

Reliable, Continuous Contacting Conductivity Measurements for all Applications

A Family of Conductivity Cells

Honeywell offers a wide variety of conductivity cells to satisfy your process needs—from sensitive ultrapure water applications to highly conductive industrial processes. Our cells are constructed of rugged materials, guaranteeing longer cell life. An extensive range of cell constants from 0.01 to 50 allows you to select the conductivity cell best suited for your application, providing a wide range of capability and ensuring accurate conductivity measurements. All conductivity cells have integral temperature compensators available. An assortment of mounting options—insertion/removal, immersion, flow-thru, and clean-in-place (CIP) fittings—reduces your installation costs. Honeywell's complete line of conductivity instrumentation—cells, analyzers/controllers, and transmitters—ensures the most reliable conductivity measurements available.



4973 and 4974 Series Cells

The 4973 and 4974 cells are ideal for pure water applications, providing you with the accuracy your application demands. Polyethersulfone (PES) construction, with electrodes of titanium or high-density graphite, increase resistance to corrosion. For insertion applications, the 4973 cell with a 3/4-inch NPT male thread permits permanent installation of the cell in a pipe or tank. For flow-thru applications, the cell can be installed directly into a process stream or used with a separately ordered PES or stainless-steel flow chamber in a bypass stream. For sanitary clean-in-place (CIP) piping systems, the 4974 cells include standard 1 1/2-inch or 2-inch CIP fittings, suitable for food and beverage, pharmaceutical, and cosmetic or biotechnology industries.



Features — Insertion and CIP mountings • Great for pure water applications • Corrosion-resistant materials

4905 Series Cells

The 4905 series cells are superior for all-purpose-type applications. Constructed of PES for high corrosion resistance, 4905 series cells can be supplied with either nickel or platinum electrodes, and will provide continuous, reliable measurements at temperatures up to 140°C and pressures up to 250 psig. For insertion applications, the 1-inch NPT male thread permits installation in a pipe or tank; for flow applications, the cell can be installed directly into a process stream or used with a separate flow chamber in a bypass stream. For immersion applications, 1/2-inch rigid or flexible plastic pipe can be threaded into the top of the cell—up to 6 feet (1.8 meters) for the 7-foot cable, up to 19 feet (5.8 meters) for the 20-foot cable.



Features — Wide range of cell constants • Insertion or immersion mountings • High temperature and pressure limits

4909 Series Cell Assemblies

The 4909 series allows for insertion or removal of the cell without interrupting your critical process. Two safety features, a restraining mechanism and an internal safety stop, provide excellent protection to the operator for safe cell removal at pressures up to 50 psig with caution. The plastic removal device is equipped with a purge port to flush out any accumulated debris, supporting easy insertion or removal of the cell.



Features — Insertion/removal device to avoid interruption of the process • 316 stainless steel or CPVC plastic • Purge port available

For more information on Honeywell's conductivity cells, as well as other Honeywell analytical instrumentation, please contact your Honeywell representative. Or in the U.S. call 1-800-343-0228. Or visit our World Wide Web site at <http://www.honeywell.com/sensing>.

4973 and 4974 Series

Cell Constant	0.01, 0.1, 1.0, and 10 cm ⁻¹ , with individual calibration factors
Maximum Temperature Limit	4973: 140°C (284°F) at rated pressure 4974: 130°C (266°F) at rated pressure
Maximum Pressure Limit	4973: 250 psig (1724 kPa) at rated temperature 4974: 150 psig (1034 kPa) at rate temperature
Automatic Temperature Compensation Insertion	Available on all cells 4973: ¾-in. NPT male thread for schedule 40 and 80 pipe 4974: 1½-in. or 2-in sanitary CIP fitting
Insertion Depth	3½ in. for 1, 10, and 0.01 constants from solution end of ¾-in. NPT male thread; 2½-in. for 0.1 constant
Wetted Parts	U.S. Food & Drug Administration compliant
Cell	Body: PES (polyethersulfone). Electrodes: 0.01 and 0.1 constant, titanium; 1.0 and 10.0 constant, high-density graphite with Teflon guard. 4974 also includes food-grade silicone rubber and polished 316 SS.
Electrical Connections	Integral PVC-covered non-shielded 18-gauge 4-conductor cable, 7 ft. (2.1 m) or 20 ft. (6.1 m), as specified

