Cole-Parmer® Conductivity/ Resistivity ⅛-DIN Controllers

Don't struggle to read measurements—backlit LCD for clear display

- Get more measurement accuracy with automatic temperature compensation
- Select either programmable on/off relays or isolated and reversible 4-to-20 mA output
- Easy installation with universal power input from 100 to 240 VAC

COND 300 controller has two sets of programmable on/off relays for high/low control to activate an alarm, a pump, or another device.

COND 350 controller has an isolated and reversible 4-to-20 mA output for conductivity or resistivity that allows it to be used as a proportional output.

Cole-Parmer®

CE

Description		COND 300	COND 350
Catalog number		GY-05802-02	GY-05802-04
Range	Conductivity	0.000 µS to 19.99 mS	
	Resistivity	0.5 to 19.99 MΩ	
	Temperature	14 to 248°F (–10 to 120°C)	
Resolution	Conductivity	0.001 to 0.1 mS	
	Resistivity	0.01 to 0.1 MΩ	
	Temperature	0.1°C	
Accuracy	Conductivity	±0.5% ±1 digit	
	Resistivity	±0.5% ±1 digit	
	Temperature	±0.3°C	
Temperature compensation		Automatic 10 KΩ at 25°C	
Display		Backlit LCD	
Output	Relay	Two SPDT relays	—
	Current	—	Isolated 4 to 20 mA
Dimensions (W x H x D)		3¾" x 1⅞" x 4¼" (96 x 48 x 110 mm)	
Power		100 to 240 VAC, 50/60 Hz	
Price			

Accessories

GY-17090-30 **NIST-traceable calibration** with data for conductivity controller

Cole-Parmer® Conductivity/ TDS ¼-DIN Controllers

Ready to go when you are

- Easy, one point calibration saved in memory to measure upon start-up
- Extended options include isolated and reversible 4-to-20 mA output and RS-485 output for remote access
- Ensure security of system with password protection

Large graphic LCD with backlight simultaneously displays conductivity or TDS, temperature, cell constant, temperature coefficient, relay status, and transmitter current output. User-selectable cell constants, reference temperature and temperature coefficients, and automatic temperature compensation ensure measurement accuracy.

COND 500 controller has one isolated and reversible 4-to-20 mA output and three sets of programmable on/off relays: two for conductivity and one for temperature—ideal for high/low control to activate an alarm, a pump, or another device.

COND 550 controller has two sets of isolated and reversible 4-to-20 mA output for conductivity and temperature that allows it to be used as a proportional output. Also includes two sets programmable on/off relays.

Compatible with a 10 KΩ thermistor conductivity cell.

Cole-Parmer®

IP 65

Description		COND 500	COND 550
Catalog number		GY-05802-06	GY-05802-08
Range	Conductivity	0.000 to 300,000 µS	
	TDS	0.000 to 150,000 ppt	
	Temperature	14 to 248°F (–10 to 120°C)	
Resolution	Conductivity	0.001 µS to 0.1 mS	
	TDS	0.001 ppm to 0.1 ppt	
	Temperature	0.1°C	
Accuracy	Conductivity	±0.5% ±1 digit	
	TDS	±0.5% ±1 digit	
	Temperature	±0.3°C	
Temperature compensation		Automatic 10 KΩ at 25°C	
Cell constant		0.01, 0.1, 1.0, 10 cm, 2- or 4-wire	
Control type		On/off (limit)	
Output	Relay	Three SPDT relays	Two SPDT relays
	Current	Isolated 4 to 20 mA	Two isolated 4 to 20 mA
Power		115 to 230 VAC, 50/60 Hz	
Price			

Accessories

GY-17090-30 **NIST-traceable calibration with data** for conductivity controller

Cole-Parmer® Twist-Lock Conductivity Cells

Get secure, leakproof readings

NEW

- No-leak design features two external Viton® O-rings
- Locking pins keep cell in position
- Rugged design features 12-mm sensor and 1" NPT(M) to threads

Use an optional adapter along with the twist-lock cell to convert a standard pipe tee to a flow-through sensor assembly. The optional cable provides an additional 20 feet (6 meters) of coverage.

Specifications

Housing material: Ryton PPS with Viton O-rings
Sensor material: 316 stainless steel and PEEK
Cell type: in-line, submersible
Cell length: 6" (15.2 cm)
Cable: 10 ft (3 m) with 4-pin military detachable connector
Fitting: 1" NPT(M)
Temperature range: 23 to 275°F (–5 to 135°C)
Maximum pressure: 150 psig

Cole-Parmer®

Cell constant (K)	ATC element	Catalog number	Price
0.01	100 Ω Pt RTD	GY-19500-25	
0.1		GY-19500-27	
1		GY-19500-29	

GY-19500-15 Twist-Lock cable; 4-pin detachable connections on one end and hanked on opposite end, 20-ft (6-m) lead wire

GY-19500-17 Twist-Lock adapter, 1" NPT(M) process connection

GY-05993-74 Adapter collar for pipe tee

GY-05994-61 Pipe tee, 1" NPT(F)

