

General Specifications

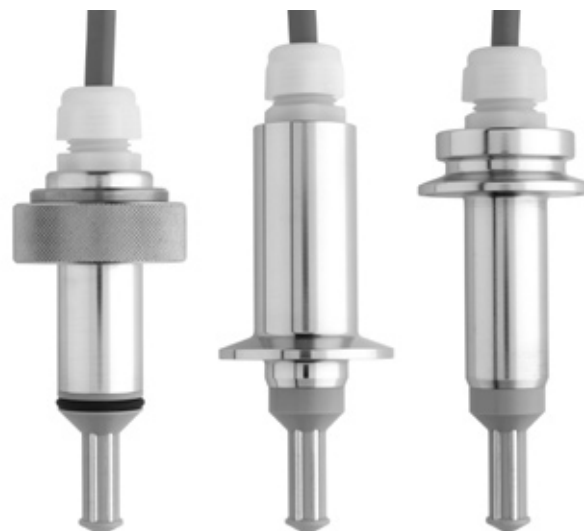
Hamilton Conductivity Sensors for biotech and pharmaceutical industry

Yokogawa's SC450G and SC202G(S) have proven to work very well over a wide range of conductivity values with suitable 4-electrode sensors. The Hamilton CONDUCELL 4US sensors for Triclover and INGOLD process connections has often been successfully used where the access port is too narrow for the Inductive Sensors.

Now Hamilton has released the CONDUCELL 4USF-PG-120 sensor, which is made of PEEK and fits in a simple PG13,5 process connection. The electrical connection is a VARIOPIN and it is a welcome addition to the program.

These sensors have been designed to measure accurately over an extremely wide conductivity range. They are ideal for the pharmaceutical, food and beverage industries where it is necessary to monitor product and cleaning chemicals within the same process stream.

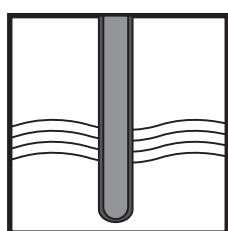
Because of the sanitary requirements in these industries these sensors are suitable for steam sterilisation and CIP cleaning. In addition to that all wetted parts are electro-polished and the materials used are approved by the FDA



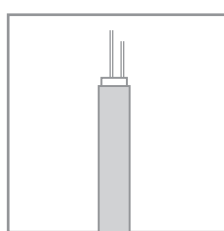
FEATURES

- Range 0 to 1 S/cm
- Open easy to clean cell geometry
- Surface roughness <N5 (0.4micron)
- Suitable for steam sterilisation & CIP
- Maximum pressure 6 bar G
- Temperature range -20 to 135°C
- Integrated PT1000
- Wetted parts to FDA DIN 1.4435 SS PEEK & EPDM
- VP connector in 4USF model

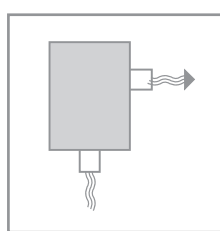
System Configuration



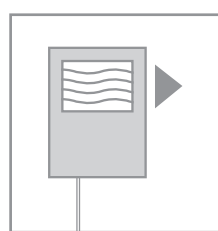
Sensors



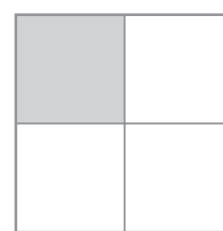
Cables



Fittings



Transmitters



Accessories

Conducell 4US

These 4-pole conductivity sensors are especially suited for applications with large variations in conductivity. These sensors have been tested extensively and they have a very good linearity over a wide range.

The Conducell 4US is available with a tri-clover and a 25mm port-size process connection. It can be installed without any further need for a fitting.

The Conducell 4USF has a diameter of only 12 mm so it can be inserted in many standard armatures.

