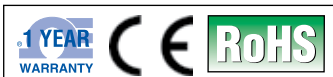


# MULTI-PARAMETER INPUT TRANSMITTER

## For Conductivity, Resistivity and Salinity

### DPU91-Conductivity Series



- ✓ Large Auto-Sensing Backlit Display
- ✓ “Dial-Style” Digital Bar Graph
- ✓ Intuitive and “User-Friendly” Interface
- ✓ Optional Field Upgradable Relays
- ✓ Warning LED Indicator
- ✓ Custom 13-Character Label Capabilities
- ✓ Factory Reset Capability

The DPU91 transmitter provides a single channel interface for many different parameters including flow, pH/ORP, conductivity/resistivity, salinity and temperature. The DPU91-BC transmitter has the added capability of supporting the batch module for batching control. The extra-large (3.90 x 3.90") autosensing backlit display can be viewed at 4 to 5 times the distance over traditional transmitters. The highly illuminated display and large characters reduce the risk of misreading or misinterpreting the displayed values. The display shows separate lines for units, main and secondary measurements as well as a “dial-style” digital bar graph. The DPU91 is offered in both panel or field-mount versions. Both configurations can run on 12 to 32 Vdc power (24 Vdc nominal). Designed for complete flexibility, plug-in modules allow the unit to easily adapt to meet changing customer needs. Optional modules include relay, direct conductivity/resistivity, batch and a PC communications configuration tool. The unit can be used with default values for quick and easy programming or can be customized with labeling, adjustable minimum and maximum dial settings, and unit and decimal measurement choices.



DPU91 shown smaller than actual size.

### SPECIFICATIONS

#### General

**Input Channels:** 1

**Input Types:** Digital serial ASCII, TTL level, 9600 bps

**Frequency Range:** 0.5 to 1500 Hz

**Accuracy:** 0.5% of reading (display)

**Measurement Types:** Flow, pH/ORP, conductivity/resistivity, salinity, pressure, temperature or batch

**Enclosure and Display**

**Case Material:** PBT

**Window:** Shatter-resistant glass

**Keypad:** 4 buttons, injection-molded silicone rubber seal

**Display:** Backlit, 7 and 14-segment

**Update Rate:** 1 second

**LCD Contrast:** 5 settings

**Indicators:** “Dial-style” digital bar graph, LEDs for open collector, relays and warning indicator

**Enclosure:** ¼ DIN, NEMA 4X/IP65

**Mounting Panel:** ¼ DIN, ribbed on four sides for panel mounting clip inside panel, silicon gasket (included)

**Field Mounts:** Specified to OMEGA® field mount junction boxes

**Weight:** 0.63 kg (1.38 lb)

#### Display Ranges

*For PH/ORP version visit us online.*

*For flow version visit us online.*

**Conductivity:** 0.0000 to 99999 µS, mS, PPM and PPB (TDS), kΩ, MΩ

**Conductivity Temperature:** -99 to 350°C (-146 to 662°F)

**Temperature:** -99 to 350°C (-146 to 662°F)

**Salinity:** 0 to 100 PPT

#### Environmental

**Ambient Operating Temperature:**

**Backlit LCD:** -10 to 70°C (14 to 158°F)

**Storage Temperature:** -15 to 70°C (5 to 158°F)

**Relative Humidity:** 0 to 100% condensing for field mount; 0 to 95% non-condensing for panel mount

**Maximum Altitude:** 4000 m (13,123')

#### Electrical Requirements

**Power to Sensors:**

**Voltage:** 4.9 to 5.5 Vdc @ 25°C, regulated short circuit protected

**Terminal Blocks:** Pluggable screw type 14 AWG maximum wire gauge

**Input Power**

DC: 10.8 to 35.2 Vdc, regulated

**DPU91 without Relay Module:**

200 mA @ 10.8 to 35.2 Vdc

**DPU91 with Relay Module:** 300 mA @ 10.8 to 35.2 Vdc

**Overvoltage Protection:** 48 V transient protection device current limiting for circuit protection and reverse-voltage protection

