

ECHOTEL® 910

Ultrasonic, Tip Sensitive Level Control

Echotel 910 is an integral mounted ultrasonic tip sensitive level switch with integrated DPDT relay. The Echotel 910 is ideally suited for pump protection (also for vacuum), overflow prevention, high or low level alarm in clean liquid applications with or without foam.

FEATURES

- * Does not require any calibration.
- * Dual electrical entries and various housings are standard available.
- * A built-in averaging circuit ensures no false alarms due to most effervescence or turbulences.
- * Actuation is determined by the length of the transducer and is available in lengths between 30 mm (1.20") and 2540 mm (100").
- * All materials exposed to process in 316/316L SST (1.4401/1.4404).
- * Field selectable high/low level failsafe.

Rugged and cost effective



APPLICATIONS

- LIQUIDS: Any clean liquids.
- VESSELS: Any mounting position.
- · PROCESS CONDITIONS: Unaffected by
- shifting dielectric, density, or PH
- presence of foam, turbulence, visible vapors
- fast drain/fill rates
- transducer coating and air bubbles
- vacuum conditions.

AGENCY APPROVALS

Agency	Approvals	
ATEX	II 1/2 G EEx	d IIC T6 / EEx e II T6, explosion proof
FM/CSA ^①	Non incendive and explosion proof	
GOST/ GOSGORTECHNADZOR [®]		Russian Authorisation Standards

^① Consult factory for proper partnumbers

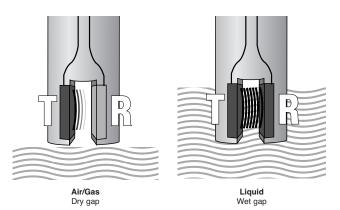
Quality

NOTE: For applications where self-checking is required, consult factory.

ISO 9001

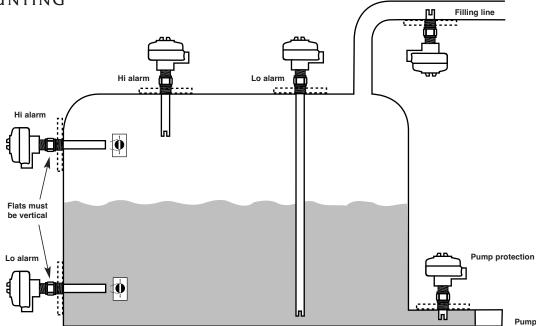
PRINCIPLE OF OPERATION

The Echotel 910 operates on a two crystal "transmitreceive" principle. The signal is converted into ultrasonic energy and transmitted across the sensing gap toward the receiver crystal. When there is air in the gap, the high frequency ultrasonic energy will not be received. When there is liquid in the gap, the ultrasonic energy will propagate across the gap and actuate the relay.



Worldwide level and flow solutions

MOUNTING



ELECTRICAL SPECIFICATIONS

Description		Specification		
Line Voltage (±10%)		240/120 V AC, 50-60 Hz – 24 V DC		
Power Consumption		2.5 VA Nominal		
Electronics Temperature		-40°C to +70°C (-40°F to +160°F)		
Process Pressure/Temperature		55 bar at -40°C to +120°C (800 PSIG at -40°F to +250°F)		
Response Time		0.5 s. typical		
Repeatability		2 mm (0.078")		
Output Relay	Goldflash relay	DPDT, 8.0 A resistive		
	Hermetically sealed relay	DPDT, 5.0 A resistive		
Housing		IP 65, anti-corrosive painted, cast aluminium		
Sensor material		316/316 L (1.4401/1.4404)		
Failsafe		Field selectable high or low level alarm		
Electromagnetic compatibility		Meets CE requirements (EN 61000-6-4 and EN 61000-6-2)		
Approvals		ATEX II 1/2 G EEx d IIC T6 / EEx e II T6 FM/CSA Non incendive and XP		

EXPEDITE SHIP PLAN (ESP)

Several Echotel 910 devices are available for quick shipment, within max. 3 weeks after factory receipt of purchase order, through the Expedite Ship Plan (ESP).

Models covered by ESP service are conveniently colour coded in the selection data charts.

To take advantage of ESP, simply match the colour coded model number codes (standard dimensions apply).

ESP service may not apply to orders of ten units or more. Contact your local representative for lead times on larger volume orders, as well as other products and options.