Features

- Suitable for steam sterilization, autoclaving and CIP
- Sanitary: surface quality is N5 (0.4µm) and electro-polished
- All wetted parts are FDA compliant

General Specifications 4US

Wetted Parts

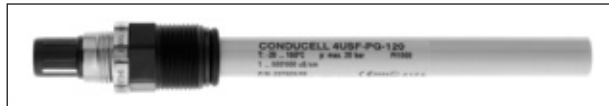
Body and electrodes	DIN 1.4435 SS
Insulators	PEEK
O-ring	EPDM

Operating Specifications

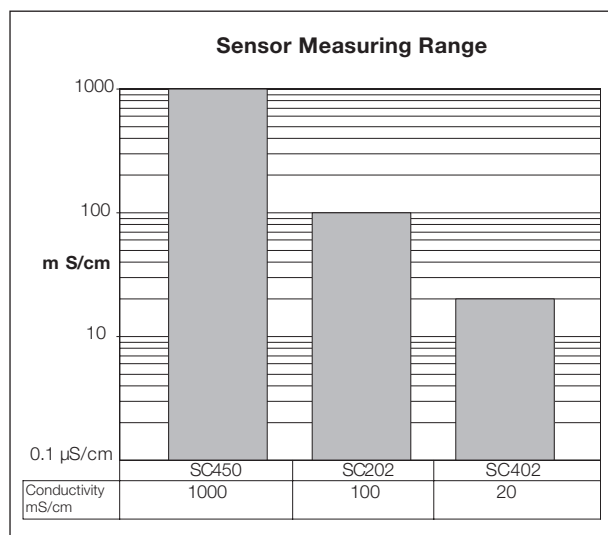
Measuring systems	4 electrode
Measuring range	0.1 micro S/cm to 1 S/cm
Temperature range	-20 to 135°C
Maximum pressure	6 bar @ 135°C

Physical Specifications

Surface finish	Electro polished N5 (0.4µm)
Cable length	5m



Part No.	Description
10/237600	CONDUCELL 2UP-PG-120
10/237700	CONDUCELL 4US-G125-62/25
10/237750	CONDUCELL 4US-T150-50
10/237760	CONDUCELL 4US-T150-100
10/237620	CONDUCELL 4USF-PG-120 (4 stainless steel electrodes)
10/237627	CONDUCELL 4UHF-PG-120 (4 Hastelloy C electrodes)



GS 12D7J5-E-E

General Specifications 4USF

Wetted Parts

Body and electrodes	DIN 1.4435 SS
Insulators	PEEK
O-ring	EPDM

Operating Specifications

Measuring systems	4 electrode
Measuring range	0.1 micro S/cm to 1 S/cm
Temperature range	-20 to 150°C
Maximum pressure	10 bar @ 150°C / 20 bar @ 135°C

Physical Specifications

Surface finish	Electro polished N5 (0.4µm)
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General Specifications 4USF-VV, -4USF-BC, -4USF-AF 200, -4USF-DF 80

Description same as CONDUCELL 4USF-PG, but there are different process connctions:

- VV - Tuchenhagen Varivent DN50/60
- BC - Neumo Bioconnect
- AF 200 - ANSI flange 2.00"
- DF 80 - DIN flange DN 80mm

Example: 4US-G125-62/25

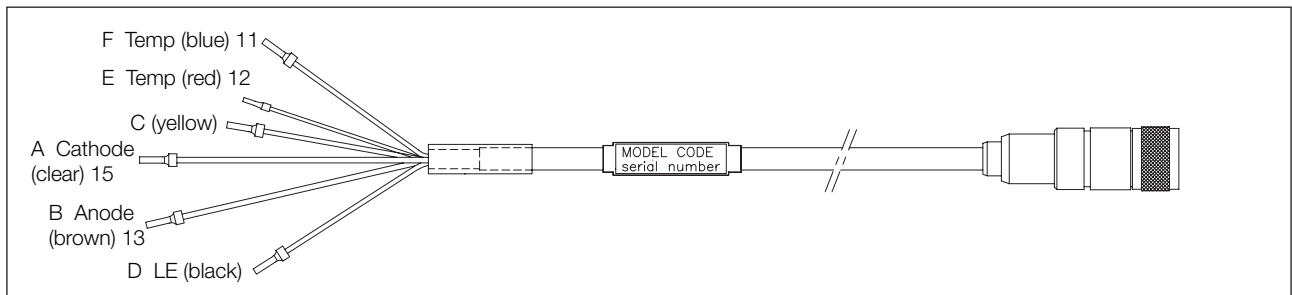
- 4: 4-Pole
- U: Undefined/open field
- S: Stainless steel;
- H: Hastelloy C;
- T: Titanium;
- P: Pt Electrodes
- F: Flat electrode arrangement for easy cleaning
- G125: G1.25";
- T150: Triclamp 1.5" connection;
- PG: PG13.5
- 62: 62 mm shaft length
- /25: (optional) O-ring, seals at 25 mm

