

Model 770

FLOAT TYPE LEVEL SWITCH MULTI-POINT EXTERNAL CAGE

- MODEL 770A – FOUR ALARM POINTS
- MODEL 770B – THREE SWITCH STATIONS
- MODEL 770C – TWO SWITCH STATIONS
4" SPACING
- MODEL 770D – ONE HEAVY DUTY SWITCH STATION
1.0 TO 5.5" ADJ. DIFF. CONTROL
- MODEL 770E – TWO HEAVY DUTY SWITCH STATION
1.0 TO 2.0" ADJ. DIFF. CONTROL ON EACH

The Model **770A** is similar to the Model 760. It is designed with a long float movement and additional power. It will operate 4 individual switch stations with narrow fixed spacing.

The Model **770B** uses the same mechanism and float element as the Model 770A. It operates 3 individual switch stations.

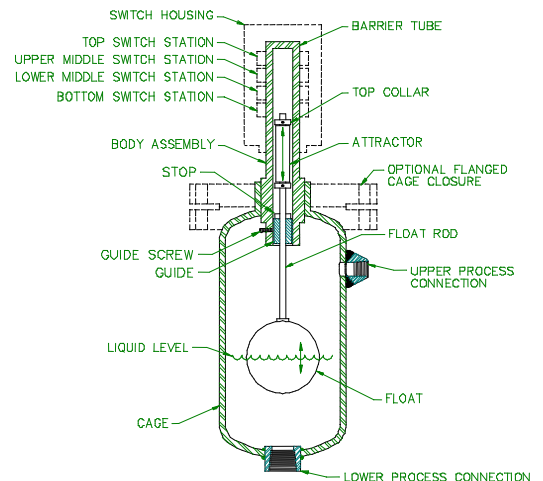
The Model **770C** operates 2 individual switch stations with a 4" separation between switch points.

The Model **770D** operates a single switch station and uses a differential adjustment mechanism. The switching differential is adjustable from approximately 1 to 5 inches of level change.

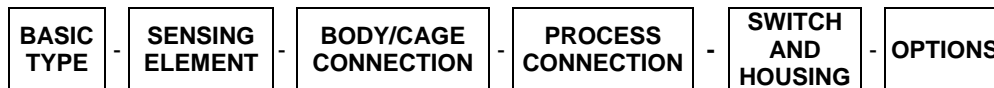
Model **770E** is similar to the 770D, but has two switch stations with 1"-2" differential.

The float inside the cage floats on the surface of the liquid and rides up and down with it. An attractor is attached to the float and also moves with the liquid level. When the level rises, the attractor is moved up into the field of the lower switch station magnet. If the level continues to rise, the attractor is pushed into the field of the upper switch station magnet and that output switch is actuated.

Similarly, when the level falls, the attractor is sequentially pulled out of the field of each magnet. The return spring pulls the magnet back to its original position and the output switch is deactivated.



DELTA CONTROLS
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MODEL
EXAMPLE: 770D - MS - F - SS/1"SW - L1C - AA

BASIC TYPE

M/N	DESCRIPTION	SW STATION
770A	4 STATIONS, 5A ALARM	S1 OR S2
770B	3 STATIONS, ANY KIND	ANY
770C	2 STATIONS, 4" SPACING	ANY
770D	1 STATION, 1.0- 5.0" DIFF.	T,H,L, or D
770E	2 STATION, 1.0"-2.0" DIFF	T,H,L,OR D

316 S.S. TRIM, 416 S.S. ATTRACTOR

PROCESS CONNECTION

M/N	PROCESS CONNECTION TYPE & SIZE
1" SW ▲	1" SOCKET WELD
1" NPTF ▲	1" FEMALE NPT
1" 150R	1" 150# RAISED FACE ANSI FLANGE
1" 300R	1" 300# RAISED FACE ANSI FLANGE
1" 600R	1" 600# RAISED FACE ANSI FLANGE
2" 150R	2" 150# RAISED FACE ANSI FLANGE
2" 300R	2" 300# RAISED FACE ANSI FLANGE
2" 600R	2" 600# RAISED FACE ANSI FLANGE
ZZ	OTHER TYPES AND SIZES

* PROCESS CONNECTION MATERIAL SAME AS CAGE MATERIAL

TYPE HOOKUP: "SB" = SIDE/BOTTOM; "SS" = SIDE/SIDE SPECIAL CONNECTION SPACING CONNECTION

▲3000 PSIG, WOG FITTING RATING; 1" SCH 80 OR 160 WELDING STUB CONNECTIONS AVAILABLE; C/F WITH DETAILS NOTE: INSTALLED DRAIN VALVE AVAILABLE: C/F WITH SPECIFICATIONS