**Current Output:** 4 to 20 mA (10.8 to 35.2 Vdc, 30 mA maximum)

**Relay Specifications**

**Dry-Contact Relays:** 2

**Open Collector:** 1

**Type:** SPDT N/A

**Form C:** N/A

**Maximum Current Rating:**

5 A resistive 50 mA DC

**Maximum Voltage Rating:** 30 Vdc or 250 Vac

**Hysteresis Adjustable:** Absolute in engineering units (EUs)

**Latch Reset:** In test screen only

**Delay:** 9999.9 seconds (maximum)

**Test Mode:** Set on/off

**Cycle Time:** 99999 seconds (maximum)

**Maximum Pulse Rate:** 400 pulses/minute

**Proportional Pulse:** 400 pulses/minute

**Volumetric Pulse Width:** 0.1 to 3200 s

**Pulse Width Modulation:** 0.1 to 320 s

**Input Types**

**Digital or AC Frequency:** pH/ORP input via the digital output from the PHTX-2750 pH/ORP sensor electronics for pH/ORP models visit us online. For flow models visit us online.

**Raw Conductivity/Resistivity:** Input directly from signet conductivity/resistivity electrodes via direct conductivity/resistivity module or via CDTX-2850

**Input Specifications**

**Digital Serial:** ACSII, TTL level, 9600 bps

**Frequency Input:**

**Sensitivity:** 80 mV @ 5 Hz, gradually increasing with frequency

**Span:** 0.5 Hz to 1500 Hz @ TTL level input

**Accuracy:** ± 0.5% or reading maximum error @ 25°C (77°F)

**Resolution:** 1 µS

**Repeatability:** ±0.2% of reading



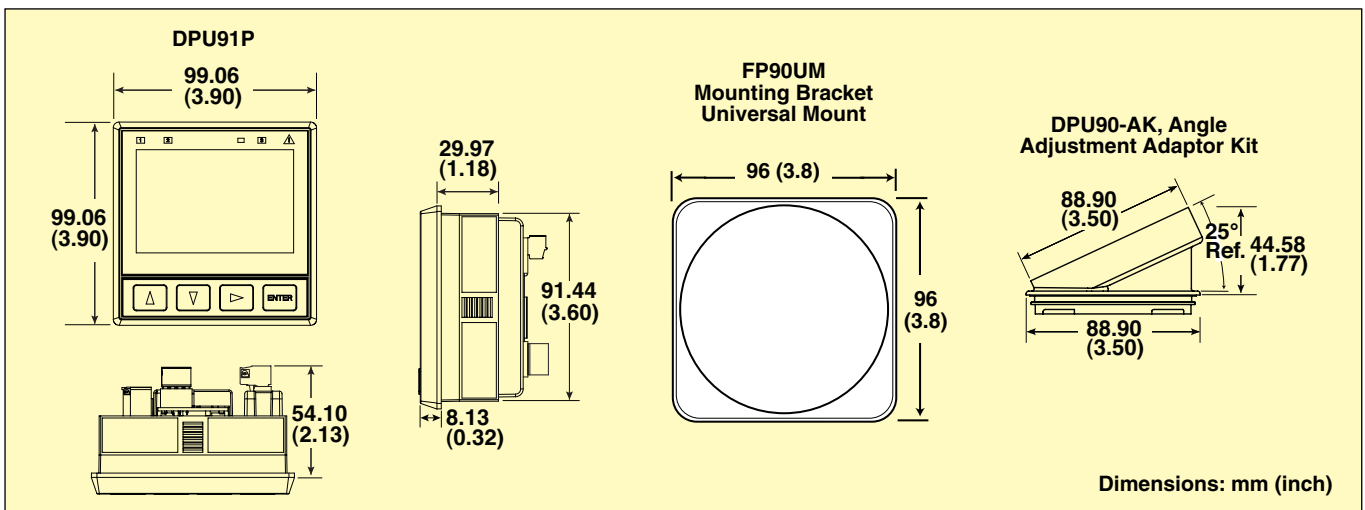
CDCE-90-001/01/1 shown smaller than actual size.