Value at 25°C	Accuracy	Stability [Months]	Certified by	Package	Order No.
1.3 $\mu\text{S}/\text{cm}$	± 1	%12	DFM	Glass bottle 300 mL	238 973
5 $\mu\text{S}/\text{cm}$	± 1	%36	DFM	Glass bottle 300 mL	238 926
15 $\mu\text{S}/\text{cm}$	± 1	%36	DFM	Glass bottle 300 mL	238 927
84 $\mu\text{S}/\text{cm}$	± 1	%18	DFM	1 Calpack bottle 500 mL	238 984
100 $\mu\text{S}/\text{cm}$	± 1	%36	DFM	Glass bottle 300 mL	238 934
147 $\mu\text{S}/\text{cm}$	± 1	%18	DFM	1 Calpack bottle 500 mL	238 985
1413 $\mu\text{S}/\text{cm}$	± 1	%36	DFM	Glass bottle 300 mL	238 928
1413 $\mu\text{S}/\text{cm}$	± 1	%18	DFM	1 Calpack bottle 500 mL	238 986
12288 $\mu\text{S}/\text{cm}$	± 1	%18	DFM	1 Calpack bottle 500 mL	238 988

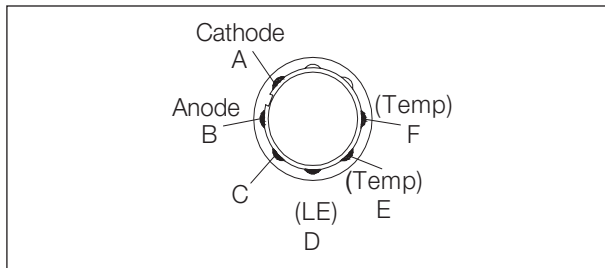
Cables for Industrial Applications

- Internal anti-noise sheath for accurate measurement.
- Gold plated spring O-connectors parts, for good electrical contact under the most severe conditions.
- Coaxial plug and socket with watertight sealing that meets the requirements of IP 65.
- Cables for industrial appl. and for laboratory use are available.

Dimensions FU20



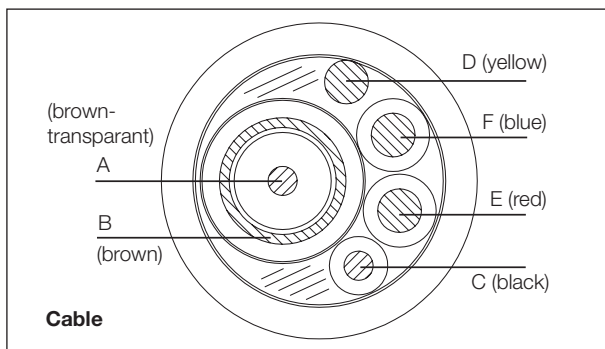
Connector lay out



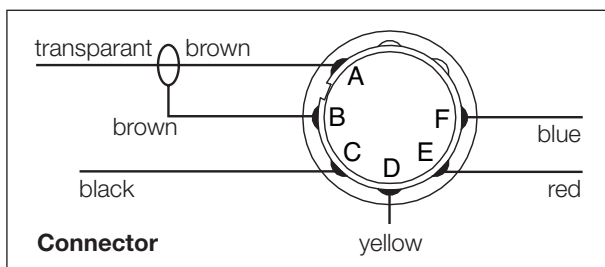
Model and Suffix codes

Model	Suffix Code	Description
WU10		Universal sensor cable
Connector type	-V	Variopin
Cable type	-S	Single Coax
Cable length	-03	3 meters
	-05	5 meters
	-10	10 meters
	-15	15 meters
	-20	20 meters