Cole-Parmer® Conductivity/Resistivity Cells and Accessories

Replace cells economically

- 10-ft (3-m) cables with stripped ends
- Flow-through, in-line, swage, and dip styles available

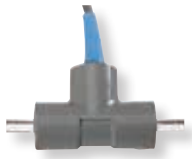
Cells withstand pressures up to 150 psi (at 135°C for SS; 25°C for CPVC and PVDF). Use 19500-58 for flow-through applications up to 1 GPM at 80 psi. All cells have 10-ft (3-m) cable with stripped ends except for 35820-62, which has a 25-ft (7.6-m) cable. Use 35820-62 as a dip style sensor or combine with holder 35820-64 for in-line applications.


Cell type I
19500-45


Cell type I/S
19500-50


Cell type D
19500-56


27003-80


Cell type F
19500-58


19500-14


35820-64

Cole-Parmer®

In-Line Fittings

Body material	Fitting	Temperature range	Catalog number	Price
1" NPT(F) T-Fittings with adapter				
CPVC	½" NPT(F)	–5 to 80°C	GY-27003-84	
PVDF	½" NPT(F)	–5 to 110°C	GY-27003-86	
CPVC	¾" NPT(F)	–5 to 80°C	GY-27003-80	
PVDF	¾" NPT(F)	–5 to 110°C	GY-27003-82	
In-line fitting for dip style (12-mm dia) cells				
316 SS	½" NPT(M)	–5 to 135°C	GY-19500-14	
Nylon	¾" NPT(M)	–5 to 80°C	GY-35820-64	

100 Ω Pt RTD Cells

Body material	Electrode material	Cell type†	Fitting	Temperature range	Catalog number	Price
Conductivity/resistivity 2-electrode cell, K = 0.01 (up to 20 µS/cm)						
SS	SS	I	½" NPT(M)	–5 to 135°C	GY-19500-43	
Conductivity 2-electrode cell, K = 0.1 (up to 200 µS/cm)						
SS	SS	I	½" NPT(M)	–5 to 135°C	GY-19500-44	
Glass	2 Pt bands	D	None††	–5 to 100°C	GY-19500-52	
SS	SS	D	None††	–5 to 100°C	GY-19500-06	
Epoxy	Graphite	I/S	¾" NPT(M)	–5 to 80°C	GY-35820-21	
Conductivity 2-electrode cell, K = 1.0 (up to 5 mS/cm)						
SS	SS	I	½" NPT(M)	–5 to 135°C	GY-19500-45	
Epoxy	Graphite	I/S	¾" NPT(M)	–5 to 80°C	GY-19500-50	
PVDF	Graphite‡	I/S	¾" NPT(M)	–5 to 110°C	GY-19500-54	
Glass	2 Pt bands	D	None††	–5 to 100°C	GY-19500-56	
Glass	Graphite	F	¼" ID tube	0 to 80°C	GY-19500-58	
SS	Titanium	D	None††	–5 to 130°C	GY-19500-08	
Epoxy	Graphite	D	None††	–5 to 80°C	GY-35820-62	
Conductivity 2-electrode cell, K = 10.0 (greater than 1 mS/cm)						
CPVC/glass	2 Pt bands	I/S	¾" NPT(M)	–5 to 80°C	GY-19500-46	
PVDF/glass	2 Pt bands	I/S	¾" NPT(M)	–5 to 110°C	GY-19500-47	
Epoxy	Graphite	I/S	¾" NPT(M)	–5 to 80°C	GY-35820-22	

10 KΩ Thermistor Conductivity Cells

Body material	Electrode material	Cell type†	Fitting	Temperature range	Catalog number	Price
Conductivity cell, K = 0.01 (up to 20 µS/cm)						
SS	SS	I	½" NPT (M)	–5 to 135°C	GY-19500-63	
Conductivity cells, K = 0.1 cm (up to 200 µS/cm)						
SS	SS	I	½" NPT (M)	–5 to 135°C	GY-19500-64	
Glass	2 Pt bands	D	None††	–5 to 100°C	GY-19500-22	
Conductivity cells, K = 1.0 (up to 5 mS/cm)						
SS	SS	I	½" NPT (F)	–5 to 135°C	GY-19500-65	
CPVC	Graphite	I	½" NPT (M)	–5 to 80°C	GY-19500-00	
PVDF	Graphite‡	I	½" NPT (M)	–5 to 110°C	GY-19500-10	
Glass	2 Pt bands	D	None††	–5 to 100°C	GY-19500-20	
Glass	2 Pt bands	F	¼" ID tube	–5 to 100°C	GY-19500-30	
Conductivity cells, K = 10.0 (greater than 1 mS/cm)						
CPVC	2 Pt bands	I	¾" NPT (M)	–5 to 80°C	GY-19500-66	
PVDF	2 Pt bands	I	¾" NPT (M)	–5 to 110°C	GY-19500-67	

†F = Flow through, I = In-line, D = Dip style, S = Submersible
‡Epoxy is used to seal cell tip. Check epoxy for chemical compatibility.
††For use with dip-style fittings.

