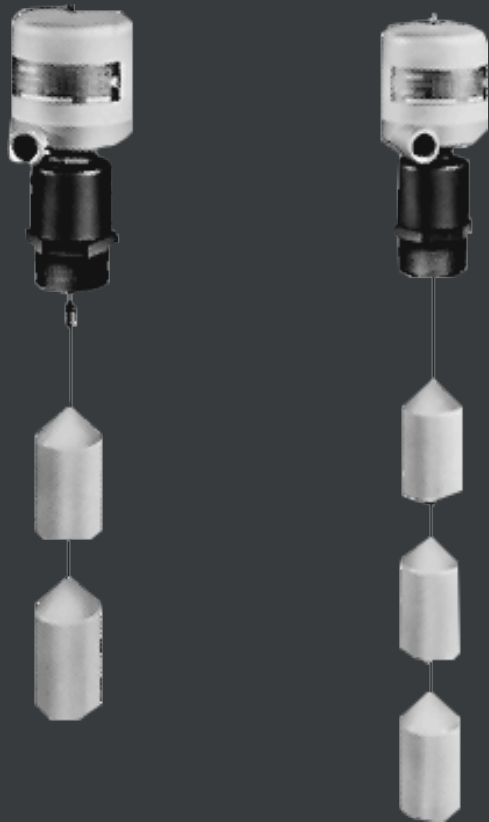


Omnitrol 613/713

Top Mounted Level Control Switches (Porcelain Displacers)

Engineered for refinery operators, chemical processors, wastewater facilities, terminal automation teams, and EPC specifiers, the Omnitrol 613/713 provides reliable, repeatable point-level switching for high/ low alarms, pump control, and overfill protection in demanding liquid service. Using displacer technology based on Archimedes’ Principle, the switch senses buoyancy changes to deliver snap-action magnetic switching immune to turbulence, viscosity changes, foam, and vapor layers—conditions that frequently defeat float, reed, or ultrasonic devices. The porcelain displacers offer high density, chemical resistance, and non-fouling glazed surfaces ideal for oils, sewage, paints, and surging liquids, while solid construction eliminates collapse or deformation under pressure.

The top-mount design isolates the switch mechanism inside a sealed housing, enabling safe operation in hazardous Class I, Div. 1 areas with either weatherproof or explosion-proof housings. Adjustable differential control, long cable lengths, and single- or dual-actuator configurations support versatile switching functions, from single high-level alarms to dual start/stop pump control. Rated for pressures up to 1500 psi and temperatures up to 400°F, the 613/713 delivers rugged performance in demanding, API-2350-aligned tank monitoring and industrial process applications.



Key Features

Accurate Displacer Sensing

Maintains reliable actuation in foaming, dirty, viscous, or vapor-laden liquids where floats, reeds, or ultrasonics drift, foul, or lose measurement stability.

Positive Magnetic Snap-Action

Delivers chatter-free switching with no null zone, ensuring decisive actuation even under turbulence, surges, or rapidly changing process conditions.

Single or Dual Actuation

Supports one or two independent switch points, enabling alarm redundancy, pump start/stop sequences, or high-high overfill protection in a single device.

Hazardous-Area Safety

Explosion-proof housings and Class I, Div. 1 approvals allow safe use in hydrocarbons, vapors, and classified environments requiring certified electrical protection.

Top-Mount Installation

Installs directly from the tank top, simplifying access, eliminating side-wall penetrations, and allowing easy integration into new or existing vessels.

Porcelain Displacer Durability

Provides high density, chemical resistance, and non-fouling performance where stainless steel may corrode or graphite exceeds required ruggedness.



Typical Applications



FOAM & VISCOUS MEDIA

Delivers stable switching in sticky, turbulent, or foamy liquids where floats or probes foul, drift, or lose reliable actuation.



OVERFILL PROTECTION

Supports API 2350-aligned high and high-high alarms to prevent spills, protect assets, and maintain safety compliance in tank farms.



PUMP START/STOP

Provides adjustable switching differentials for dependable pump control that prevents dry-run damage and reduces wear from short-cycling.



