

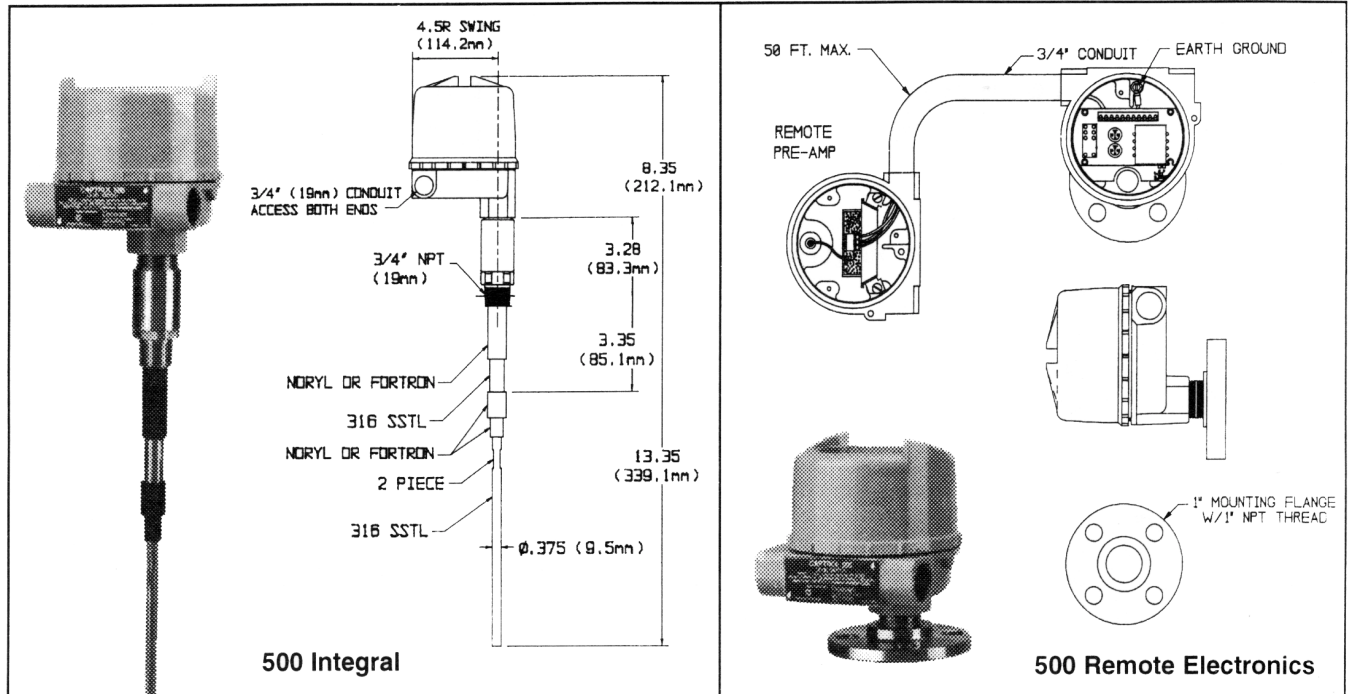


# CAPTROL 500

## R.F. Capacitance

### Integral or Remote Point Level Switch

# Engineering Specification Sheet



### Product Features

- *Integral or Remote Mount Electronics*
- *On-board Microcontroller*
- *One-touch button calibration*
- *Built-in "Self Diagnostics"*
- *Built-in driven shield/guard - designed to eliminate false signals caused by material build-up or coatings*
- *Universal Power Supply - Accepts 115, 230 VAC or 24 VDC*
- *Status indication L.E.D.'s*
- *Adjustable Sensitivity*
- *Adjustable Time Delay*
- *Field selectable Fail-safe modes*
- *Built-in static suppression*
- *Explosion proof design*
- *3/4" S.S. N.P.T. & flange mounting*
- *Sensing probe lengths to 50 ft.*
- **TWO YEAR PRODUCT WARRANTY**

### Purpose

Delavan's CAPTROL 500 is a cost effective microcontroller based R.F. Capacitance on/off switch used in powder bulk solid and liquid applications.

### "One-Touch" Button Calibration

With the utilization of our MICROCONTROLLER and Delavan's unique Auto-Cal algorithm, calibration is accomplished with a momentary touch of a button. No special tools, complicated procedures or valuable time is needed.