Resistivity and Conductivity/TDS Controllers

Guaranteed results for your process

- Withstand temperatures to 212°F (100°C) and pressures to 100 psi!
- Feature a heavy-duty 10 amp relay
- IP65 (NEMA 4X) ABS enclosures

Resistivity controller 19010-02

Resistivity Controller is perfect for ultrapure water applications. Precise temperature compensation matches pure water temperature coefficients—ensures accurate measurements over the entire range. Order resistivity cells separately below.

Conductivity/TDS Controllers monitor and control all of your conductivity processes. Order conductivity cell separately below.

Description		Resistivity controller	Conductivity/TDS controllers		
Catalog number		GY-19010-02	GY-19010-16	GY-19010-18	GY-19010-20
Range		0 to 20 MΩ	0 to 20 µS	0 to 200 µS	0 to 2000 µS
Resolution		0.05% full-scale	0.05% full-scale		
Accuracy		±1% full scale	±1% full scale		
Temperature compensation		Dual thermistor	Automatic from 0 to 100°C, thermistor		
Output	Relay	SPDT, 10 A, 250 VAC	SPDT, 10 A, 250 VAC or 30 VDC		
	Voltage	0 to 10 V at 5 mA max			
Power		115/230 VAC ±15%; 50/60 Hz standard, 24 VDC optional			
Price					

GY-17090-30 **NIST-traceable calibration** with data for conductivity/resistivity controllers

Conductivity cell 05970-50

Optional Switchbox monitors up to three cells from the same controller. Controller relays only respond to the selected channel.

GY-05970-82 **Three-position switchbox**

Cells have built-in thermistors for ATC and include ¾" NPT(M) mounting bushings. Resistivity cells have cell constants of 0.05 cm^{-1}. Easily recalibrate your resistivity meter with the calibration cell substitute. Conductivity cell has a cell constant of 1.0 cm^{-1}. All cells measure 1¼" (3.2 cm) L x ½" (1.3 cm) dia and include 10-ft (3-m) cables.

GY-05970-70 **Resistivity cell**
for model 19010-02; polypropylene/316 SS

GY-05970-72 **Resistivity cell**
for model 19010-02; polypropylene/titanium

GY-05970-74 **Calibration cell substitute**
for model 19010-02; 20 MΩ

GY-05970-50 **Conductivity cell**
for models 19010-16 to -20; polypropylene/316 SS

Cole-Parmer® Toroidal Conductivity Transmitters

Consistent performance even in demanding conditions

- Loop-powered industrial transmitter and electrodeless conductivity sensor
- In-line or submersible threads for installation flexibility
- No metal wetted parts
- Built-in 100 Ω Pt RTD temperature compensation

The sensor requires an 11 to 24 VDC power supply and has a maximum draw of 600 Ω. Order the process meter below or refer to other process meters in this section. The isolated 4 to 20 mA output can be used for control applications or connected to a recorder. The sensor has temperature coefficient of 2.2%/°C.

Cole-Parmer®

Specifications

Cell length: 8" (20.3 cm)
Insertion depth: 3½" (8.9 cm)
Cable: 10 ft (3 m) with tinned ends
Fitting: 1½" NPT(M)
Maximum temperature†: 104°F (40°C) for CPVC models; 122°F (50°C) for PVDF models
Maximum pressure: 43 psi at 77°F (3 bar at 25°C)

Body material	ATC element	Range (mS)	Catalog number	Price
CPVC	100 Ω Pt RTD	0 to 10	GY-19504-00	
		0 to 100	GY-19504-02	
		0 to 1000	GY-19504-04	
PVDF	100 Ω Pt RTD	0 to 10	GY-19504-10	
		0 to 100	GY-19504-12	
		0 to 1000	GY-19504-14	

†Higher temperature ranges are available.

GY-94785-12 **Process meter;** 115 VAC, 4 to 20 mA relay

Oakton® Calibration Solutions

Save money while calibrating

- KCl, NaCl, and 442 conversions printed right on the bottle
- Temperature corrections at hand—printed right on the bottle

Include NIST-traceable calibration report supplied by the manufacturer. One 17-oz (500-mL) bottle.

OAKTON®

Conductivity (µS)	Conductivity-to-TDS calibration values			Catalog number	Price
	ppm KCl	ppm NaCl	ppm 442		
23	11.6	10.7	14.74	GY-00653-23	
84	40.38	38.04	50.5	GY-00653-16	
447	226	215	300	GY-00653-47	
1413	745	702	1000	GY-00653-18	
1500	757	737	1050	GY-00653-15	
2070	1045	1041	1500	GY-00653-27	
2764	1382	1414	2062	GY-00653-20	
8974	5101	4487	7608	GY-00653-89	
12,880	7447	7230	11,367	GY-00606-10	
15,000	8759	8532	13,455	GY-00653-50	
80,000	52,168	48,384	79,688	GY-00653-32	