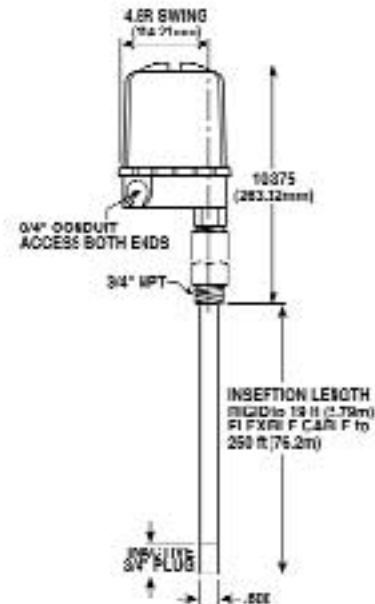


CAPTROL 510

DATA SHEET

R.F. Capacitance Adjustable “Dual-Point” Switch



■ PURPOSE

Delavan's Captrol 510 is an Adjustable On/Off R.F. Capacitance Switch with up to 2 independently adjustable non-interacting set points. It may be used in powder bulk solids and liquid applications.

■ PRINCIPLE OF OPERATION

The Captrol 510 system consists of a solid state “fail-safe” electronics mounted in an explosion proof enclosure and a sensing probe.

The probe is energized with a R.F. signal (approx. 2 mHz). When the process level changes, a change of capacitance occurs resulting in a change in frequency. This change is compared with preset values and after amplification, is used to actuate up to 2 relays.

Multi-turn potentiometers are used for set-point and differential calibration. An important feature of the Captrol 510 is the set-point and differential adjustments are non-interacting and are independent of each other.

■ PUMP CONTROL

Delavan's two set-point operation off of one relay allows our Captrol 510 to be used as pump control. One set-point turns off a pump and the second set-point (which is adjustable over the entire length of the sensing probe) is used to turn a pump on. Both function with only one relay.

■ FEATURES

- Universal power supply
Accepts 115, 230 Volts AC, or 24 Volts DC
- Built-in “coating rejection”
designed to eliminate false signals caused by material build-up/coating
- Field selectable fail-safe modes
- Adjustable time delay
- Built-in status suppression
- Pump control with adjustable set-points over full length of sensing probe
- Status indication LED's
- General purpose and explosion proof design
- 3/4" N.P.T. and flange mounting
- Sensing probe lengths to 250 feet
- Many probe options/materials
- Independent set-point and differential adjustments



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 up to 2 Form C DPDT contacts	
Ratings	5 amp @ 115 Volts AC Non-inductive 2.5 amp @ 230 Volts AC Non-inductive 3 amp @ 26 Volts DC Non-inductive	
Time Delay	Standard — 0.5 second on Make Option — Variable 50 milliseconds to 10 seconds	
Fail-safe	Switch selectable - High Level or Low Level High Level Fail-safe Position: Relay is de-energized when liquid is present Low Level Fail-safe Position: Relay is de-energized when liquid is not present	
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)	
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	
Stability	0.01%/°F	
Sensitivity	0.5 pF or less, i.e. 1% of base capacitance up to 100 pF	
Other Features	Set-point and different adjustments are completely independent of each other	

ORDERING INFORMATION

CAPTROL

510-	-	-	-	-	Special Features H = High Temperature 12" Lagging Extension (> 200°F) 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 Length) 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" N.P.T. BF = Bare Flexible Cable T = Teflon Insulated 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" N.P.T. 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
					* Note: For BF, TF and KF probes anchoring assembly is required
					Electronic Control Options 1 = 1 Independently adjustable relay 2 = 2 Independently adjustable relays

Model 510 Adjustable "Dual-Point"



Note 1: CSA Approved for Class I — Groups C, D;
Class II — Groups E, F, G;
Divisions 1 & 2 Pending Cenelec Approval for
EEx d IIC T6 locations.

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TEMPERATURE AND PRESSURE RATINGS

