

# Lakewood Instruments – SPAD

Sensor

Passive Figure - 1

Activity

Detector



The NEW SPAD can be used to replace or backup the traditional Lakewood Instruments flow switch by being installed in parallel or series depending on the desired affect.

CAUTION - \*\*NEVER CONNECT A SPAD ANTENNA TO AN UNINSULATED OR BARE WIRE OR DEVICE THAT MAY CAUSE ELECTRICAL SHOCK TO THE SPAD OR OPERATOR.

Figure – 1 shows the SPAD unit connected to a conduit that is ungrounded allowing it to detect through the conduit, the antenna is wrapped around the conduit and secured with electrical tape and tie wraps.

This may also be an insulated power wire that is not enclosed in conduit.

If the wires are enclosed in grounded conduit it may be necessary to remove a conduit cover and slide the antenna of the SPAD into the conduit to get consistent detection. If no access through the conduit cover is available it may be necessary to look for a small hole or break in the conduit that will allow the antenna wire access to insulated wires inside the conduit.

**The LED will be ON when the device it is attached to is operating. The LED will be OFF if the SPAD does not detect the device is operating.**

*Always verify the operation of the SPAD device by allowing the device the SPAD is attached to cycle ON and OFF several times. Watch that the SPAD does not turn on when other devices in the area activate.*

**\*THIS DEVICE DOES NOT DETECT THE WATER FLOW IN THE SYSTEM!**

It is designed to detect the electromagnetic field generated by the flow of current in a device. Allowing the determination of flow by detecting the operation of a system pump or device that is always in operation during a normal operation or flow condition.