PRESSURIZED VESSELS

Handles high-pressure and high-temperature operation using solid porcelain displacers and rated isolation tubes for demanding service conditions.



WASTEWATER & SUMPS

Resists ragging, debris, and turbulence using non-fouling glazed porcelain surfaces to ensure dependable level actuation in harsh environments.



CHEMICAL PROCESSES

Maintains reliable operation in corrosive or variable-density liquids, supporting alarms and interlocks for critical process control loops.

Benefits



Stable Switching

Magnetic snap-action design eliminates chatter, ensuring precise actuation in turbulent or rapidly changing liquid conditions.



Chemical Resilience

Porcelain displacers withstand corrosive, coated, or contaminated liquids, extending service life and reducing replacement frequency.



Overfill Safety

Dual-point models enable compliant high-level protection that safeguards personnel, prevents spills, and meets industry safety standards.



Hazardous-Area Protection

Explosion-proof housings allow safe operation in classified environments containing flammable vapors or combustible materials.



Low Maintenance

Simple mechanical construction with no electronics in the process fluid minimizes upkeep, calibration needs, and lifecycle costs.



Installation Flexibility

Adjustable cable lengths and configurable switch points allow customized level control across diverse tank geometries and process conditions.

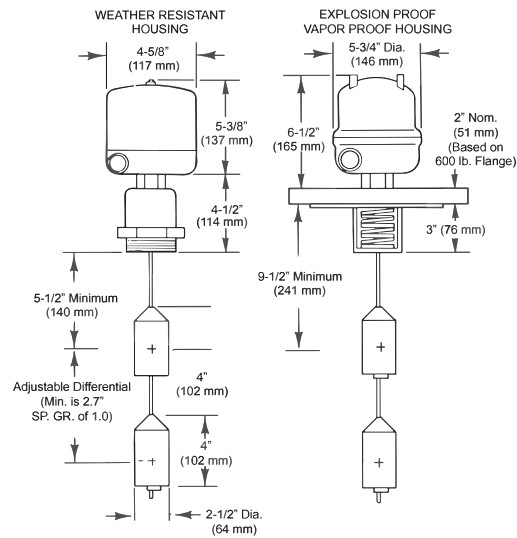


Technical Specifications & Key Features

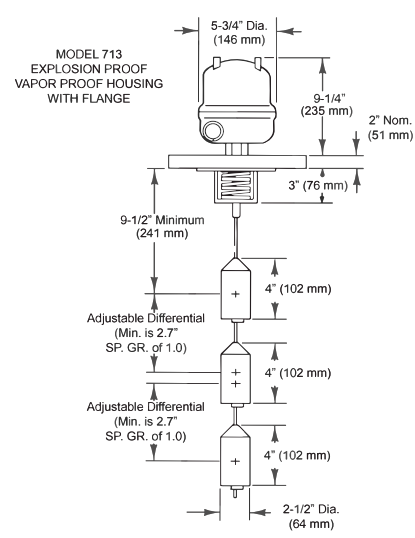
Technology	- Displacer-type level detection (Archimedes' principle snap-action magnets) - Single switch model: 613 - Dual switch model: 713
Switching	- Snap-action magnetic switching — no mid-travel null zone - SPDT / DPDT microswitch options
Mounting Options	Top mount
Process Conditions	- Typical pressure: up to 1500 psi (103 bar) with appropriate isolation tube - Temperature: up to ~400°F (204°C) depending on configuration
Materials	- Displacer material: Porcelain - Isolation tube: 316 stainless steel - Housings: - Weather-Resistant (WR) - Explosion-Proof / Vapor-Proof (EP/VP) — Class I, Div 1, Groups B, C, & D - Explosion-proof/Rain Tight- Class I, Div 1, Groups C & D
Electrical	- Conduit: ¾" NPT - DPDT or SPDT options
Certifications	UL Approved



