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**TECHNICAL BROCHURE**

BCPFS R15



# PUMP / CONTROL PANEL SWITCHES

## TERMS TO KNOW

**Pump Switches** are used to directly control the operation of a pump. They are normally wide-angle switches which means they operate over a range of approximately 70° to 90°. Pump switches are available with piggyback plugs and with bare leads. Some can also be used with control panels.

**Control Switches** are designed to only control pumps when used with a control or alarm panel. They cannot handle the high starting amps and running amperage of a pump, only signal or control amperage.

**NO or Normally Open** is a switch with contacts that are open in the hanging position. They are used to pump down or empty a tank.

**NC or Normally Closed** is a switch with contacts that are closed in the hanging position. They are used to pump up or fill a tank.

## A2T SERIES

### SJE Double Float® Master Pump Switch

#### Features

- Mechanically activated, wide-angle switch designed to control pumps up to 15 FLA, 90 LRA, 120 VAC or 240 VAC.
- This switch consists of two mechanical floats and a splice tube. The splice tube contains a holding relay which eliminates pump chatter in turbulent conditions.
- Includes standard mounting clamps and boxed packaging.
- Cable attached to float housing: flexible 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant (CPE).
- Cable above splice: flexible 14 gauge, 3 conductor (UL, CSA) SJTW, water-resistant, thermoplastic.
- Floats: 2.74" diameter x 4.83" long (7.0 x 12.3 cm) high impact, corrosion resistant, PP housing for use in sewage and non-potable water up to 140° F (60° C).
- Not sensitive to rotation or turbulence.
- Pumping range: 3" to 48"
- Available for pump up or pump down applications.
- For confined applications requiring an accurate pumping range.
- CSA Certified
- See chart for data and order numbers.



## A2X SERIES

### MilliAmpMaster™ Mechanical Float Switch

#### Features

- Mechanically activated, snap-action, sealed gold cross-point contacts are designed to activate low current control panels and alarms.
- Narrow angle Control for Low Voltage AC or DC applications.
- Electrical Load - low current non-arcing applications
  - 125 VAC - Max. Load .1 amps (Min. Load .16 milliamps)
  - 30 VDC - Max. Load .1 amps (Min. Load .16 milliamps)
  - 5 VDC - Minimum Load 1 milliamp
- UL Listed for use in non-potable water and sewage.
- CSA Certified
- Mounting clamp for attaching to discharge pipe is standard.
- Not sensitive to rotation.
- Maximum submergence or water depth, 30' (9 meters), 13 psi.
- Flexible 18 gauge, 2 conductor SJOW water resistant cable.
- Impact and corrosion resistant, polypropylene float housing for use in sewage and water up to 140 ° F.
- Float comes with blue cap for easy identification.



### A2D SERIES

#### SJE PumpMaster® Pump Switch

##### Features

- Mechanically activated, heavy duty contacts, wide angle operation.
- Controls pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC.
- Non-corrosive PVC housing for use in liquids up to 140° F (60° C).
- Not sensitive to rotation or turbulence.
- Pumping range: 7" to 36".
- 16 AWG, SJOW cord is available with or without piggyback plug.
- Available as pump up, pump down models, see Nomenclature Chart.
- For non-potable water, water or sewage applications.
- UL Recognized for use in water and sewage.
- CSA Certified.
- See chart for amperage range and other data.



### A2E SERIES

#### SJE PumpMaster Plus® Pump Switch

##### Features

- Controls pumps up to ¾ HP at 120 VAC and 2 HP at 230 VAC.
- 14 AWG, SJOW cord is available with or without piggyback plug.
- **All other features are the same as A2D PumpMaster Series above.**

### A2HT SERIES

#### High Temperature Float Switch

##### Features

- Temperature Rating: 200° F (93° C)
- Float Material: Polypropylene
- Cord Material: 16 gauge, 2 conductor SJ00W
- Ratings: 13 Maximum Amps
- Float Dimensions: 3.18" diameter x 5.58" long
- Available lengths: 20', 30' \*

\* No other lengths available in this Series.



### A2G SERIES

#### SJE AmpMaster® Pump Switch

##### Features

- Mechanically activated, heavy duty contacts, wide angle operation.
- Controls pumps up to 1½ HP at 115 VAC and 3 HP at 250 VAC.
- Non-corrosive PVC housing for use in liquids up to 140° F (60° C).
- Maximum pump running current of 20 amps.
- Not sensitive to rotation or turbulence.
- Pumping range: 9" to 24".
- 12 AWG, SJOW cord is available only with bare leads.
- Available for pump down applications only.
- UL Recognized for use in non-potable water and sewage.
- CSA Certified
- See chart for amperage range and other data.



