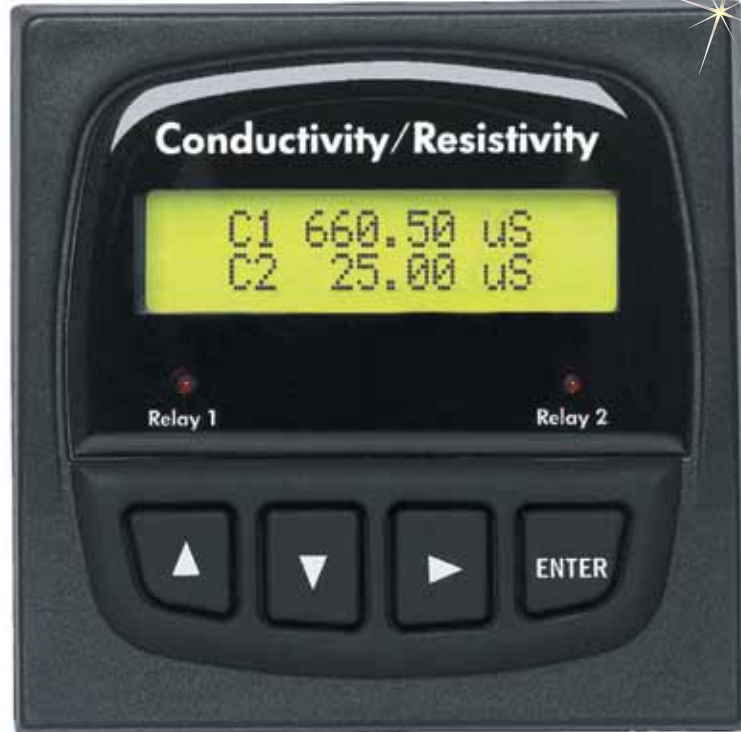




Dual Channel Conductivity/ Resistivity Controller

CDCN-91 Series



CDCN-91, shown actual size.

Features

- ✓ 2-Channel Input
- ✓ Simultaneous Display
- ✓ AC Line-Voltage or DC Powered
- ✓ Display and/or Control: μS , mS , PPM or PPB (TDS), $\text{k}\Omega$, $\text{M}\Omega$, % Rejection, Difference, Ratio, $^{\circ}\text{C}$ or $^{\circ}\text{F}$
- ✓ 3 Fully Scalable
4 to 20 mA Outputs
- ✓ Up to 4 Programmable Relays
- ✓ Time Delay Relay Function
- ✓ Proportional Pulse Control Capability
- ✓ Meets USP Requirements
- ✓ Programmable Temperature Compensation
- ✓ Output Simulation for Complete System Testing
- ✓ Simple Push-Button Operation
- ✓ $\frac{1}{4}$ DIN, NEMA 4X (IP65) Enclosure with Self-Healing Window

Application

- ✓ RO/DI System Control
- ✓ Demineralizer Regeneration and Rinse
- ✓ Scrubber, Cooling Tower and Boiler Protection
- ✓ Chemical Concentration
- ✓ Rinse Tank Water Quality
- ✓ Desalinization
- ✓ Leak Detection
- ✓ Aquatic Animal Life Support Systems
- ✓ Aquaculture
- ✓ Environmental Studies

Installation

- ✓ Front Panel provides NEMA 4X (IP65) protection
- ✓ Standard $\frac{1}{4}$ DIN panel cutout
- ✓ 102 mm (4") mounting depth
- ✓ Optional NEMA 4X (IP65) rear cover kit with knockout ports for cable access
- ✓ 158 mm (6.3") mounting depth with optional rear cover installed

The CDCN-91 Series dual channel conductivity/resistivity controller is a two-channel input device equipped with three scalable 4 to 20 mA outputs and four programmable relays. A selector switch activates two open collector outputs in place of two of the relays for extraordinary output versatility. Dual input and advanced control capability, including percent rejection, difference and ratio calculations, together with the CDCE-91 Series conductivity sensors listed below, form the perfect measurement and control system for water treatment applications and more. Two versions are available: one accepts AC line-voltage, the other low voltage DC for power. The four-button keypad arrangement with intuitive software design is user-friendly, and the NEMA 4X (IP65) integrity of the front panel can be extended to the entire enclosure by using the optional rear cover kit.

Specifications

General

Compatible Sensors: CDCE-90 Series standard conductivity/resistivity sensors

Operating Range:

Conductivity: 0.055 to 400,000 $\mu\text{S}/\text{cm}$
Resistivity: 10 $\text{k}\Omega/\text{cm}$ to 18.26 $\text{M}\Omega/\text{cm}$ (0.055 to 100 $\mu\text{S}/\text{cm}$)

TDS: 0.001 to 999999 ppm or ppb (display limit)
Temperature: PT1000: -25 to 120 $^{\circ}\text{C}$ (-13 to 248 $^{\circ}\text{F}$)

Accuracy:

Conductivity/Resistivity: $\pm 2\%$ of reading
Temperature: $\pm 0.5^{\circ}\text{C}$

Power Requirements:

100 to 240 Vac: $\pm 10\%$, 50 to 60 Hz, 20 VA
11 to 24 Vdc: $\pm 10\%$ reg., 0.5A max

Display: Alphanumeric 2 x 16 LCD

Contrast: User selected, 5 levels

Update rate: 1.5 seconds

Current Outputs: (3 each) 4 to 20 mA, isolated, fully adjustable and reversible

Max Loop Impedance: 150 Ω @ 12V, 450 Ω @ 18V, 750 Ω @ 24V

Update Rate: Approx. 100 mS

Accuracy: ± 0.03 mA @ 25 $^{\circ}\text{C}$, 24 Vdc

Open Collector Outputs: (2 each)