Dimensions

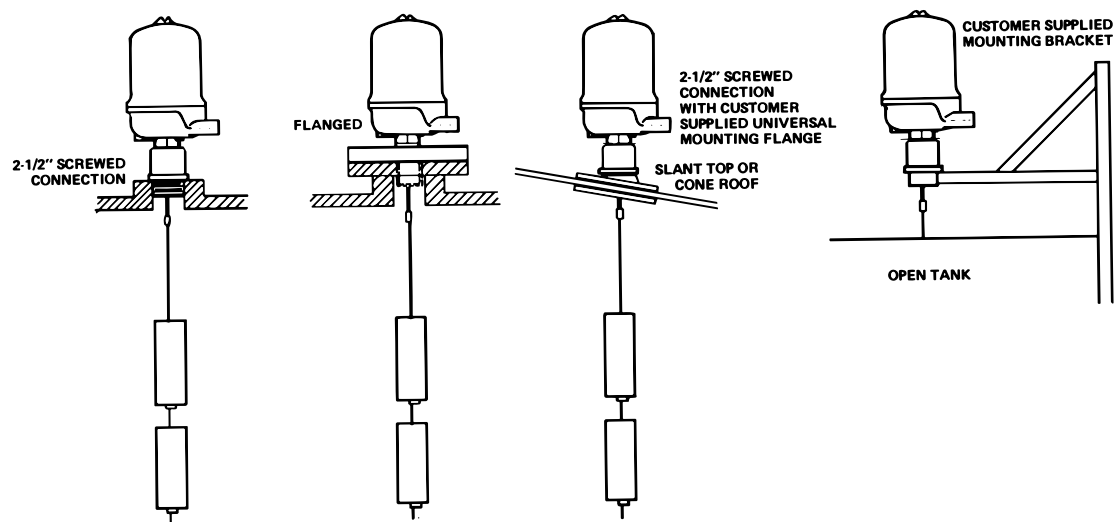


Model 613



Model 713

Typical System Layout





Model Number Selection

The model number will consist of a base number 613/713 followed by 9 digits. These digits will represent 10 sets of option tables.

Part Number Structure

OMNITROL ABC-DE-F-G-H-IJ-K-L-M

Part Prefix OMNITROL

Part Number	ABC- NUMBER OF ACTUATORS & DISPLACER MATERIAL
610	Single Actuator / Graphite Displacer
613	Single Actuator / Porcelain Displacer
616	Single Actuator / Stainless Steel Displacer
621	Single Actuator / Lead* Displacer
710	Dual Actuators / Graphite Displacer
713	Dual Actuators / Porcelain Displacer
716	Dual Actuators / Stainless Steel Displacer
721	Dual Actuators / Lead* Displacer

Part Number	F- FLANGE PRESSURE RATING
0	Threaded
1	125 Lb. ANSI
2	150 Lb. ANSI
3	300 Lb. ANSI
6	600 Lb. ANSI
7	900 Lb. ANSI
8	1500 LB. ANSI

Part Number	G- FLANGE FACE TYPE
0	Threaded
1	Flat Faced (FF)
2	Raised Face (RF)
3	Ring Type (RT) > 600 lbs

Part Number	H- HOUSING TYPE
W	Weather Resistant
V	Explosion & Vapor Proof Group B,C, & I
R	Explosion Proof / Rain Tight Group C & D

Part Number	IJ- SWITCH TYPE
E2	20 Amp SPDT Micro (E2)
E4	20 Amp DPDT Micro (E4)
G2	ECW Gold Contact
H2	10 Amp DC SPDT Micro (H2)
H4	10 Amp DC DPDT Micro (H4)
M2	5 Amp SPDT Micro-Hermetically Sealed (M2)
M4	5 Amp DPDT Micro-Hermetically Sealed (M4)
S2	5 Amp SPDT Micro Environment Proof (S2)
S4	5 Amp DPDT Micro Environment Proof (S4)