### A2R SERIES

#### SJE MicroMaster®

##### Features

- Mechanically activated, snap action contacts, wide angle.
- Pump down operation (optional pump up available)
- UL Recognized for use in non-potable water and sewage.
- CSA Certified
- See chart for amperage range and other data.
- Controls pump up to 70 amps at 115 VAC and 10 amps at 230 VAC
- 16 AWG, SJOW cord on 230 V; 18 AWG, SJOW cord on 115 V
- Pumping range: 8" to 36"
- Not sensitive to rotation or turbulence



### A2A SERIES

##### Features

- Magnetically activated vertical operation.
- Switch mechanism encapsulated in epoxy to ensure a water proof switch.
- Controls pumps up to ½ HP at 120 VAC and 1 HP at 230 VAC.
- Non-corrosive PVC housing for use in liquids up to 125° F (52° C).
- 10' or 20' Cord with piggyback plug
- Operating Temperature: 0 - 140° F
- Pumping range: 1.5" - 6.0" (inches)
- Available for pump down applications only.
- For confined applications requiring an accurate pumping range.
- Stainless steel mounting bracket and hose clamp.
- UL Recognized for use in non-potable water and sewage.
- CSA Certified
- See chart for amperage range and other data.



### A2N SERIES

#### SJE SignalMaster® Control Switch

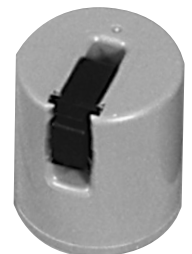
##### Features

- Mechanically activated, narrow angle, designed to activate pump control panels or alarms.
- Not designed for direct connection to pump.
- Non-corrosive PVC housing for use in liquids up to 140° F (60° C).
- Not sensitive to rotation.
- Control differential: 1.5" above or below horizontal.
- Available as NO (pump down), NC (pump up) model, see Nomenclature page.
- For non-potable water, water or sewage applications.
- Supplied with a pipe clamp for mounting to pipe.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- See chart for amperage range and other data.
- Normally open - comes with yellow cap for easy identification.
- Normally closed - comes with white cap for easy identification.



### A2WT SJ ELECTRO WEIGHT

- Adjustable snap in design.
- Works with all float switches shown.
- PVC



### A2WTC CONERY WEIGHT

- Zinc plated cord weight
- Works with all float switches



**PUMP SWITCHES (WIDE ANGLE)** can be connected directly to a pump

**CONTROL SWITCHES (NARROW ANGLE)** can only be used with control panels or alarm panels

Order Number	Maximum Running Amps	Maximum Starting Amps	Cord Length (Feet)	Bare Leads	Pump Switch	Control Switch	(1)	(2)	Mounting				
							N.O.	N.C.	Strap	Weight			
A2D13	13	85	10	X	X	-	X		X				
A2D14				X	X	-	X		X				
A2D23U			15	X	X	-		X	X				
A2D23W				X	X	-	X		X	X			
A2D33			20	X	X	-	X		X				
A2D33U				X	X	-		X	X				
A2D33W				X	X	-	X		X	X			
A2D53W				30	X	X	-	X		X	X		
A2D63W			50	X	X	-	X		X	X			
A2D83W			100	X	X	-	X		X	X			
A2E03	15	85	4	X	X	-	X			X			
A2E23			15	X	X	-	X		X				
A2E23U				X	X	-		X	X				
A2E33			20	X	X	-	X		X				
A2E53			30	X	X	-	X		X				
A2E53U				X	X	-		X	X				
A2E63			50	X	X	-	X		X				
A2E63U				X	X	-		X	X				
A2E73			75	X	X	-	X		X				
A2E83			100	X	X	-	X		X				
A2E83U	X	X		-		X	X						
A2G23	20	120	15	X	X	-	X		X				
A2G33			20	X	X	-	X		X				
A2G43			25	X	X	-	X		X				
A2G53			30	X	X	-	X		X				
A2G63			50	X	X	-	X		X				
A2H33	12	60	20	X	X	-	X		X				
A2N03	5	N/A	3	X	-	X	X		X				
A2N13			10	X	-	X	X		X				
A2N23			15	X	-	X	X		X				
A2N23W				X	-	X	X			X			
A2N23WB				X	-	X		X			X		
A2N23WU			X	-	X			X			X		
A2N33			20	X	-	X	X		X				
A2N33U				X	-	X		X				X	
A2N33W				X	-	X	X					X	
A2N33WB			X	-	X	X						X	
A2N33WU			X	-	X		X					X	
A2N43W			25	X	-	X	X					X	
A2N43WU				X	-	X		X					X
A2N53			30	X	-	X	X			X			
A2N53W				X	-	X	X					X	
A2N53WU				X	-	X		X					X
A2N63			50	X	-	X	X			X			
A2N63W				X	-	X	X						X
A2N73			75	X	-	X	X			X			
A2N73W				X	-	X	X						X
A2N83			100	X	-	X	X			X			
A2N83U				X	-	X		X		X			
A2N93				125	X	-	X	X			X		
A2SJRHT33			13	78	20	X	X	-	X		X		
A2SJRHT53					30	X	X	-	X		X		
A2T33			15	90	20	X	-	X	X		X		
A2X03			See Description	N/A	7	X	-	X	X		X		
A2X13					10	X	-	X	X		X		
A2X13U						X	-	X		X			
A2X23					15	X	-	X	X		X		
A2X23U	X	-				X		X				X	
A2X33	20	X			-	X	X		X				
A2X33U		X			-	X		X				X	
A2X33W		X			-	X	X						X
A2X53	30	X			-	X	X			X			
A2X53U		X			-	X		X		X			
A2X63W		X			-	X	X						X

