



# **TECHNICAL BROCHURE**

BCPFS R18

# 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<sup>®</sup> 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.



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# **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

- $\bullet$  Controls pumps up to  $\frac{3}{4}$  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.

### **A2H SERIES**

#### SJE VerticalMaster 3 Plus Pump Switch

#### Features

- Mechanically activated vertical operation
- Controls pumps up to 1/2 HP at 120VAC, and 1 HP at 230 VAC
- Temperature Rating: 140° F (60° C)



- Cord Material: 16 gauge, 2 conductor SJOW
- Adjustable pumping range of .75 6.5 inches (2 17 cm)
- UL Recognized
- CSA Certified
- See chart for amperage range and other data

### **A2HT SERIES**

#### **High Temperature Float Switch**

#### Features

- Temperature Rating: 200° F (93° C)
- Float Material: Polypropylene
- Cord Material: 16 gauge, 2 conductor SJOOW
- 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<sup>®</sup> 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 nonpotable 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<sup>\*</sup> 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





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# **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	Maximum Running	Maximum Starting	Cord Length	Bare	Pump	Control	(1)	(2)	Mou	nting
Number		Amps	(Feet)	Leads	Switch	Switch	N.0.	N.C.	Strap	Weight
A2D13				X	X	-	Х		X	
A2D14	-		10	X	X	-	X		X	
A2D23U	-			X	Х	-		Х	Х	
A2D23W	-		15	Х	Х	-	Х		Х	Х
A2D33	1 10			Х	Х	-	Х		Х	
A2D33U	- 13		20	Х	Х	-		Х	Х	
A2D33W	7			Х	Х	-	Х		Х	Х
A2D53W	7		30	Х	Х	-	Х		Х	Х
A2D63W			50	Х	Х	-	Х		Х	Х
A2D83W	7		100	Х	Х	-	Х		Х	Х
A2E03		85	4	Х	Х	-	Х			Х
A2E23			15	Х	Х	-	Х		Х	
A2E23U			15	Х	Х	-		Х	Х	
A2E33			20	Х	Х	-	Х		Х	
A2E53			20	Х	Х	-	Х		Х	
A2E53U	15		30	Х	Х	-		Х	Х	
A2E63			FO	Х	Х	-	Х		Х	
A2E63U			50	Х	Х	-		Х	Х	
A2E73	Maximum Running     13     13     15     20     20     5     5     13     13     5     13     13     5 <		75	Х	Х	-	Х		Х	
A2E83			100	Х	Х	-	Х		Х	
A2E83U				Х	Х	-		Х	Х	
A2G23			15	Х	Х	-	Х		Х	
A2G33			20	Х	Х	-	Х		Х	
A2G43	20	120	25	Х	Х	-	Х		Х	
A2G53	20		30	Х	Х	-	Х		Х	
A2G63			50	Х	Х	-	Х		Х	
A2N03			3	Х	-	Х	Х		Х	
A2N13			10	Х	-	Х	Х		Х	
A2N23			15	Х	-	Х	Х		Х	
A2N23W				Х	-	Х	Х		Х	
A2N23WB				Х	-	Х	Х			Х
A2N23WU				Х	-	Х		Х		Х
A2N33			20	Х	-	Х	Х		Х	
A2N33U				Х	-	Х		Х	Х	
A2N33W				Х	-	Х	Х			Х
A2N33WB				Х	-	Х	Х			Х
A2N33WU				Х	-	Х		Х		Х
A2N43W	5	N/A	25	Х	-	Х	Х			Х
A2N43WU			23	Х	-	Х		Х		Х
A2N53				Х	-	Х	Х		Х	
A2N53W	20		30	Х	-	Х	Х			Х
A2N53WU				Х	-	Х		Х		Х
A2N63			50	Х	-	Х	Х		Х	
A2N63W			50	Х	-	Х	Х			Х
A2N73			75	Х	-	Х	Х		Х	
A2N73W				Х	-	Х	Х			Х
A2N83	_		100	Х	-	Х	Х		Х	ļ
A2N83U	_			Х	-	Х		Х	Х	ļ
A2N93			125	Х	-	Х	Х		Х	
A2SJRHT33	13	78	20	Х	Х	-	Х		Х	ļ
A2SJRHT53			30	Х	Х	-	Х		Х	
A2T33	15	90	20	Х	-	Х	Х		Х	ļ
A2X03	_		7	Х	-	Х	Х		Х	ļ
A2X13	4		10	X	-	Х	Х		Х	
A2X13U	4			Х	-	Х		Х	Х	<u> </u>
A2X23	_		15	Х	-	Х	Х		Х	ļ
A2X23U	_	N/A	10	Х	-	Х		Х	Х	ļ
A2X33	See Description		20	Х	-	Х	Х		Х	ļ
A2X33U				Х	-	Х		Х	Х	ļ
A2X33W	_			Х	-	Х	Х			Х
A2X53	_		30	Х	-	Х	Х		Х	ļ
A2X53U	_			Х	-	Х		Х	Х	
A2X63W	1		1	X	-	X	X	1	1	X