Part Number	DE- PROCESS CONNECTION & MATERIAL
C0	Cast Iron 2.5" NPT Threaded
E0	Cast Iron 2.5" NPT Threaded (GLC)
D3	Cast Iron with 3" ANSI 125 Lb. FF
D4	Cast Iron with 4" ANSI 125 Lb. FF
D6	Cast Iron with 6" ANSI 125 Lb. FF
D8	Cast Iron with 8" ANSI 125 Lb. FF
F3	Carbon Steel with 3" ANSI Flange
F4	Carbon Steel with 4" ANSI Flange
F6	Carbon Steel with 6" ANSI Flange
F8	Carbon Steel with 8" ANSI Flange
G3	304 SS with 3" ANSI Flange
G4	304 SS with 4" ANSI Flange
G6	304 SS with 6" ANSI Flange
G8	304 SS with 8" ANSI Flange
H3	316 SS with 3" ANSI Flange
H4	316 SS with 4" ANSI Flange
H6	316 SS with 6" ANSI Flange
H8	316 SS with 8" ANSI Flange
B0	Carbon Steel Bushing 2.5" NPT
S0	304 SS Bushing 2.5" NPT
T0	316 SS Bushing 2.5" NPT
J3	Cast Iron with 3" ANSI Flange (GLC)
J4	Cast Iron with 4" ANSI Flange (GLC)
J6	Cast Iron with 6" ANSI Flange (GLC)
J8	Cast Iron with 8" ANSI Flange (GLC)
K3	Cast Steel with 3" ANSI Flange (GLC)
K4	Cast Steel with 4" ANSI Flange (GLC)
K6	Cast Steel with 6" ANSI Flange (GLC)
K8	Cast Steel with 8" ANSI Flange (GLC)
L3	304 SS with 3" ANSI Flange (GLC)
L4	304 SS with 4" ANSI Flange (GLC)
L6	304 SS with 6" ANSI Flange (GLC)
L8	304 SS with 8" ANSI Flange (GLC)
M3	316 SS with 3" ANSI Flange (GLC)
M4	316 SS with 4" ANSI Flange (GLC)
M6	316 SS with 6" ANSI Flange (GLC)
M8	316 SS with 6" ANSI Flange (GLC)



Part Number	IJ- SWITCH TYPE
E2	20 Amp SPDT Micro (E2)
E4	20 Amp DPDT Micro (E4)
G2	ECW Gold Contact
H2	10 Amp DC SPDT Micro (H2)
H4	10 Amp DC DPDT Micro (H4)
M2	5 Amp SPDT Micro-Hermetically Sealed (M2)
M4	5 Amp DPDT Micro-Hermetically Sealed (M4)
S2	5 Amp SPDT Micro Environment Proof (S2)
S4	5 Amp DPDT Micro Environment Proof (S4)

Part Number	K- SPECIFIC GRAVITY
A	< .53 (Special)
B	.53 to .57
C	.58 to .62
D	.63 to .67
E	.68 to .72
F	.73 to .77
G	.78 to .82
H	.83 to .87
I	.88 to .92
J	.93 to .97
K	.98 to 1.02
L	1.03 to 1.07
M	1.08 to 1.12
N	1.13 to 1.17
O	> 1.17 (Special)
Y	Not Applicable (Lead Displacer)

Part Number	L- DISPLACER CABLE LENGTH
0	10 ft (Standard)
2	20 ft
3	30 ft
4	40 ft

Part Number	M- GROUND LEVEL CHECKER CHAIN LENGTH
0	No GLC
1	10 ft (Standard)
2	20 ft
3	30 ft
4	40 ft
5	50 ft
6	60 ft

Summary

The Omnitrol 613 / 713 delivers rugged, dependable level point control where safety, chemical resistance, and mechanical reliability matter most. Engineered to avoid fouling for harsh industrial liquids, foam, turbulence, and high-pressure systems, it ensures positive switching and reliable alarms for tank farms, chemical reactors, sumps, boilers, and API 2350 overfill protection. With single/dual-actuator capability (613/713) for multiple alarm/control points, hazardous-area approvals, and displacer-based technology proven in refineries and chemical plants for decades, the 613/713 is a cost-effective, durable choice for demanding industrial level switching applications.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request

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