SENSING ELEMENT

M/N	* ELEMENT ASSEMBLY					ASSEMBLY WORKING		
	MATERIAL		MIN SPG/SUFFIX			PSIG @ °F		
	FLOAT	CAGE	A&B	C	D	100°F	450°F	750°F
HS	316 S.S.	STEEL	0.80	0.72	0.61	470	305	260
HB	316 S.S.	304 S.S.	0.80	0.72	0.61	470	305	260
MS	316 S.S.	STEEL	0.65	0.58	0.45	475	315	270
MB	316 S.S.	304 S.S.	0.65	0.58	0.45	475	315	270
NS	316 S.S.	STEEL	0.50	0.47	0.42	730	475	400
NB	316 S.S.	304 S.S.	0.50	0.47	0.42	730	475	400
PS	316 S.S.	STEEL	0.40	0.38	0.33	375	250	215
PB	316 S.S.	304 S.S.	0.40	0.38	0.33	375	250	215
IS	316 S.S.	STEEL	0.55 TO 1.5 AVG. SPG			730	475	400
IB	316 S.S.	304 S.S.	0.18 MIN. DIFF.			730	475	400

* STEEL CAGE IS A-106B MATERIAL; FOR 316 S.S. INSTEAD OF 304 S.S. MATERIAL CHANGE "B" TO "Y" HIGHER TEMPERATURES AND PRESSURES AVAILABLE; C/F OTHER MATERIALS ARE AVAILABLE; C/F

OPTIONS

OPTIONS M/N *	HOUSING EXTENSION LENGTH (INCHES)	MAX PROCESS TEMP (°F) – SWITCHES					
		CONDENSING SERVICE (STEAM, DOWTHERM)			NONCONDENSING (GAS, HYDROCARBONS)		
		D	S,L	H,T	D	S,L	H,T
AA	NONE	400	500	750	500	600	850
T1	6"	500	575	950	600	700	1100
T2	12"	600	650	1250	800	925	1500
SA	316 S.S. SHEATHED ATTRACTOR						
HH	120VAC ELECTRICAL HOUSING HEATER TO PREVENT CONDENSATION & ICING; INSULATE HOUSING FOR LOW AMBIENT CONDITION						

SWITCH AND HOUSING

M/N FIRST CHARACTER	SWITCH TYPE - SERVICE AND LOAD RATINGS	Switch Temp Rating
S	GENERAL USE, COMPACT, 4 AMP @ 28VDC, 5 AMP @ 125VAC, 250VAC	-65 to 250°F (-54 to 121°C)
T	HIGH TEMPERATURE; 5 AMP @ 125VAC,250VAC; 0.5A@125VDC; 0.25A@250VDC	-65 to 400°F (-54 to 204°C)
H	SEALED SWITCHES, 15 AMPS @ 125/250VAC, 0.5 AMPS @ 125 VDC, 0.25A @ 250VDC, 1/8HP 125VAC, 1/4HP 250VAC	-67 to 185°F (-55 to 85°C)
L	A.C. MOTOR LOADS; 15 AMP @ 125,250,480VAC, 0.25 HP @ 250VAC, 1/8HP@125VAC; 1/4HP@250VAC; 0.5A@125VDC; 0.25A@250VDC	-67 to 185°F (-55 to 85°C)
D	HIGH D.C. LOADS; 10 AMP @ 125VAC/DC; 0.25 HP @ 125VAC/DC; 3A(resistive)@250VDC; 1/2HP@125VDC POLARIZED (i.e., with negative side connected to common.)	-67 to 180°F (-55 to 82°C)
M/N SECOND CHARACTER	NUMBER OF CONTACTS	
1	1 SPDT CONTACT	
2	2 SPDT CONTACTS	
4	4 SPDT CONTACTS (TYPE S ONLY)	
M/N THIRD CHARACTER	HOUSING RATING	
W	Type 4X, IP65	
X	TYPE 4X, IP65 (EPOXY COATED)	
C	ALUMINUM – FOR HAZARDOUS LOCATIONS; SEE CSA RATINGS	
T	300 STAINLESS STEEL – FOR HAZARDOUS LOCATIONS; SEE CSA RATINGS	

BODY/CAGE CONNECTION

M/N	DESCRIPTION
W	WELDED
F	FLANGED FOR CLEANOUT; ANSI DESIGN; OTHER STANDARDS AND RATINGS AVAILABLE, C/F NOTE: CLEANOUT FLANGE RATINGS ARE THE SAME AS FOR THE PROCESS CONNECTIONS, C/F FOR OTHERS

CSA Ratings:

Housing types 'C' and 'T'
CI I Div 1, Gr B,C,D; CI II, Div 1 Gr E,F,G; CL III Div 1
Class I Zone 1, Ex/AEx d IIB+H₂
Maximum contact ratings 480Vac, 15A, T5 with max ambient 80°C. T6 without heater with max ambient 60°C



DELTA CONTROLS
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