Cable lay out

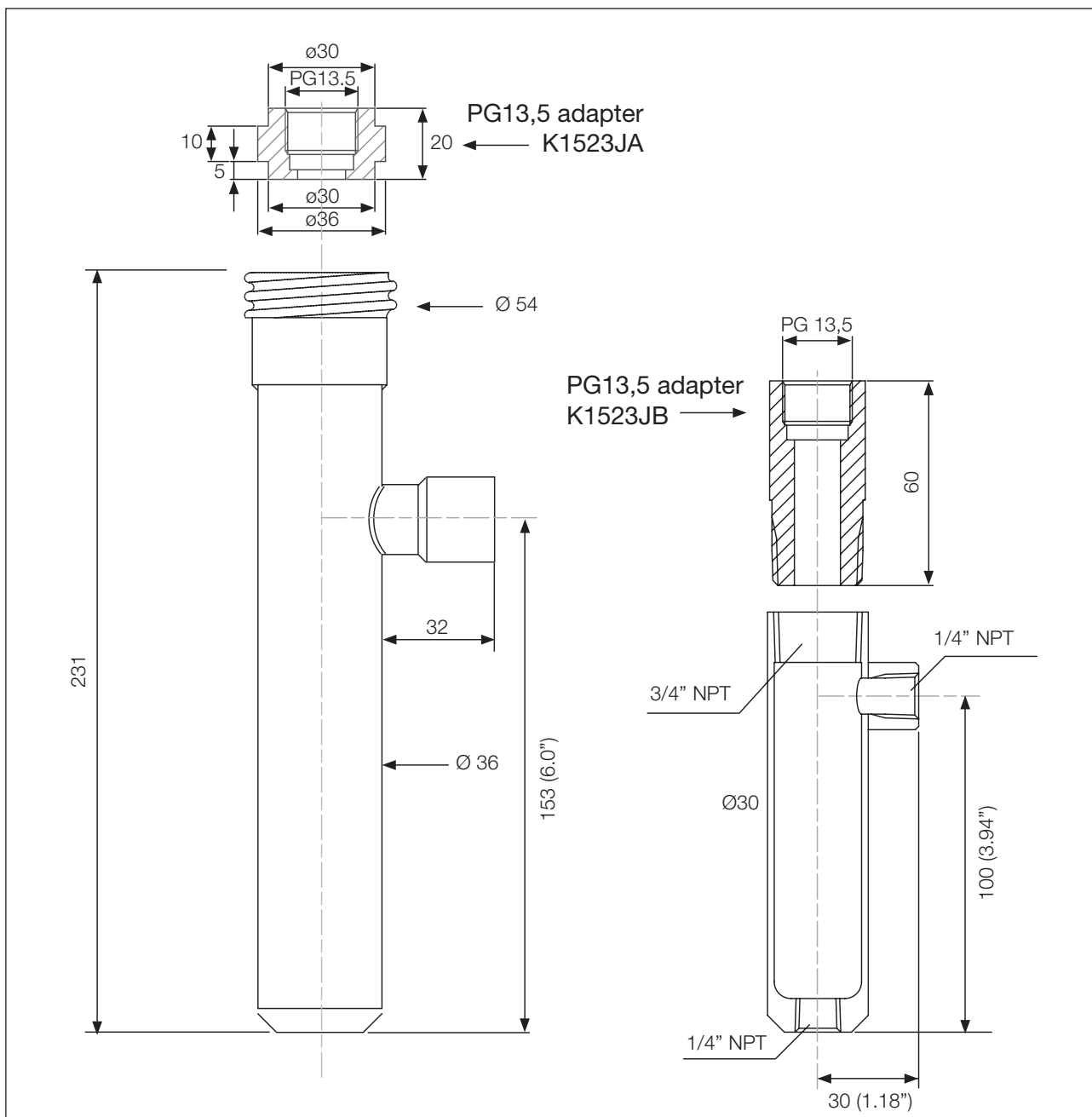


Connector wiring



Unique Advantages:

- Stable for at least 1 year (1.3 $\mu\text{S}/\text{cm}$), up to 3 years
- Certified standards with traceable calibration from DFM (can be viewed at www.hamiltoncompany.com/cert)
- Expiration date on every bottle
- Bottles can remain open for up to 60 minutes and retain the certified value.



Flow fitting FF40

With Adapter K1523JA to fit sensors with a PG13,5 process connection in FF40/FS40 and FD40 fittings.

Material: Polypropylene

Flow fitting K1598AC (incl. 3.1 B certificate)

with Adapter K1523JB to fit sensors with PG13,5 process connection

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