### Principle of Operation

The CAPTROL 500 microcontroller based point level switch consists of solid state electronics mounted in a cast aluminum explosion proof enclosure. The rugged sensing element utilizes a driven guard designed to eliminate the effects of material buildup or coatings, that may cause false signals.

The sensing element's "active" section is energized with a R.F. (Radio Frequency) signal approximately 2 MHZ. When the process level changes, a change in Capacitance occurs resulting in a change in frequency. This change in frequency is compared to a preset value and after amplification the signal is used to actuate a relay.

**Specifications:**

<b>Supply Voltage</b>	Nominal	Absolute Limits
	115 VAC	95-135 VAC
	230 VAC	180-270 VAC
	or	
	24 VDC	18-28 VDC
<b>Power</b>	Less than 3 Volt-Amperes	
<b>Frequency, AC Power</b>	50-60 Hz	
<b>Output</b>	Relay-5 amp DPDT	
<b>Ratings</b>	5 A @ 115 VAC Non-Inductive 5 A @ 230 VAC Non-Inductive 3 A @ 26 VAC Non-Inductive	
<b>Time Delay</b>	Adjustable: .1 to 30 seconds	
<b>Fail-safe</b>	Switch selectable - High Level or Low Level	
<b>Indicators</b>	Two, light emitting diodes (LED). GREEN - Illuminated when probe capacitance is greater than set point. RED - Illuminated when relay is energized.	
<b>Temperature Range</b>		
<b>(Electronics)</b>	-40° to 160°F (-40° to +71°C)	
<b>(Probes)</b>	G.I.M.F.: -40° to 450°F (-40° to +232°C) G.I.M.N.: -40° to 300°F (-40° to +149°C) G.T.: -40° to 450°F (-40° to +232°C)	
<b>Pressure Rating</b>	G.I.M.F. and G.I.M.N.: Up to 500 PSI Teflon Probes: Up to 400 PSI	
<b>Housings</b>	Meet NEMA 4, 5, 7, 9 & 12	
<b>Cast Aluminum with</b>	NEC Class I Group C & D	
<b>Fused Polyester Finish</b>	NEC Class II Group E, F, & G	
<b>Stability</b>	0.01% /°F	
<b>Sensitivity</b>	Adjustable: 0.5 pF to 10 pF Bulk solids - 10 lbs./cu. ft. and greater Liquids - 1.5 dielectric constant and greater	

CSA approved for Class I, Groups C and D, Class II, Groups E, F and G, Divisions 1 and 2 when used with THD or KHD probe.

CSA approved for Ord. Loc.

**Specifications:**

**Captrol**

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**Special Features**

H = High temp 12" lagging extension (GT, GC, GTH)  
90° = 90° downward bend on probe active  
S = Sensitivity sleeve, 2" or 5"

**Process Mounting**

All flanges available

**Sensing Probe (specify insertion length)**

GIMF = Guarded Injection Molded Fortron, 316 S.S., 14" length  
GIMN = Guarded Injection Molded Noryl, 316 S.S., 14" length  
GIMR = Guarded Injection Molded Ryton, 316 S.S., 18" length  
BIM = Bare Injection Molded, No Guard, 18" length  
GT = Guarded Teflon, 1/4" center rod, 316 S.S., 18" length  
GT 1/2 = Guarded Teflon, 1/2" center rod, 316 S.S., 6" length  
GC = Guarded Ceramic, high temp, (750° F max)  
GFC = GIMN with 316 S.S. flexible cable, (25 ft. max)  
GTH = Guarded Teflon, 1/4" center rod, Hastelloy, 36" or less  
GTT = Guarded Teflon, Teflon sealed active, 18" length  
THD = Non-Guarded, Teflon sealed active, (available bare)

**Electronic Control Options**

R = Remote mounted electronics with 50-ft. cable (50-ft. max)  
R10 = Includes: 10 ft. cable, 1" mounting flange, enclosure

**TWO-YEAR PRODUCT WARRANTY**

Delavan control products will be replaced, put in good operating condition, or the purchase price refunded, at the option of Delavan, free of charges except transportation, if defective in their manufacture, labeling, packaging, or shipping, and if noticed of said defect is received by Delavan within two years from the date of shipment. The cost of such replacement, repair or refund or purchase price shall be the exclusive remedy for any breach of any warranty, and Delavan shall not be liable to any person for consequential damages for injury or commercial loss resulting from any breach of any warranty of fitness for a particular purpose, and makes no other warranty, express or implied, including implied warranty arising from course of dealing or usage of trade.



**DELAVAN**

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