

# Technical Specifications

The specifications listed on this page fully define the capabilities of the 6PS pressure switch. These two pages are designed to help you make an orderly selection of the variable parameters and is constructed to allow you to encode these parameters into a part number for ordering purposes.

Should your choices not fall within the outlined capabilities, do not hesitate to call Texas Instruments to discuss our capabilities in making custom devices.

**NOTE:** To configure a part to actuate on decreasing pressure, follow Step 1, then skip to Steps 4 and 5. Enter the desired tolerance and setpoint for decreasing pressure. These correspond to values in the right hand columns. Now select a pressure and tolerance from the two left hand columns which correspond to the deactuation pressure selected (read left across the table). Enter these values in Steps 2 and 3. Proceed with Step 6.

# Customer Selected Specifications

Range of Actuation Pressure Settings at S.T.P. Form 45 psia to 600 psia

## Range of Deactuation Pressure Settings

Standard ..... 60% to 85% of actuation pressure  
 Special ..... 85% to 90% of actuation pressure

## Range of Tolerances on Actuating and Deactuation Pressure

Standard ..... up to ±6% of actuation pressure (±10 PSI min.)  
 Special ..... up to ±4% of actuation pressure (±5 PSI min.)

NOTE: Choice of deactuation pressure setting & tolerances affect price.

# Design Specifications

Life at Rated Current.....	50,000 cycles
Current Capacity.....	Resistive..... 5 amp @ 28 VDC Inductive..... 2 amp @ 28 VDC Lamp..... 1 amp @ 28 VDC
Vibration Resistance.....	25 G, 20-2000 cps (no contact chatter in excess of 10 micro-seconds) Non-operating..... 200G (no damage)
Dielectric Withstanding Voltage.....	Terminal to terminal..... 1000 vrms Terminal to case..... 1250 vrms
Weight.....	30 grams max (without leads) 60 grams max (with connector)
Temperature Rating.....	-65°F to 275°F
Proof Pressure.....	8 times actuating pressure
Burst Pressure.....	8000 PSI min.
Metal Parts Exposed to Pressure Media and External Environment.....	300 Series Stainless Steel
Potting Material.....	Epoxy Resin

# Physical Design Chart

Tube Fitting per MS33656 Modified  Lockwire holes when specified are .041/.053 dia. 2 places. Located .042/.058 from port face of hex	Flattened & Pierced Terminals SPDT only		Potted Leads SPDT only		MS33678-10SL-3P Connector SPDT only		MS33678-10SL-4P Connector SPST N.C. or N.O.		PT1H-8-3P Connector SPST only		Potted Leads SPST N.C. only		Potted Leads SPST N.O. only	
	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes	Without Lock-Wire Holes	With Lock-Wire Holes
1/8" OD Tubing MS33656-E2 	6PS100	6PS150	6PS101	6PS151	6PS102	6PS152	6PS103	6PS153	6PS104	6PS154	6PS105	6PS155	6PS106	6PS156
3/16" OD Tubing MS33656-E3 	6PS200	6PS250	6PS201	6PS251	6PS202	6PS252	6PS203	6PS253	6PS204	6PS254	6PS205	6PS255	6PS206	6PS256
1/4" OD Tubing MS33656-E4 	6PS300	6PS350	6PS301	6PS351	6PS302	6PS352	6PS303	6PS353	6PS304	6PS354	6PS305	6PS355	6PS306	6PS356
5/16" OD Tubing MS33656-E5 	6PS400	6PS450	6PS401	6PS451	6PS402	6PS452	6PS403	6PS453	6PS404	6PS454	6PS405	6PS455	6PS406	6PS456
3/8" OD Tubing MS33656-E6 	6PS500	6PS550	6PS501	6PS551	6PS502	6PS552	6PS503	6PS553	6PS504	6PS554	6PS505	6PS555	6PS506	6PS556
1/2" Pipe Fitting per MS33677 	6PS600	6PS650	6PS601	6PS651	6PS602	6PS652	6PS603	6PS653	6PS604	6PS654	6PS605	6PS655	6PS606	6PS656
1/2" Pipe Fitting per MS33677 	6PS700	6PS750	6PS701	6PS751	6PS702	6PS752	6PS703	6PS753	6PS704	6PS754	6PS705	6PS755	6PS706	6PS756