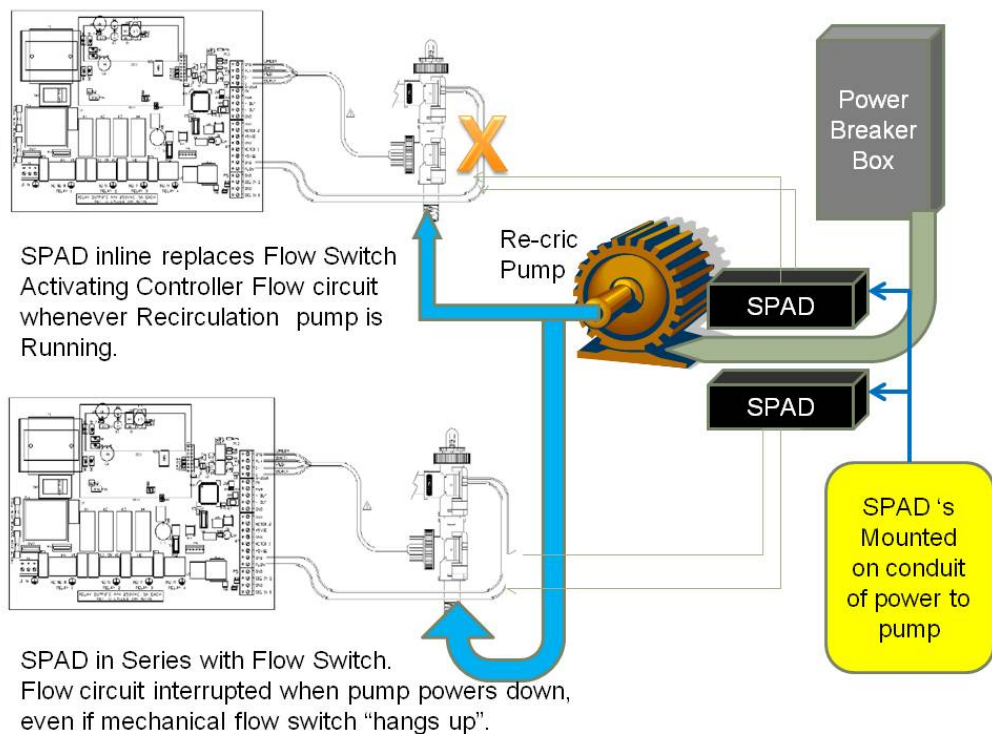


Figure -2

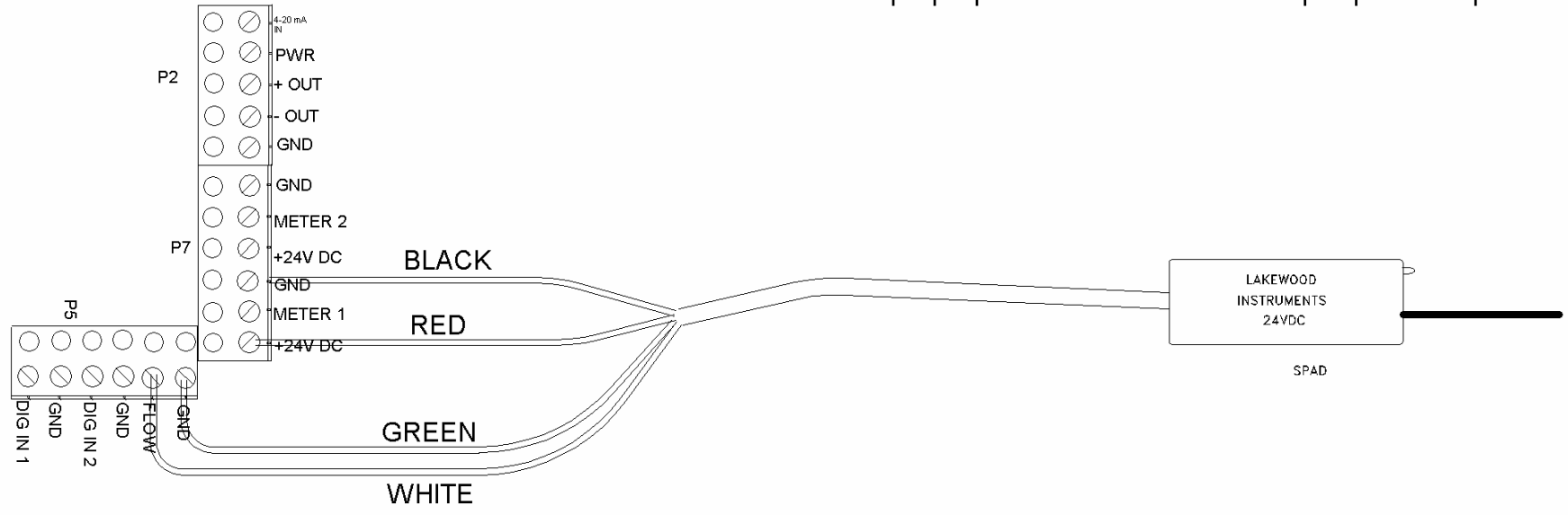
There are two different versions of the SPAD. One operates on 5 vdc and is for use with the model 140, 150, 1520/30e, and the model 1575e. The other operates on 24 vdc and is for use with the model 1512e and the 2000e series. Each version is available in with two different cable lengths; 20 ft and 50 ft.

**PART NO. DESCRIPTION**

1269090	SPAD, 5V, with 20 ft of cable. (Models 140, 1520/30e, and 1575e)
1269228	SPAD, 5V, with 50 ft of cable. (Models 140, 1520/30e, and 1575e)
1269103	SPAD, 24V, with 20 ft of cable. (Models 1512e and 2000 series)
1269229	SPAD, 24V, with 50 ft of cable. (Models 1512e and 2000 series)

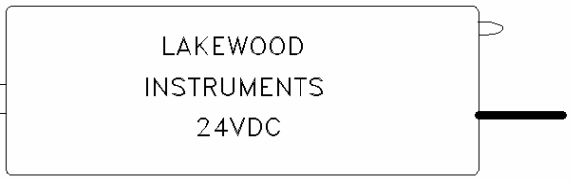
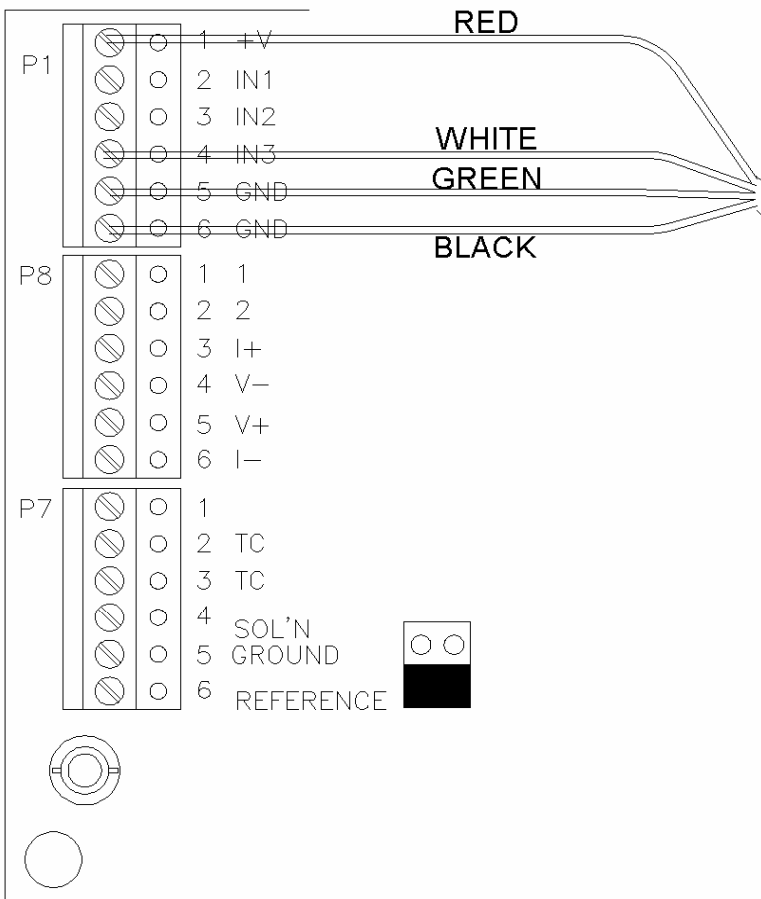


