensor.</p> <p>WF100-SC Extension Cable</p> 	<p>SC100</p> 

Two-wire Conductivity / Resistivity Analyzers

System Configuration – Non-explosionproof type

Conductivity Sensors				Conductivity Transmitter	Distributor
<p>SC4AJ</p>  <p>Adapter Mounting Type</p>  <p>Welding Socket Type</p>  <p>Welding Socket Type</p>  <p>Welding Clamp Type</p>	<p>SC8SG</p>  <p>Screw-in Type</p>  <p>Flow-through Type</p>	 <p>FLXA21</p>  <p>SC202G</p>	<p>Dedicated Distributor PH201G</p>  <p>Analog output 1 to 5 V DC Output Failure contact output Maintenance contact output</p>		
<p>SC210G</p>  <p>Screw-in Type</p>  <p>Flange Type</p>  <p>Flow-through Type</p>  <p>Screw-in Type with Gate Valve</p>	<p>General Distributor SDBT, SDBS</p>  <p>Analog output 1 to 5 V DC Output</p>				

System Configuration – Explosionproof type



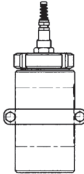
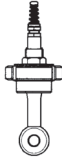
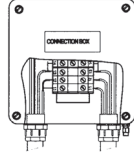


Conductivity Sensors				Conductivity Transmitter	Distributor
<p>SC4AJ</p>  <p>Adapter Mounting Type</p>  <p>Welding Socket Type</p>  <p>Welding Socket Type</p>  <p>Welding Clamp Type</p>	<p>SC8SG</p>  <p>Screw-in Type</p>  <p>Flow-through Type</p>	 <p>SC202S-J^{*1}</p>	<p>Safety Barrier BARD800</p> <p>Dedicated Distributor PH201G</p>   <p>Analog output 1 to 5 V DC Output Failure contact output Maintenance contact output</p>		
<p>SC210G</p>  <p>Screw-in Type</p>  <p>Flange Type</p>  <p>Flow-through Type</p>  <p>Screw-in Type with Gate Valve</p>	<p>Safety Barrier BARD800</p> <p>General Distributor SDBT</p>   <p>Analog output 1 to 5 V DC Output</p>	<p>SC202S-J^{*1}</p>			
		<p>SC202S^{*2}</p>	<p>Safety Barrier^{*2} Distributor</p> 		

(*2) For intrinsically safe approval, use the safety barrier certified by the testing laboratories. In case of non-incendive type (SC202S-B, -N, -D), the safety barrier is not necessary.

(*1) This product is TIIS Intrinsically Safe type and available only in Japan.





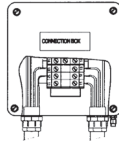
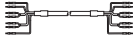


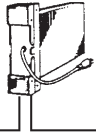
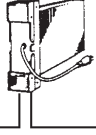
■ Four-wire Inductive Conductivity Analyzer

System Configuration







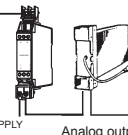
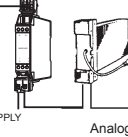
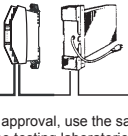
Inductive Conductivity Sensor	Holders	Inductive Conductivity Converter
 <p>ISC40GJ</p>	<p>Immersion ISC40FDJ</p>  <p>Flow-Through ISC40FFJ</p>  <p>Direct Insertion ISC40FSJ</p>  <div data-bbox="805 573 1034 1171"><p>Terminal Box</p><p>Terminal Box BA20</p><p>Extension Cable WF10J</p></div>	<p>ISC450G</p>  <p>EXA-N-450 3.760 mS/cm 23.0 °C YOKOGAWA</p>

Two-wire Inductive Conductivity Analyzers

System Configuration – Non-explosionproof type

Inductive Conductivity Sensor	Holders	Inductive Conductivity Transmitter	Distributor
 <p>ISC40GJ</p>	<p>Immersion ISC40FDJ</p>  <p>Flow-Through ISC40FFJ</p>  <p>Direct Insertion ISC40FSJ</p> 	<p>Terminal Box Terminal Box BA20</p>  <p>Extension Cable WF10J</p>  <p>FLXA21</p>  <p>ISC202G</p> 	<p>Dedicated Distributor PH201G</p>  <p>Analog output 1 to 5 V DC Output Failure contact output Maintenance contact output</p> <p>General Distributor SDBT, SDBS</p>  <p>Analog output 1 to 5 V DC Output</p>

System Configuration – Explosionproof type

Inductive Conductivity Sensor	Holders	Inductive Conductivity Transmitter	Distributor
<p>ISC40SJ-TT⁽¹⁾</p>  <hr/> <p>ISC40S</p> 	<p>Immersion ISC40FDJ</p>  <p>Flow-Through ISC40FFJ</p>  <p>Direct Insertion ISC40FSJ</p> 	<p>ISC202SJ⁽¹⁾</p> 	<p>Safety Barrier BARD820</p> <p>Dedicated Distributor PH201G</p>  <p>SUPPLY</p> <p>Analog output 1 to 5 V DC Output Failure contact output Maintenance contact output</p> <p>Safety Barrier BARD820</p> <p>General Distributor SDBT</p>  <p>SUPPLY</p> <p>Analog output 1 to 5 V DC Output</p> <hr/> <p>Safety Barrier⁽²⁾</p> <p>Distributor</p>  <p>ISC202S⁽²⁾</p>

(⁽²⁾) For intrinsically safe approval, use the safety barrier certified by the testing laboratories. In case of non-incendive type (ISC202S-B, -N, -D), the safety barrier is not necessary.

(⁽¹⁾) This product is TIIS Intrinsically Safe type and available only in Japan.

Revision Information

- Title : Conductivity Analyzer Selection Guide
- Manual No. : TI 12D08A01-02E

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