# Actuation/Deactuation Table

Actuation PSIA			Deactuation PSIA			
Pressure	Tolerance		Pressure		Tolerance	
	STD	Spec	STD	Spec	STD	Spec
45-46	± 10	± 5	28-38	40-	± 10	± 5
47-49			29-40	41-42		
50-52			31-43	44-45		
53-56			33-46	47-48		
57-59			35-49	50-51		
60-62			37-51	52-54		
63-66	± 10	± 5	39-54	55-56	± 10	± 5
67-69			41-57	58-60		
70-72			43-60	61-63		
73-76			45-63	64-66		
77-79			47-66	67-69		
80-82			49-68	69-72		
83-86	± 10	± 5	51-71	72-74	± 10	± 5
87-89			53-74	75-78		
90-92			55-77	78-81		
93-96			57-80	81-83		
97-99			59-83	84-87		
100-104			62-86	87-90		
105-109	± 10	± 5	64-90	91-94	± 10	± 5
110-114			68-95	96-99		
115-119			71-99	100-103		
120-124			74-103	104-108		
125-129			77-107	108-112		
130-134			80-112	113-117		
135-139	± 10	± 7	83-116	117-121	± 10	± 7
140-144			86-120	121-126		
145-149			89-124	125-130		
150-154			91-129	130-135		
155-159			95-133	134-139		
160-164			98-137	138-144		
165-169	± 15	± 10	101-141	142-148	± 15	± 10
170-174			104-146	147-153		
175-179			107-150	151-157		
180-184			110-154	155-162		
185-189			113-158	159-166		
190-194			116-163	164-171		
195-199	± 15	± 10	119-167	168-175	± 15	± 10
200-209			123-174	175-180		
210-219			129-182	183-189		
220-229			135-191	192-198		
230-239			141-199	200-207		
240-249			147-208	209-216		
250-259	± 20	± 15	153-216	217-225	± 20	± 15
260-269			159-225	226-234		
270-279			165-233	234-243		
280-289			171-242	243-252		
290-299			177-250	251-261		
300-309			183-259	260-270		
310-319	± 20	± 15	189-167	268-279	± 20	± 15
320-329			195-276	277-288		
330-339			201-284	285-297		
340-349			207-293	294-306		
350-359			213-301	302-315		
360-369			219-310	311-324		
370-379	± 25	± 20	225-318	319-333	± 25	± 20
380-389			231-327	328-342		
390-399			237-335	336-351		
400-409			243-344	345-360		
410-419			249-352	353-369		
420-429			255-361	362-378		
430-439	± 30	± 20	261-369	370-387	± 30	± 20
440-449			267-378	379-396		
450-459			273-386	387-405		
460-469			279-395	396-414		
470-479			285-403	404-423		
480-489			291-412	413-432		
490-499	± 35	± 25	297-420	421-441	± 35	± 25
500-509			303-429	430-450		
510-519			309-437	438-459		
520-529			315-446	447-468		
530-539			321-454	455-477		
540-549			327-463	464-486		
550-559	± 40	± 25	333-471	472-495	± 40	± 25
560-569			339-480	481-504		
570-579			345-488	489-513		
580-589			351-497	498-522		
590-599			357-505	506-531		
600-			360-510	511-540		

1. Select the "Physical Design" by choosing the type of port fitting, termination and prevention or absence of lockwire holes which meet your requirements. Note the corresponding part number.

Write part number here

2. Select the "Actuation Pressure Tolerance" from the Table at the Left by choosing the "Standard Tolerance" or the "Special Tolerance" which lines up with the actuation pressure you have specified. The actuation pressure is shown down the left side of the table. The tolerance listed as special is available at a slight additional cost. The tolerance chosen must be converted to a code letter to obtain the correct part number.

± 5 = A                      ± 15 = L                      ± 30 = U  
 ± 7 = C                      ± 20 = S                      ± 35 = V  
 ± 10 = F                      ± 25 = T                      ± 40 = W

Write code letter here

3. Specify the "Actuation Pressure" as a 3-digit number between 045 and 600 PSIA.

Write the actuation pressure here

4. Select the "Deactuation Pressure Tolerance" from the Table at the Left by following the same procedure as in step No. 3.

Write code letter here

5. Select the "Deactuation Pressure" from the Table at the Left by choosing one in the "Standard Range" or one in the "Special Range" which lines up with the actuation pressure you have specified. Deactuation pressures in the special range are available at a slight additional cost.

Write deactuation pressure here

6. Specify the Type of "Termination" from the 3 Categories below.

**Lead Wires** - If you have selected a physical design with lead wires, choose the length you require from the table below. Note that the lead length is specified by a code letter.

Lead length	6"	12"	18"	24"	30"	36"	42"	48"	60"	72"
Code letter	D	E	F	G	H	J	K	L	M	N

Write code letter here

**Connectors** - If you have selected a connector design, specify whether the device is to be wired SPDT, SPST close on rise, or SPST open on rise.

A = SPDT, B = SPST, close on rise. C = SPST open on rise.

Write code letter here

**Flattened and Pierced Terminals** - If you have selected a physical design with flattened and pierced terminals the basic part number will designate this type termination, therefore, no code letter is necessary in the complete TI part number.

Summarize the "Part Number" by transposing the numbers and letters from steps 1-6 to the appropriate spaces below.