Isolated, 50 mA sink or source, 30 Vdc

max pull-up voltage

Operational Settings: Hi, Lo, USP, Pulse, Off

Hysteresis: User adjustable

Time Delay: 0 to 6400 seconds

Maximum Pulse Rate:

400 pulses/minute

Alarm Contacts: (up to 4 each)

SPDT Relays

Maximum Voltage Ratings:

5A @ 30 Vdc or 5A @ 250 Vac

Operational Settings: Hi, Lo, USP, Pulse, Off



Hysteresis: User adjustable
Time Delay: 0 to 6400 seconds
Maximum Pulse Rate:
 400 pulses/minute

Enclosure

Rating: NEMA 4X (IP65) front and back with optional NEMA 4X (IP65) rear cover kit

Materials:

Case: PBT

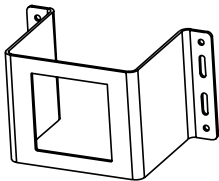
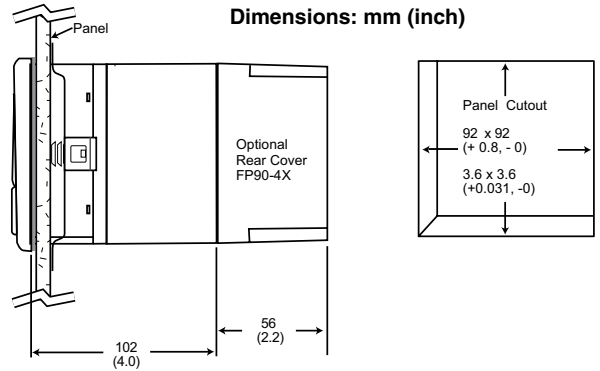
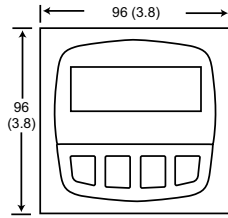
Window: Polyurethane-coated polycarbonate

Keypad: Sealed 4-key silicone rubber

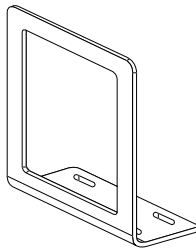
Weight:

CDCN-91AC: Approx. 581 g (20.5 oz)

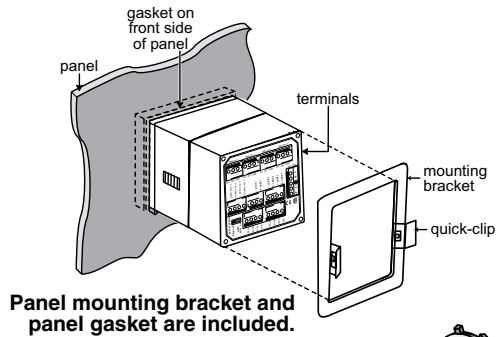
CDCN-91: Approx. 544 g (19.2 oz)



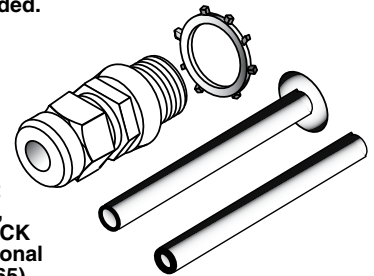
Optional heavy-duty wall mount bracket
 CDCN-91-WMB.



Optional surface mounting bracket
 FPM-5000-MB.



Panel mounting bracket and panel gasket are included.



Liquid tight connector kit
 3 sets per kit,
 FPM-5000-LTCK
 Use with optional
 NEMA 4X (IP65)
 rear cover kit,
 FP90-4X.

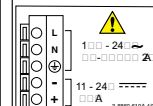
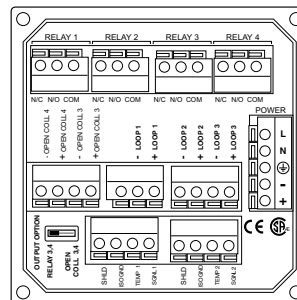
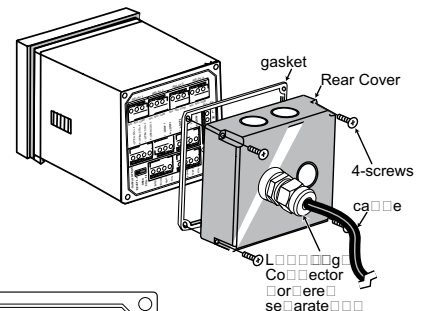
To Order	
Model No.	Description
CDCN-91	Conductivity/resistivity controller DC power
CDCN-91AC	Conductivity/resistivity controller AC/DC power

Accessories

Model No.	Description
FP90-4X	NEMA 4X (IP65) rear cover kit
FPM-5000-LTCK	Liquid-tight kit for rear cover
CDCN-91-WMB	Wall mount bracket
FPM-5000-MB	Surface mount bracket
FP90RC	RC filter kit for relays
CDCE-90-001	Conductivity cell constant = 0.01
CDCE-90-01	Conductivity cell constant = 0.1
CDCE-90-1	Conductivity cell constant = 1.0
CDCE-90-10	Conductivity cell constant = 10.0
CDCE-90-20	Conductivity cell constant = 20.0

Comes complete with mounting bracket, panel gasket and operator's manual. Additional cells available.

Ordering Example: CDCN-91 conductivity/resistivity controller DC power, with CDCE-90-1 conductivity cell constant.



Note: This label appears on the side of the instrument case