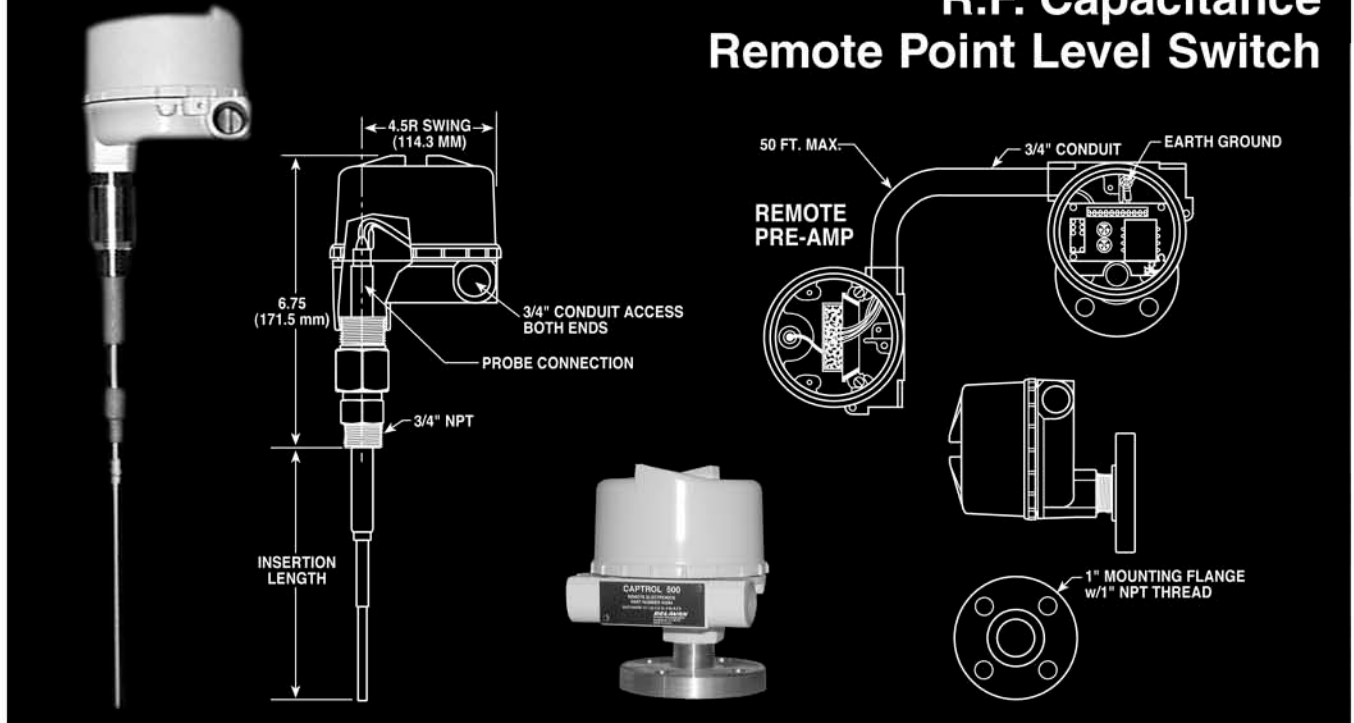


CAPTROL 500-R

DATA SHEET

R.F. Capacitance Remote Point Level Switch



■ PURPOSE

Delavan's **Captrol 500-R** is a cost effective Mount 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 500R** Remote Mounted Microcontroller Based Point Level Switch consists of remote mounted 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 build-up or coatings that may cause false signals.

The sensing element's "active" section is energized with a R.F. (Radio Frequency) signal approximately 2mHz. 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.

■ FEATURES

- 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
115, 230 Volts AC or 24 Volts DC
- Status indication LED's
- Adjustable sensitivity
- Adjustable time delay
- Field selectable fail-safe modes
- Built-in static suppression
- Explosion proof design
- 3/4" stainless steel N.P.T. and flange mounting
- Sensing probe lengths to 50 ft.