REVISION		REVISION HISTORY			
DWG	PART	DESCRIPTION	ECD	DWN/DATE	APVD/DATE
A	A	RELEASE		PSG 11/23/10	



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<p><b>DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994</b></p>				<p><b>TITLE</b>          SPAD WIRING, 24VDC          MODEL 1512e</p>					
<p><b>MATERIAL</b></p>		<p>TOLERANCES UNLESS NOTED          DECIMALS          .X ± 0.1          .XX ± 0.03          .XXX ± 0.01</p>		<p><b>SIZE</b>          A</p>		<p><b>PN</b>          1269103</p>		<p><b>REV</b>          A</p>	
<p><b>FINISH</b></p>		<p>DWN PSG DATE 11/23/10          CHKD DATE</p>		<p><b>SCALE</b>          NTS</p>		<p><b>SHEET</b>          1 of 1</p>		<p><b>DWG NO</b>          1269103_1a</p>	<p><b>REV</b>          A</p>
<p><b>PROJECT:</b></p>		<p>APVD DATE</p>		<p><b>LIBRARY:</b></p>					

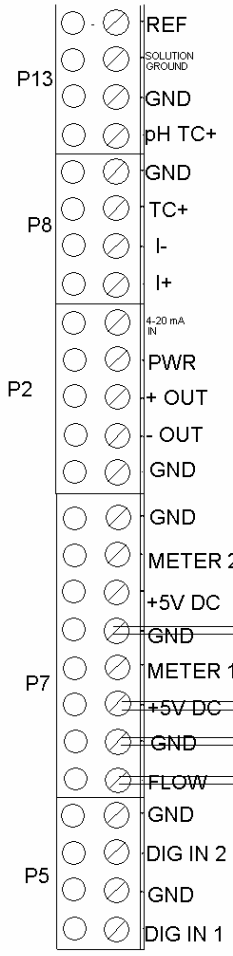
REVISION		REVISION HISTORY			
DWG	PART	DESCRIPTION	ECO	DWN/DATE	APVD/DATE
A	A	RELEASE		PSG 11/23/10	



SPAD

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<p><b>DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994</b></p>			<p>TITLE</p> <p style="text-align: center;"><b>SPAD WIRING, 24VDC MODEL 2000/2800e</b></p>					
<p>MATERIAL</p>		<p>TOLERANCES UNLESS NOTED</p> <p>DECIMALS</p> <p>.X ± 0.1</p> <p>.XX ± 0.03</p> <p>.XXX ± 0.01</p>	<p>SIZE</p> <p style="text-align: center;"><b>A</b></p>	<p>THIRD ANGLE</p>	<p>PN</p> <p style="text-align: center;"><b>1269103</b></p>	<p>REV</p> <p style="text-align: center;"><b>A</b></p>		
<p>FINISH</p>		<p>DWN PSG DATE 11/23/10</p>	<p>CHKD</p>	<p>DATE</p>	<p>SCALE</p> <p style="text-align: center;"><b>NTS</b></p>	<p>SHEET</p> <p style="text-align: center;">1 of 1</p>	<p>DWG NO</p> <p style="text-align: center;"><b>1269103_2a</b></p>	<p>REV</p> <p style="text-align: center;"><b>A</b></p>
<p>PROJECT:</p>		<p>APVD</p>	<p>DATE</p>	<p>LIBRARY:</p>				

REVISION		REVISION HISTORY			
DWG	PART	DESCRIPTION	ECO	DWN/DATE	APVD/DATE
A	A	RELEASE		PSG 11/23/10	
B	B	UPDATED WIRING		PSG 2/18/11	



BLACK  
RED  
WHITE  
GREEN

<p align="center"><b>NOTICE ON REPRODUCTIONS</b></p> <p><small>THIS DRAWING, THE DESIGN, AND THE PATENTS IT COVERS ARE THE PROPERTY OF LAKWOOD INSTRUMENTS LLC. THEY ARE LOANED MERELY ON THE BORROWERS EXPRESS AGREEMENT THAT THEY WILL NOT BE REPRODUCED, COPIED, LOANED, EXHIBITED, NOR USED EXCEPT IN THE LIMITED WAY AND THE PRIVATE USE PERMITTED BY WRITTEN CONSENT GIVEN BY THE LENDER TO THE BORROWER.</small></p>							
<p align="center">DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994</p>				<p align="center">TITLE</p> <p align="center">SPAD WIRING DIAGRAM, 5V M1575e, 140, 150</p>			
MATERIAL		<p>TOLERANCES UNLESS NOTED</p> <p>DECIMALS     ANGLES</p> <p>  X ±             ±</p> <p>  .XX ±            SURFACE</p> <p>  .XXX ±</p>		SIZE		PN	REV
FINISH		DWN	PSG	DATE		11/23/10	B
PROJECT:		CHKD		DATE			
LIBRARY:		APVD		DATE		SCALE	SHEET
				DWG NO		1269090_2b	
						REV B	