4905 Series

Cell Constants	0.01, 0.1, 10, 25, and 50 cm ⁻¹
Maximum Temperature	140°C (284°F) at rated pressure
Maximum Pressure	250 psig (1724 kPa) at rated temperate
Electrode Material	Nickel or platinum; constants 10 and higher are platinized
Lead Wire	4 leads; Tefzel-covered; 18-gauge cable, 7 ft. (2.1 m) or 20 ft. (6.1 m)
Automatic Temperature Compensation	Available on all cells
Mounting	1-in. NPT male thread
Insertion Depth	4.5 to 6.9 in. (114 to 175 mm), depending on cell constant
Overall Length	Approximately 6 to 8 in. without junction head. Approximately 10 to 12½-in. (254 to 311 mm) with junction head
Wetted Materials	Cell: polyethersulfone Electrodes: nickel or platinum
Weight	Approximately 1lb. (0.45 kg)

4909 Stainless Steel

Cell Constants	0.01, 0.1, 10, 25, and 50 cm ⁻¹
Electrode Material	Nickel or platinum
Lead Wire	4 leads; Tefzel-covered; 18-gauge cable, 7 ft. (2.1 m) or 20 ft. (6.1 m)
Pressure	200 psig (1379 kPa) maximum at 284°F (140°C). Maximum pressure for removal or insertion is 50 psig.
Automatic Temperature Compensation	Available on all cells
Temperature	140°C (284°F) at 200 psig
Process Connection	1¼-in. NPT male
Insertion Depth	Varies between 6.5 and 8.8 in. (165 and 224 mm), depending on cell constant
Overall Length (from process to connection)	16.6 in. (422 mm); 20.5 in. (521 mm) with junction head option
Total Length Required for Cell Removal	44.5 in. (1130 mm); 50.5 in. (1283 mm) with junction box head option
Wetted Materials	316 SS ball valve, Viton & Teflon internal sealing materials. Body: PES electrode, nickel or platinum
Weight	10 lb. (4.5 kg)

4909 CPVC Plastic

Cell Constants	0.01, 0.1, 10, 25, and 50 cm ⁻¹
Pressure & Temperature	125 psig (862 kPa) maximum at 23°F (-5°C); 90 psig (621 kPa) maximum at 122°F (50°C); 50 psig (345 kPa) maximum at 176°F (80°C)
Automatic Temperature Compensation	Available on all cells
Electrode Material	Nickel or platinum
Lead Wire	4 leads; Tefzel covered; 18-gauge cable, 7 ft. (2.1 m) or 20 ft. (6.1 m)
Process Connection	1½-in. NPT male
Purge Port Connection	¼-in. NPT female; purge fluid temperature and pressure not to exceed 4909 CPVC temperature and pressure specifications
Insertion Depth	Varies between 4.5 and 6.8 in. (140 and 178 mm), depending on cell constant
Overall Length (from the process connection)	19.7 in. (502 mm); 22.2 in. (564 mm) with junction head option
Additional Clearance Required for Cell Removal	36 in. (914 mm)
Wetted Materials	CPVC ball valve; Viton, Teflon, & EPDM internal sealing materials. Body: PES electrode, nickel or platinum
Weight	3.5 lb. (1.6 kg)

Honeywell

Sensing and Control
Honeywell Inc.
11 West Spring Street
Freeport, IL 61032
1-800-343-0228



Recycled Paper
70-82-58-45 (1.5M) 6/00

www.honeywell.com/sensing