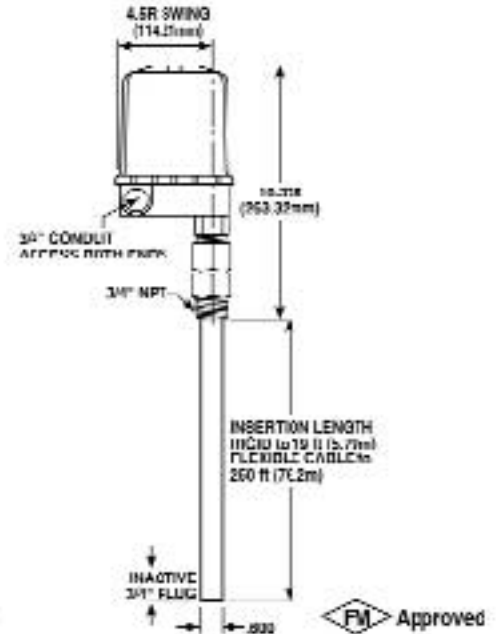


# CAP ANALOG 4100

DATA SHEET

## R.F. Capacitance Two-Wire Transmitter



### ■ PURPOSE

Delavan's Cap Analog 4100 is a cost effective "Two-Wire" R.F. Capacitance Transmitter used in powder bulk solids, liquids and slurry applications.

### ■ TRUE "TWO-WIRE" OPERATION

The Cap Analog 4100 is a superior two-wire transmitter. Maintenance and installation expense are eliminated due to not needing line power; the same two wires which power the 4100 also transmit its output signal.

### ■ PRINCIPLE OF OPERATION

The Cap Analog 4100 system consists of an electronic amplifier mounted in a cast aluminum explosion proof housing. This housing normally is integrally mounted on the top of the probe. The unit is powered by a remote 24 DC power supply, supplied by Delavan or the user.

The Cap Analog 4100, along with its probe sensor, operates as a capacitance system that converts changes in level to changes in output signal. After calibration, any change in level is recognized and converted to an analog output 4-20mA signal. The system will operate any loop powered 4-20mA DC indicator.

The Cap Analog 4100 is supplied with two 20 turn, ZERO and SPAN adjust potentiometers. A switch and memory calibration potentiometer is provided. DIP switches are provided to extend the range of zero reverse output so that output is 20-4 instead of 4-20mA DC.

### ■ FEATURES

- True "two-wire" 24 Volts DC operation
- Built-in immunity to process build-up/coatings
- Switch selectable reversible output 4-20mA or 20-4mA
- Completely adjustable
- One time "zero-cal" function test
- 1 mile twisted pair separation
- Easy access NEMA 7, 9 enclosure
- Economical and cost effective
- Self-contained integral electronics
- Sensing probe lengths to 250 ft.



## SPECIFICATIONS

Input Voltage	24 Volts DC 600 ohms @ 20mA 18 Volts DC 300 ohms @ 20mA 13 Volts DC 50 ohms @ 20mA												
Power	Less than 2 volt-amperes												
Output	4-20mA DC 600 ohms maximum with 24 Volts DC power supply												
Reverse Output	Switch Selectable - 20-4mA DC 600 ohms maximum												
Maximum Transmission Distance	One mile or limited only by loop resistance												
Dielectric Constant Range	1.5 dielectric values to 80 dielectric values												
Immunity	Immune to build-up of conductive liquids												
Span (pfd)	<table border="0"> <tr> <td>Range 1</td> <td>Range 2</td> <td>Range 3</td> <td>Range 4</td> </tr> <tr> <td>Min. 15</td> <td>Min. 60</td> <td>Min. 400</td> <td>Min. 2,500</td> </tr> <tr> <td>Max. 100</td> <td>Max. 600</td> <td>Max. 4,000</td> <td>Max. 30,000</td> </tr> </table>	Range 1	Range 2	Range 3	Range 4	Min. 15	Min. 60	Min. 400	Min. 2,500	Max. 100	Max. 600	Max. 4,000	Max. 30,000
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Min. 15	Min. 60	Min. 400	Min. 2,500										
Max. 100	Max. 600	Max. 4,000	Max. 30,000										
Temperature Range (Electronics)	-40°F to +160°F (-40°C to +71°C)												
Housing	Cast Aluminum with Fused Polyester Finish												
	Meets NEMA 4, 5, 7, 9, 12; NEC Class I — Groups C, D; NEC Class II — Groups E, F, G.												

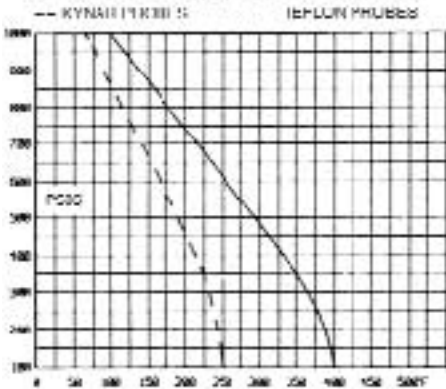
## ORDERING INFORMATION

### CAP ANALOG

4100 - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

<p>Special Features H = High Temperature 12" Lagging Ext. (&gt;200°F) 00 = None</p> <p>Process Mounting NPT = Nat'l Pipe Thread Process Connection 3A = Food-grade Tri-clover Fitting T3A = Teflon Faced Food-grade Tri-clover Fitting (specify size) K3A = Kynar Faced Food-grade Tri-Clover Fitting (specify size) FC = Flange C.S. (specify size) FSS = Flange 316 Stainless Steel (specify size)</p> <p>Sensing Probe Type THD = Teflon Insulated Heavy Duty 1/2" KHD = Kynar Insulated Heavy Duty 1/2" TCP = Teflon Probe with Concentric Pipe and Flange TCT = Teflon Probe with Concentric Tube 3/4" NPT BF = Bare Flexible Cable T = Teflon Insulate 1/4" BHT = Bare Probe - High Temperature Packing TF = Teflon Insulated, Flexible Stainless Steel Cable KF = Kynar Insulated Flexible Stainless Steel Cable DWW = Polypropylene Flex Probe, 1/8" Cable, 3/4" NPT THDD = Teflon Heavy Duty Dual Probe with 1/2" and 1/4" Teflon Insulated Probes with 3" Teflon Faced Flange KHDD = Kynar Heavy Duty Dual Probe with 1/2" and 1/4" Kynar Insulated probes with 3" Kynar Faced Flange BHS = Bare Probe - High Sensitivity</p>	<p>Model 4100 R.F. Capacitance "Two-Wire" Continuous Transmitter</p>
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TEMPERATURE AND PRESSURE RATINGS



**DELAVAN** Process Instrumentation  
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