N.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

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

	Maximum Amps	Start Amps	115 V Plug	Cord Length	(1)	(2)	Mounting
Order Number				(Feet)	N.0.	N.C.	Strap
A2A11	13	85	Х	10	Х		Х
A2D11			Х		Х		Х
A2D11B			Х		Х		
A2D11C			Х		Х		Х
A2A31			Х	20	Х		Х
A2D31			Х		Х		Х
A2D31B			Х		Х		
A2D31C			Х		Х		Х
A2D31U			Х			Х	Х
A2D51			Х	30	Х		Х
A2D51C			Х		Х		Х
A2D61			Х	50	Х		Х
A2E21			Х	15	Х		Х
A2E31			Х	20	Х		Х
A2E31C			Х		Х		Х
A2E31U	15		Х			Х	Х
A2E51			Х	30	Х		Х
A2E61			Х	50	Х		Х
A2H11		60	Х	10	Х		Х
A2H11B			Х		Х		
A2H11C	13		Х		Х		Х
A2H31			Х	20	Х		Х
A2J11		60	Х	10	Х		Х
A2J21			Х	15	Х		Х
A2J31			Х	20	Х		Х
A2R11	10		Х	10	Х		Х
A2R11B			Х		Х		
A2R31	1		Х	20	Х		Х
A2R31B			Х		Х		
A2SJRHT31	13	78	Х	20	Х		Х
A2T21		90	Х	15	Х		Х
A2T31	15		Х	20	Х		Х
A2T51			Х	30	Х		Х

aN.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

# Wastewater

### 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
				(reet)	N.0.	N.C.	
A2A12	-	85	X	10	Х		Х
A2D12			X		Х		Х
A2D12B			Х		Х		
A2D12C			Х		Х		Х
A2A32			Х	20	Х		Х
A2D32	13		Х		Х		Х
A2D32B	15		Х		Х		
A2D32C			Х		Х		Х
A2D32U	]		Х			Х	Х
A2D52			Х	30	Х		Х
A2D52C	1		Х		Х		X
A2D62			Х	50	Х		Х
A2E22			Х	15	Х		Х
A2E32			Х	20	Х		Х
A2E32C	15		Х		Х		Х
A2E32U	15		Х			Х	Х
A2E52			Х	30	Х		Х
A2E62			Х	50	Х		Х
A2H12		60	Х	10	Х		Х
A2H12B			Х		Х		
A2H12C	12		Х		Х		Х
A2H22			Х	15	Х		Х
A2H32			Х	20	Х		Х
A2J12		60	Х	10	Х		Х
A2J22			Х	15	Х		Х
A2J32	1		Х	20	Х		Х
A2R12	10		Х	10	Х		Х
A2R12B			Х		Х		
A2R32	-		Х	20	Х		Х
A2R32B			Х		Х		
A2SJRHT32	13	78	Х	20	Х		Х
A2T22		90	Х	15	Х		Х
A2T32	15		Х	20	Х		Х
A2T52			Х	30	Х		Х

N.O. (1) = PUMP DOWN

N.C. (2) = PUMP UP

#### NOMENCLATURE





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