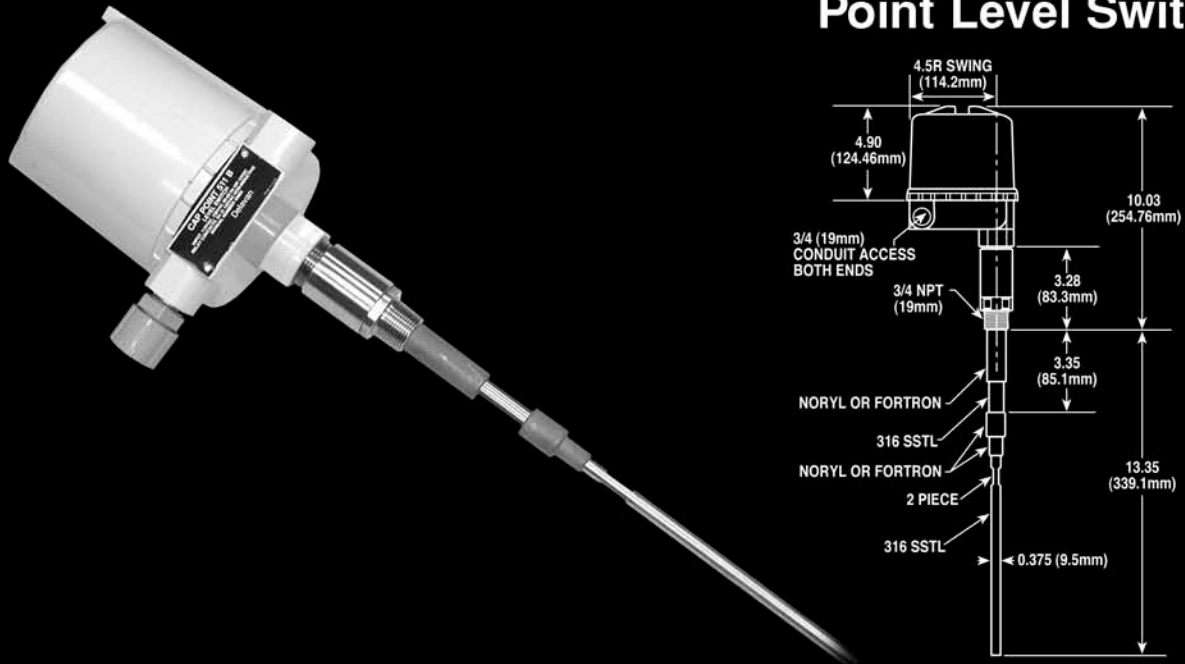


CAPTROL 511

DATA SHEET

R.F. Capacitance Point Level Switch



■ PURPOSE

The **Captrol 511** Point Level Switch is designed to be the ultimate in detecting the presence or absence of various materials from powder bulk solids to most liquids. The electronics are self contained in a cast aluminum housing pre-assembled to a rugged three element sensing probe.

■ PRINCIPLE OF OPERATION

The **Captrol 511** responds to a capacitance change at the active section of the sensing element. The material to be detected must be referenced to ground potential to create a significant capacitance change. Typically the ground referencing is accomplished by threading the probe to a metallic tank which then becomes ground reference. Most non-metallic tanks require a ground pipe or plate adjacent to the active probe.

When material fills the space between the active probe and ground, a capacitance change is detected and the output relay is actuated.

■ OVERLOOKS BUILD-UP

Effects of an accumulated build-up that typically cause false signals are ignored via Delavan's driven guard element of the sensing probe.

■ FEATURES

- **Disregards effects of product build-up**
Build-up is ignored via the unique driven guard element on the sensing probe
- **On-board performance DVM test points**
- **Adaptable to a variety of applications**
- **Field selectable fail-safe modes**
- **Built-in static suppression**
- **Explosion proof design**
- **Adjustable time delay**
- **Adjustable sensitivity**
- **Universal power supply**
Accepts 115, 230 Volts AC or 24 Volts DC
- **Status indication LED's**
- **Variable probe lengths**



SPECIFICATIONS

Supply Voltage	NOMINAL 115 Volts AC 230 Volts AC 24 Volts DC	ABSOLUTE LIMITS 95-135 Volts AC 190-270 Volts AC 12-28 Volts DC
Power	Less than 3 volt-amperes	
Frequency, AC Power	60-100 Hz	
Output	Relay - 5 amp DPDT	
Ratings	5 amp @ 115 Volts AC Non-inductive 5 amp @ 230 Volts AC Non-inductive 3 amp @ 24 Volts DC Non-inductive	
Time Delay	Adjustable: .3 to 20 seconds	
Fail-Safe	Switch Selectable - High Level or Low Level	
Indicators	Two, Light Emitting Diodes (LED) RED - Illuminated when probe capacitance is greater than set-point YELLOW - Illuminated when relay is energized	
Temperature Range Electronics	-40°F to +160°F (-40°C to +71°C)	
Pressure Rating	G.I.M.: Up to 125 psi Teflon Probes: Up to 400 psi	
Housing Cast Aluminum with Fused Polyester Finish	Meets NEMA 4, 5, 7, 9, 12; NEC Class I, Division II - Groups C,D; NEC Class II, Division II - Groups E, F, G	
Stability	$\frac{2.2mv}{^{\circ}C}$ or $\frac{0.02pf}{^{\circ}C}$ (TP3 & TP4)	
Sensitivity	0.5 pF to 30 pF Bulk Solids - 10 lbs/cu. ft. and greater Liquids - 1.5 dielectric constant and greater	

ORDERING INFORMATION

CAPTROL

511-

Special Features

- H = High Temperature
12" Lagging Extension (>200°F)
- L = External Alarm Indicator
- 90° = 90° Downward Bend on Probe Active Section
- 00 = None

Process Mounting (Specify Size)

- 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 (Specify Insertion Length)

- GIMN = Guarded Injection molded Noryl, 316 Stainless Steel, 14" Length
- GMIF = Guarded Injection Molded Fortron, 316 Stainless Steel, 14" Length
- GT = 18" Standard, 18" or less Stainless Steel/Teflon
- GFC = GIM w/ Stainless Steel Flexible Cable - max. 6 ft.
- GC = High Temperature, Plasma/Ceramic - max. 750°F
- GTH = Teflon with Hastelloy Wetted Parts, 36" or less
- GTT = Guarded Teflon, Teflon Sealed Active
- GAR = Guarded Abrasion Resistant Stainless Steel with Durable Plastic Insulator
- THD = Non-Guarded, Teflon Sealed Active (Available Bare)

Model 511-B R.F. Capacitance Point Level Switch

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