SELECTION DATA

Optional transducer mounting flanges

Raised face mounting flanges are available in the sizes and materials shown below.

Thread on mounting flanges can only be used in combination with 3/4" process connection transducer.

Specify the part number as an additional line item when placing an order. Consult factory (C/F) for additional flange sizes and materials such as Hastelloy C, Monel, etc...

ANSI Flange		Part Number			
Size	Rating	316/316L	Hastelloy C	304 SS	Carbon Steel
11/2"	150 lbs	04-5867-001	04-5867-031	04-5867-011	04-5867-021
2"		04-5867-002	04-5867-032	04-5867-012	04-5867-022
3"		04-5867-003	04-5867-033	04-5867-013	04-5867-023
4"		04-5867-004	04-5867-034	04-5867-014	04-5867-024
6"		04-5867-005	04-5867-035	04-5867-015	04-5867-025
11/2"		04-5867-006	04-5867-036	04-5867-016	04-5867-026
2"		04-5867-007	04-5867-037	04-5867-017	04-5867-027
3"	300 lbs	04-5867-008	04-5867-038	04-5867-018	04-5867-028
4"		04-5867-009	04-5867-039	04-5867-019	04-5867-029
6"		04-5867-010	04-5867-040	04-5867-020	04-5867-030
11/2"	600 lbs	04-5867-045	C/F	C/F	04-5867-046

SELECTION DATA

A complete measuring system consists of:

Echotel 910, ultrasonic level switch with relay

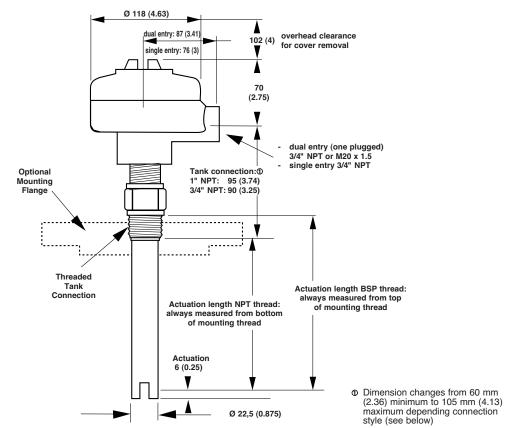
1. One order code for ECHOTEL[®] series 910 electronics and transducer 2. Optional: Order code for raised face mounting flanges, consult factory for other sizes or materials