CDCE-90S shown smaller than actual size.

DPU91 Series with Mating Conductivity/Resistivity/Salinity Sensors		
	DPU91	DPU91P
CDCE-90 Series Sensors*	FP90UM, DPU90-AK and DPU90-C	DPU90-C

\* For complete sensor specifications visit us online.



## To Order

Model No.	Description
<b>DPU91</b>	DC powered field mount multi-parameter display and transmitter*
<b>DPU91P</b>	DC powered panel mount multi-parameter display and transmitter*

\* *DPU90-C conductivity/resistivity/salinity input module, sold separately.*  
*Comes complete with operator's manual (sensors and mounting kits sold separately).*

**For complete  
sensor specifications  
visit us online**

### Sensors

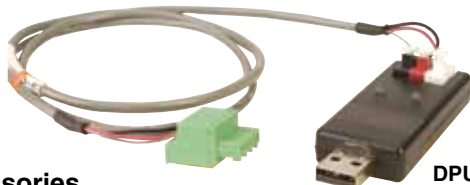
Model No.	Description
<b>CDCE-90-001</b>	Conductivity sensor, ¼ NPT, cell constant 0.01, 316 SS
<b>CDCE-90-01</b>	Conductivity sensor, ¼ NPT, cell constant 0.01, 316 SS
<b>CDCE-90-1</b>	Conductivity sensor, ¼ NPT, cell constant 1, 316 SS
<b>CDCE-90-10</b>	Conductivity sensor, ¼ NPT, cell constant 10, 316 SS
<b>CDCE-90-20</b>	Conductivity sensor, ¼ NPT, cell constant 20, 316 SS
<b>CDCE-90S-001-S15</b>	Conductivity sensor, ½" sanitary, cell constant 0.01, 316 SS
<b>CDCE-90S-001-T15</b>	Conductivity sensor, 1" sanitary, cell constant 0.01, Titanium
<b>CDCE-90S-01-S20</b>	Conductivity sensor, 2" sanitary, cell constant 0.1, 316 SS
<b>CDCE-90S-1-S15</b>	Conductivity sensor, 1½" sanitary, cell constant 1, 316 SS
<b>CDCE-90S-1-S20</b>	Conductivity sensor, 2" sanitary, cell constant 1, 316 SS



**DPU90-AK**



**DPU90-C**



**DPU90-COMM**



**DPU90-R**

### Accessories

Model No.	Description
<b>DPU90-R</b>	Programmable dual relay output module, SPDT form C, 5 A resistive load
<b>DPU90-C</b>	Conductivity/resistivity/salinity direct input module (1 required)
<b>DPU90-COMM</b>	Communications module, HART® protocol super imposes digital signal onto of 4 to 20 mA
<b>DPU90-AK</b>	Angle adjustment kit for field mount and conductivity/resistivity/salinity input units
<b>DPU90-CT</b>	PC configuration tool, includes software
<b>FP90UM</b>	Universal mounting bracket for field mounted units
<b>FPM-5000-LTCK</b>	Liquid tight connector kit for liquid tight wiring feed-thru
<b>CDSA-10*</b>	10 µS/cm conductivity solution
<b>CDSA-15*</b>	15 µS/cm conductivity solution
<b>CDSA-45</b>	45 µS/cm conductivity solution
<b>CDSA-450</b>	450 µS/cm conductivity solution
<b>CDSA-1413</b>	1413 µS/cm conductivity solution
<b>CDSA-1500</b>	1500 µS/cm conductivity solution
<b>CDSA-3000</b>	3000 µS/cm conductivity solution
<b>CDSA-4500</b>	4500 µS/cm conductivity solution
<b>CDSA-45000</b>	45000 µS/cm conductivity solution

\* 6-month shelf life.

**Ordering Examples:** *DPU91*, display/transmitter, and *FP90UM* universal mounting kit for display *CDCE-90-01* conductivity cell.  
*DPU91P*, display/transmitter panel mount, and *CDCE-90-10* conductivity cell.