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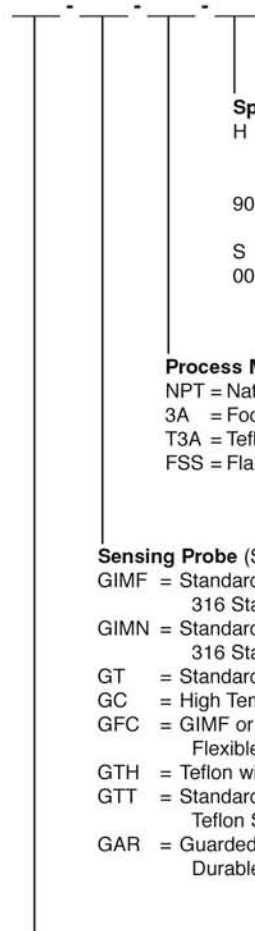
Process Instrumentation

SPECIFICATIONS

Supply Voltage	NOMINAL 115 Volts AC 230 Volts AC 24 Volts DC	ABSOLUTE LIMITS 95-135 Volts AC 180-270 Volts AC 18-28 Volts DC
Power	Less than 3 volt-amperes	
Frequency, AC Power	50-60 Hz	
Output	Relay-5 amp DPDT	
Ratings	5 amp @ 115 Volts AC Non-inductive 5 amp @ 230 Volts AC Non-inductive 3 amp @ 26 Volts AC Non-inductive	
Time Delay	Adjustable: .1 to 30 seconds	
Fail-Safe	Switch selectable: High Level or Low Level	
Indicators	Two light emitting diodes (LED): GREEN - Illuminated when probe capacitance is greater than set-point RED - Illuminated when relay is energized	
Temperature Range		
Electronics —	-40° to +160°F (-40° to +71°C)	
Probes —	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)	
Pressure Rating	G.I.M.F. and G.I.M.N.: Up to 500 psi Teflon Probes: Up to 400 psi	
Remote Housings and Amplifier Housings Cast Aluminum with Fused Polyester Finish	Meet NEMA 4, 5, 7, 9, 12; NEC Class I - Groups C, D; NEC Class II - Groups E, F, G	
Stability	0.01%/°F	
Sensitivity	Adjustable 0.5 pF to 10 pF Bulk solids - 10 lbs./cu. ft. and greater Liquids - 1.5 dielectric constant and greater	

ORDERING INFORMATION

CAPTRON 500R -



Special Features

- H = High Temperature 12" Lagging Ext (>200°F) Only available on GT, GC or GTH probes
- 90° = 90° Downward Bend on Probe Active Section
- S = Sensitivity Sleeve
- 00 = None

Process Mounting

- NPT = National Pipe Thread Process Connection
- 3A = Food-grade Tri-clover Fitting
- T3A = Teflon Faced Food-grade Fitting
- FSS = Flange 316 Stainless Steel

Sensing Probe (Specify Size)

- GIMF = Standard, 14" Injection Molded Fortron/ 316 Stainless Steel
- GIMN = Standard, 14" Injection Molded Noryl (Food-grade)/ 316 Stainless Steel
- GT = Standard, 18" or less, 316 Stainless Steel/Teflon
- GC = High Temperature, Plasma/Ceramic, Max. 750°F
- GFC = GIMF or GIMN with 316 Stainless Steel Flexible Cable, (25 ft. max)
- GTH = Teflon with Hastelloy Wetted Parts, 36" or less
- GTT = Standard, 18" or less, 316 Stainless Steel/ Teflon/ Teflon Sealed Active
- GAR = Guarded Abrasion Resistant Stainless Steel with Durable Plastic Insulator

Electronic Control Options

- R = Remote Mounted Electronics with 50-ft. Cable (50-ft. max)
- R10 = Includes: 10-ft. cable, 1" Mounting Flange, Enclosure

DELAVAN Process Instrumentation
an **L&J TECHNOLOGIES** Company

5911 Butterfield Road
Hillside, IL 60162
Ph: (708) 236-6000
Fax: (708) 236-6006
Email:sales@ljtechnologies.com

