



# CAP ANALOG 4100

## R.F.Capacitance Two - Wire Transmitter



ELECTRONIC  
EQUIPMENT

ACOUSTIC

WEIGHING

ANTI-TILTING

VALVES

TEMPERATURE

DETECT  
A FIRE®

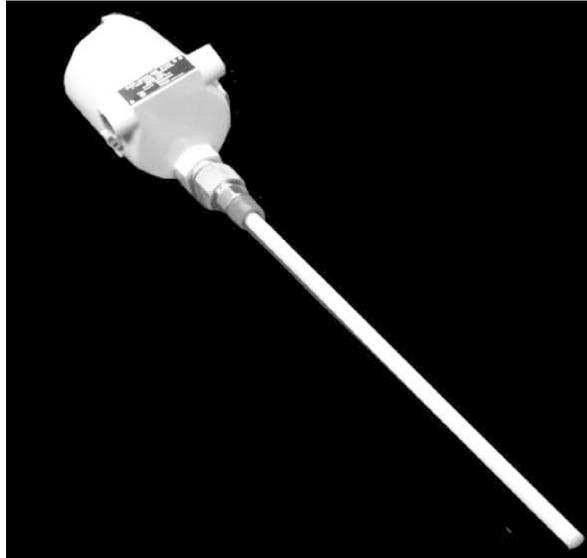
FLOW/  
RATE

DENSITY

INTERFACE

PRESSURE

LEVEL



### 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

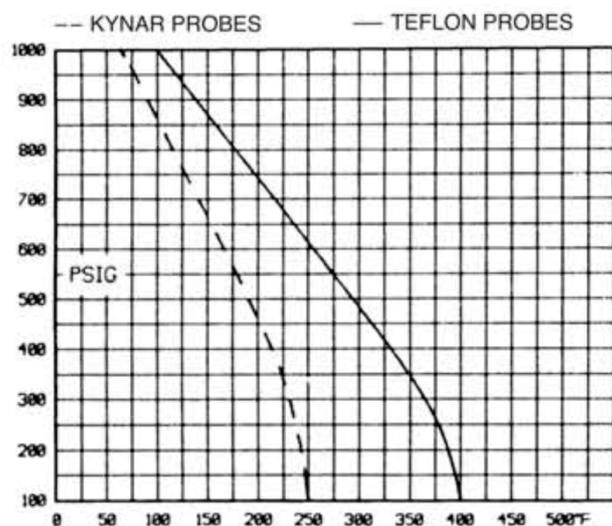
- True "two-wire" 24 Volts DC operation
- Built-in immunity to process build-up/coatings
- Switch selectable reversible output 4-20mA or 20-4mA
- Completely adjustable
- One time "zero-cal" function test
- 1 mile twisted pair separation
- Easy access NEMA 7, 9 enclosure • Economical and cost effective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

TF  
08

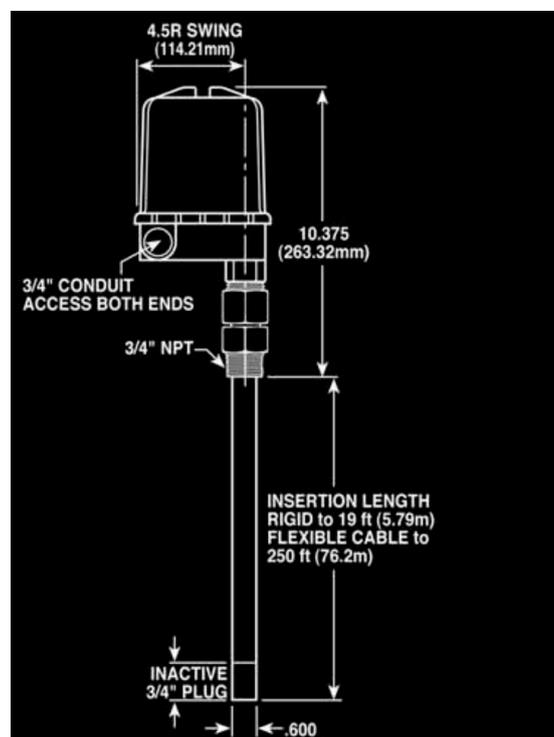
# Specifications

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)	Range 1 Min. 15 Max. 100 Range 2 Min. 60 Max. 600 Range 3 Min. 400 Max. 4,000 Range 4 Min. 2,500 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.

## Temperature and pressure ratings



## Dimensions



# Ordering informations

## CAP ANALOG

4100 - - -

### Special Features

H = High Temperature  
12" Lagging Ext. (>200°F)  
00 = None

### 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)

### 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

**Model 4100 R.F. Capacitance  
"Two-Wire" Continuous Transmitter**