

## 22 | Conductivity Sensors ACF60 / ACS60



- Patented six-electrode design reduces sensitivity to fouling and polarization
- Wide measuring range: 0 - 10  $\mu\text{S}/\text{cm}$  up to 0 - 850  $\text{mS}/\text{cm}$
- Integrated Pt1000 temperature sensor
- No O-rings or epoxy - suitable for CIP/SIP

### Six-Electrodes

The ACF60/ACS60 conductivity sensor features a superior six-electrode, four-pole design. The patented arrangement of the four current electrodes around the two potential electrodes results in a reliable and precise measurement. This unique design also provides greatly reduced sensitivity to sensor fouling and polarization. The combination of optek C8000 universal converter and ACF60/ACS60 conductivity sensors allow a wide dynamic range from 0 - 10  $\mu\text{S}/\text{cm}$  up to 0 - 850  $\text{mS}/\text{cm}$  with the same sensor.

### Temperature Measurement

The integrated Pt1000 platinum RTD in the tip of the ACF60/ACS60 sensor provides fast-response temperature measurement for compensation, which can be displayed and transmitted from the C8000 converter.

### Sanitary Design

Designed for ultra-sterility, the six electrodes are sealed in the FDA (USP class VI) compliant PEEK sensor tip without the use of O-rings or epoxy. The ACF60/ACS60 sensor is suitable for CIP/SIP applications.

### ACF60

Mounted in an optek inline sensor body, the design ensures smooth and unrestricted flow of all process fluids with minimized hold-up and hydrostatic shear.



ACF60  
Conductivity Sensor



ACS60  
Conductivity Sensor

Technical Data	ACF60	ACS60-35-60
Electrode holder	PEEK (FDA, USP class VI)	
Electrode	stainless steel 1.4435 (SS 316L), dF < 1%, BN2	
Port-gaskets	O-ring: EPDM (FDA, USP Class VI), ... others on request	
Line size	1/4 in. to 6 in. (DN 6 to DN 150), ... others on request	
Port connection		OSP25-GS60 (similar Ingold-port) nominal length: 60 mm diameter: 25 mm thread: G1-1/4 in. ISO 228/1
Installation accessories		weld-in ports, Varivent adapter 50.00), clamp adapter, optek T-pieces DIN 11850, optek T-pieces OD (BS4821-1)
Process pressure	20 bar (290 psi) - 50 °C (122 °F) 10 bar (145 psi) - 100 °C (212 °F) 4 bar (58 psi) - 135 °C (275 °F)	
Process temperature	permanent: -10 - 90 °C (14 - 194 °F) peak 30 min/day: -10 - 135 °C (14 - 275 °F)	
Ambient temperature	operation: -10 °C - 40 °C (14 °F - 104 °F) transport: -20 °C - 70 °C (-4 °F - 158 °F)	
Temperature sensor	integrated Pt1000 RTD (IEC Class A) accuracy: $\pm 0.2$ °C at 25 °C (77 °F)	
Protection	IP65	
Measuring range	any measuring range between 0 - 10 $\mu\text{S}/\text{cm}$ to 850 $\text{mS}/\text{cm}$	

	Accuracy	Repeatability
0 - 10 $\mu\text{S}/\text{cm}$	calibrated: $\pm 1\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$ uncalibrated: $\pm 3\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$	$\pm 0.5\%$
0 - 250 $\text{mS}/\text{cm}$	calibrated: $\pm 1\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$ uncalibrated: $\pm 3\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$	$\pm 0.5\%$
250 - 500 $\text{mS}/\text{cm}$	calibrated: $\pm 2\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$ uncalibrated: $\pm 6\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$	$\pm 1\%$
500 - 850 $\text{mS}/\text{cm}$	calibrated: $\pm 5\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$ uncalibrated: $\pm 12\%$ of measuring value $\pm 0.2$ $\mu\text{S}/\text{cm}$	$\pm 3\%$

Pressure and temperature ratings specified herein may be subject to limitations - see instruction manual. The appropriate choice of material for all wetted parts is the sole responsibility of the user. Data given are subject to changes without prior notice.