BASIC MODEL NUMBER

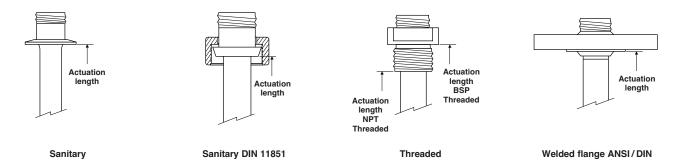
910

APPROVALS/ CABLE ENTRY / HOUSING MATERIALS
A Standard – 3/4" NPT dual cable entry, anti corrosive coated aluminium, non-hazardous
V ATEX – 3/4" NPT dual cable entry, anti-corrosive coated aluminium, non-nazardous
W ATEX – 3/4 Hit i dual cable entry, anti-corrosive coated aluminium, explosion proof W ATEX – M 20 x 1.5 dual cable entry, anti-corrosive coated aluminium, explosion proof
5 ATEX – 3/4" NPT single cable entry, stainless steel housing, explosion proof
S ATEX - 3/4 NPT single cable entry, stallless steel housing, explosion proof
PROCESS CONNECTION
A Threaded 3/4" NPT connection
2 Threaded 1" NPT connection
9 Threaded G1 (1" BSP) connection
3 Sanitary connection - 1 1/2" (compatible with Tri-Clover Tri-Clamp [®] fittings)
4 Sanitary connection - 2" (compatible with Tri-Clover Tri-Clamp [®] fittings)
5 Sanitary connection - Din 11851 DN 25
6 Sanitary connection - Din 11851 DN 32 7 Sanitary connection - Din 11851 DN 40
8 Sanitary connection - Din 11851 DN 40
1 Ansi flange raised flange - 1" 150 lbs
C Ansi flange raised flange - 1 1/2" 150 lbs
D Ansi flange raised flange - 2" 150 lbs
E Ansi flange raised flange - 1" 300 lbs
F Ansi flange raised flange - 1 1/2" 300 lbs
G Ansi flange raised flange - 2" 300 lbs
H Ansi flange raised flange - 1" 600 lbs
J Ansi flange raised flange - 2" 600 lbs
K EN/DIN flange EN 1092-1 Type A - DN 25/PN 16
L EN/DIN flange EN 1092-1 Type A - DN 40/PN 16
M EN/DIN flange EN 1092-1 Type A - DN 50/PN 16
N EN/DIN flange EN 1092-1 Type A - DN 25/PN 25
P EN/DIN flange EN 1092-1 Type A - DN 40/PN 25
Q EN/DIN flange EN 1092-1 Type A - DN 50/PN 25
R EN/DIN flange EN 1092-1 Type A - DN 25/PN 40 S EN/DIN flange EN 1092-1 Type A - DN 40/PN 40
S EN/DIN flange EN 1092-1 Type A - DN 40/PN 40 T EN/DIN flange EN 1092-1 Type A - DN 50/PN 40
U EN/DIN flange EN 1092-1 Type B2 - DN 25/PN 63
V EN/DIN flange EN 1092-1 Type B2 - DN 20/11 003
W EN/DIN flange EN 1092-1 Type B2 - DN 50/PN 63
X EN/DIN flange EN 1092-1 Type B2 - DN 25/PN 100
Y EN/DIN flange EN 1092-1 Type B2 - DN 40/PN 100
Z EN/DIN flange EN 1092-1 Type B2 - DN 50/PN 100
INPUT POWER / RELAY OUTPUT
1 240 V AC/8 A DPDT goldflash relay J 240 V AC/5 A DPDT herm. sealed relay
2 24 V DC/8 A DPDT goldflash relay K 24 V DC/5 A DPDT herm. sealed relay
0 120 V AC/8 A DPDT goldflash relay H 120 V AC/5 A DPDT herm. sealed relay
TRANSDUCER SPECIFICATION PER CM (0.39") INCREMENTS
0 0 3 30 mm (1.2") - minimum insertion length
0 0 5 50 mm (2.0") - min length for 1" BSP and flanged process connection
2 5 4 2540 mm (100.0") - maximum length
Note: Transducer lengths are measured in accordance with process connection style. – Consult dimensional drawings on page 4.
9 1 0 M M Complete order code for Echotel 910 alarm switch

DIMENSIONS IN mm (inches)



CONNECTIONS





UNDER RESERVE OF MODIFICATIONS

QUALITY ASSURANCE - ISO 9001:2000

THE QUALITY ASSURANCE SYSTEM IN PLACE AT MAGNETROL GUARANTEES THE HIGHEST LEVEL OF QUALITY DURING THE DESIGN, THE CONSTRUCTION AND THE SERVICE OF CONTROLS.

OUR QUALITY ASSURANCE SYSTEM IS APPROVED AND CERTIFIED TO ISO 9001:2000 AND OUR TOTAL COMPANY IS COMMITTED TO PROVIDING FULL CUSTOMER SATISFACTION BOTH IN QUALITY PRODUCTS AND QUALITY SERVICE.

PRODUCT WARRANTY

www.magnetrol.com

ALL MAGNETROL ELECTRONIC AND ULTRASONIC LEVEL CONTROLS ARE WARRANTED FREE OF DEFECTS IN MATERIALS AND WORK-MANSHIP FOR ONE FULL YEAR FROM THE DATE OF ORIGINAL FACTORY SHIPMENT. IF RETURNED WITHIN THE WARRANTY PERIOD; AND, UPON FACTORY INSPEC-TION OF THE CONTROL, THE CAUSE OF THE CLAIM IS DETERMINED TO BE COVERED UNDER THE WARRANTY; THEN, MAGNETROL INTERNATIONAL WILL REPAIR OR REPLACE THE CONTROL AT NO COST TO THE PURCHASER (OR OWNER) OTHER THAN TRANSPORTATION. MAGNETROL SHALL NOT BE LIABLE FOR MISAPPLICATION, LABOR CLAIMS, DIRECT OR CONSEQUENTIAL DAMAGE OR EXPENSE ARISING FROM THE INSTALLATION OR USE OF THE EQUIPMENT. THERE ARE NO OTHER WARRANTIES EXPRESSED OR IMPLIED, EXCEPT, SPECIAL WRITTEN WARRANTIES COVERING SOME MAGNETROL PRODUCTS.



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