The ATC Diversified Submersible Pump Monitor is a specialized control for monitoring the shaft seal and stator temperature of a submersible pump motor. Seal leakage is detected by either a resistive float switch or a pair of conductive probes installed in the seal cavity. Over-temperature is detected by a normally-closed-low temperature switch mounted on the stator. The over-temperature function incorporates a bistable relay that retains its position during power failures.

### SPECIFICATIONS

**CONTROL VOLTAGE**
- 120 VAC, 50/60 Hz
- 120-240V AC 50/60 Hz (Model AEA)
- 24V AC/DC (Model AEA)

**SENSOR VOLTAGE**
- 12 VDC (Model AEE)
- 9V DC (Model AEA)

**POWER REQUIRED**
- 4 VA

**DUTY CYCLE**
- Continuous

**SENSITIVITY**
- Leakage: 1K Ω to 35K Ω adjustable (Model AEE)
- Leakage: 1K Ω to 25K Ω adjustable (Model AEA)
- Over Temperature: Open Circuit

**CONTACT RATING**
- (2) SPDT, 10 A @ 120 VAC Resistive

**LIFE EXPECTANCY**
- Mechanical: 10 Million Operations
- Electrical: 100,000 Operations @ Rated Load

**INDICATORS**
- Green LED illuminates under normal conditions
- Red LED illuminates when leak is detected
- Red LED illuminates on over-temperature

**TEMPERATURE RATING**
- Operate: -4°F to 131°F (-20° to +55°C)
- Storage: -40°F to 185°F (-40° to +85°C)

**RESPONSE TIMES**
- Leakage Trip: 1 SEC
- Leakage Reset: 1 SEC
- Temperature Trip: 0.1 SEC

**TERMINATIONS**
- (12) #8-32 Screw Terminals (Model AEE)

**ENCLOSURE**
- Style “E” Lexan® Surface Mounted (Model AEE)
- Style “A” 11 Pin Plug-In (Model AEA)

**WEIGHT**
- 17 oz. (Model AEE)

### ORDERING INFORMATION

<table>
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<tr>
<th>MODEL NUMBER</th>
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<td>Dual Function Alarm/Relay 120V AC Base Mount</td>
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<td>SPM-120-AEA</td>
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<td>SPM-24-AEA</td>
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### DIMENSIONS (INCHES) MODEL (AEE) BASE MOUNT

- .30” MAX
- .250”
- 4.00”
- 3.00”
- .370” #8-32
- .218” DIA.

### DIMENSIONS (INCHES) MODEL (AEA) 11 PIN PLUG-IN

- 3.60”
- 1.75”
- 2.375”
**OPERATION**

Figure 1 shows the connections for use with a Flygt model FLS float switch. The leakage sensitivity must be adjusted to 1 k for float switch applications. If a pair of conductive probes is used to sense seal leakage, a 100 k resistor is required as shown in Figure 2, and the sensitivity should be set to the desired value.

The states of the unit’s relay outputs are determined by the series combination resistance of the leakage and temperature sensors. Under normal conditions the resistance remains between the leakage and over-temperature sensitivities, and both output relays are de-energized. If the temperature switch opens, the over-temperature relay latches on until the remote reset button is pressed. Two conditions must be met for reset to occur: power must be applied and the temperature switch must be closed. If the leakage sensor resistance drops below the leakage sensitivity setting, the leakage relay energizes. When the leakage condition clears, the relay resets automatically.

**WIRING MODEL (AEE) (BASE MOUNT)**

Figure 1

![Wiring Diagram](image1)

**WIRING MODEL (AEA) (PLUG-IN)**

Figure 1

![Wiring Diagram](image2)