



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 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

- 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 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





SPECIFICATIONS

Supply Voltage NOMINAL ABSOLUTE LIMITS

115 Volts AC 95-135 Volts AC 230 Volts AC 180-270 Volts AC 24 Volts DC 18-28 Volts DC

Power Consumption Less than 3 volt-amperes

Frequency, AC Power 50-60 Hz

Relay-5 amp DPDT Output

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)

G.I.M.F.: -40° to 450°F (-40° to +232°C) Probes -

G.I.M.N.: -40° to 300°F (-40° to +149°C) -40° to 450°F (-40° to +232°C) GT:

Pressure Rating G.I.M.F. and G.I.M.N.: Up to 500 psi

Teflon Probes: Up to 400 psi

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

CAPTROL 500

Special Features H = High Temperature 12" Lagging Extension (GT, GC, GTH) 90° = 90° Downward Bend on Probe Active Section = Sensitivity Sleeve, 2" or 5"

00 = None

Process Mounting All Flanges Available

00 =None

Sensing Probe

(Specify insertion length)

GIMF = Guarded Injection Molded Fortron, 316 Stainless Steel, 14" Length

GIMN = Guarded Injection Molded Noryl, 316 Stainless Steel, 14" Length

= Guarded Teflon, 1/4" Center Rod,

316 Stainless Steel, 18" Length GT1/2 = Guarded Teflon, 1/2" center rod,

316 Stainless Steel, 6" Length

GC = Guarded Ceramic, High Temp., (750°F max)

GFC = GIMN with 316 Stainless Steel Flexible Cable, (25 ft. max)

GTH = Guarded Teflon, 1/4" Center Rod,

Hastelloy, 36" or Less

GTT = Guarded Teflon, Teflon Sealed Active,

18" Length

GAR = Guarded Abrasion Resistant Stainless Steel with Durable Plastic Insulator

THD = Non-guarded, Teflon Sealed Active,

(Available Bare)

Electronic Control Options

= Integrated

= Remote Mounted Electronics with

50-ft. Cable (50-ft. max)

R10 = Includes: 10-ft. cable,

1" Mounting Flange, Enclosure



CSA Approved for NEC Class I - Groups C, D; NEC Class II - Groups E. F. G: Divisions 1 & 2 When Used with THD or KHD Probe CSA Approved for Ord. Loc.



Hillside, IL 60162 Ph: (708) 236-6000 Fax: (708) 236-6006

Email:sales@ljtechnologies.com