N.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

Order Online: [www.PumpCatalog.com](http://www.PumpCatalog.com)

**WIDE ANGLE 115 VOLT PIGGYBACK FLOAT SWITCHES TO DIRECTLY CONTROL PUMPS**

Order Number	Maximum Amps	Start Amps	115 V Plug	Cord Length (Feet)	(1)	(2)	Mounting Strap		
					N.O.	N.C.			
A2A11	13	85	X	10	X		X		
A2D11			X		X	X			
A2D11B			X						
A2D11C			X		X	X			
A2A31			X	20	X	X		X	
A2D31			X		X	X			
A2D31B			X		X				
A2D31C			X		X	X			
A2D31U			X			X	X		
A2D51			X	30	X	X		X	
A2D51C			X		X	X			
A2D61			X	50	X			X	
A2E21			15	85	X	15	X		X
A2E31					X	20	X		X
A2E31C					X		X	X	
A2E31U	X				X	X			
A2E51	X	30			X			X	
A2E61	X	50			X			X	
A2H11	13	60			X	10	X		X
A2H11B			X	X					
A2H11C			X	X	X				
A2H21			X	15	X			X	
A2H31			X	20	X			X	
A2J11	10	60	X	10	X		X		
A2J21			X	15	X			X	
A2J31			X	20	X			X	
A2R11			X	10	X	X		X	
A2R11B			X		X				
A2R31			X	20	X	X		X	
A2R31B			X		X				
A2SRHT32	13	78	X	20	X		X		
A2T21	15	90	X	15	X		X		
A2T31			X	20	X			X	
A2T51			X	30	X			X	

aN.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

**Order Online: [www.PumpCatalog.com](http://www.PumpCatalog.com)**

**WIDE ANGLE 230 VOLT PIGGYBACK FLOAT SWITCHES TO DIRECTLY CONTROL PUMPS**

Order Number	Maximum Amps	Start Amps	230 V Plug	Cord Length (Feet)	(1)	(2)	Mounting Strap		
					N.O.	N.C.			
A2A12	13	85	X	10	X		X		
A2D12			X		X		X		
A2D12B			X		X				
A2D12C			X		X		X		
A2A32			X	20	X	X		X	
A2D32			X		X		X		
A2D32B			X		X				
A2D32C			X		X		X		
A2D32U			X			X		X	
A2D52			X	30	X	X		X	
A2D52C			X		X		X		
A2D62			X	50	X	X		X	
A2E22			15	85	X	15	X		X
A2E32					X	20	X		X
A2E32C	X	X					X		
A2E32U	X				X	X		X	
A2E52	X	30			X	X		X	
A2E62	X	50			X	X		X	
A2H12	13	60	X	10	X		X		
A2H12B			X		X				
A2H12C			X		X		X		
A2H22			X	15	X	X		X	
A2H32			X	20	X	X		X	
A2J12	10	60	X	10	X		X		
A2J22			X	15	X		X		
A2J32			X	20	X		X		
A2R12			X	10	X	X		X	
A2R12B			X		X				
A2R32			X	20	X	X		X	
A2R32B			X		X				
A2SJRHT32			13	78	X	20	X		X
A2T22	15	90	X	15	X		X		
A2T32			X	20	X		X		
A2T52			X	30	X		X		

N.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

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# NOMENCLATURE

**A2**

**D**

**3**

**3**

**OPTIONS**

**OPTIONS**

- U = Pump Up or Normally Closed (NC)
- W = A2WT Cable Weight
- B = Bulk Packed (internal only)

**Style of Cord**

- 1 = 115 V piggyback      3 = Bare lead
- 2 = 230 V piggyback

**Length of Cord**

- |           |          |                                                     |
|-----------|----------|-----------------------------------------------------|
| 1 = 10'   | 6 = 50'  | } <i>Only available on select control switches.</i> |
| 2 = 15' ① | 7 = 75'  |                                                     |
| 3 = 20'   | 8 = 100' |                                                     |
| 4 = 25' ① | 9 = 125' |                                                     |
| 5 = 30'   |          |                                                     |

**Type of Switch**

- |                                |                                |
|--------------------------------|--------------------------------|
| A = Alderon                    | P = MicroMaster® Plus - SJE ②  |
| D = PumpMaster® - SJE          | R = MicroMaster® - SJE ②       |
| E = PumpMaster Plus® - SJE     | T = Double Float® Master - SJE |
| G = AmpMaster® - SJE           | X = MilliAmpMaster™            |
| H = VerticalMaster® - SJE      |                                |
| J = VerticalMaster® II - SJE ② |                                |
| N = SignalMaster™ - SJE        |                                |

**Float Switch**



Xylem Inc.  
 2881 East Bayard Street Ext., Suite A  
 Seneca Falls, NY 13148  
 Phone: (866) 325-4210  
 Fax: (888) 322-5877  
[www.xylem.com/centripro](http://www.xylem.com/centripro)

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