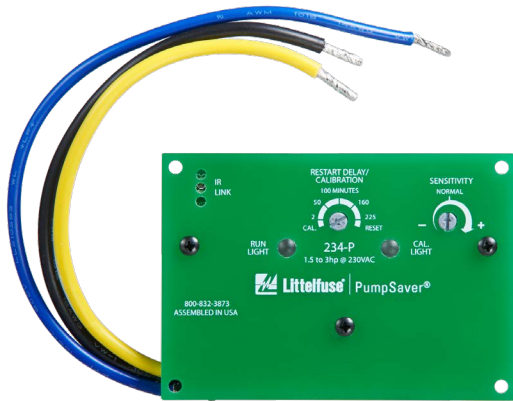


# 234-P

## Single-Phase Pump Monitor



### Description

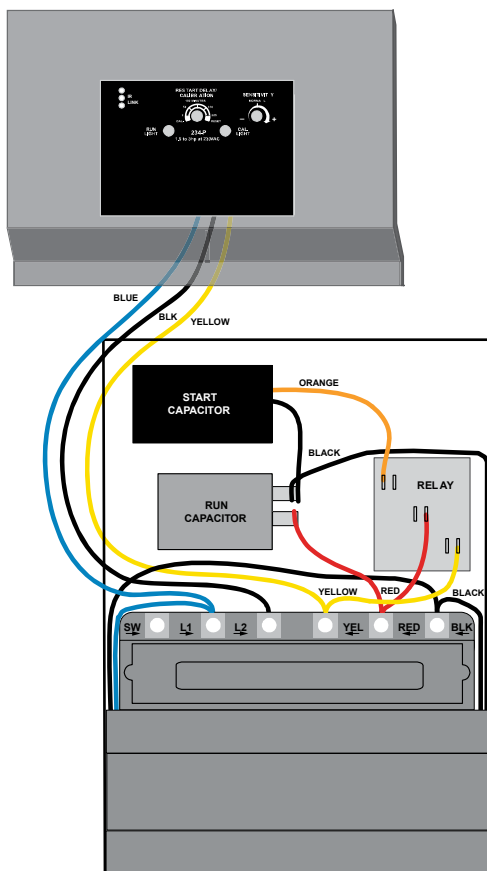
The PumpSaver® Plus Model 234-P protects single-phase pumps from dry-well, dead-head, rapid-cycle, jammed-impeller, and over/undervoltage conditions. Typical applications include residential waterwells, commercial waterwells, irrigation wells, and golf course and other sprinkler systems.

The Model 234-P is designed to be mounted inside a Grundfos\* control box to protect 1/3–3 hp, 2- or 3-wire, 230 V pumps.

An infrared LED communicates directly with a hand-held diagnostic tool called the Informer (sold separately).

### Wiring Diagram

234-P CONNECTIONS IN GRUNDFOS\* CONTROL BOX



### Features & Benefits

| FEATURES   | BENEFITS   |
|--|--|
| <b>Proprietary microcontroller based circuitry</b> | Constant monitoring of voltage and current protects pumps from dry-well, dead-head, jammed impeller, rapid cycling, and voltage faults |
| <b>Onboard sensitivity adjustment</b>              | Allows user to adjust the current sensitivity for the dry-well / dead-head trip point from 70 % - 90 % of the full load.               |
| <b>Adjustable restart delay</b>                    | Allows user to select well recovery time delay after a dry-well condition occurs, or to select manual reset                            |
| <b>Built in IR communications link</b>             | Used with the Informer, allows user to see stored faults, run time, and also troubleshoot the pump while it's running                  |
| <b>LED indication</b>                              | Provides status and diagnostics for troubleshooting  |

### Accessories



#### Informer

A hand-held diagnostic tool that uses an infrared receiver to access information which can be helpful for troubleshooting the system. Includes the Informer IR Kit-12



#### Informer IR Kit-12

12" infrared adapter cable attaches to the face of the unit to provide remote diagnostics without opening the panel. Included with the Informer

For installation instructions see the Fresh Water Pumping Catalog.

## 234-P

### Specifications

#### Functional Specifications

|   |  |
|---|--|
| <b>Adjustments/Settings</b>   |  |
| <b>Overcurrent</b>  | 125 % of calibration point                     |
| <b>Underload (dry-well)</b>   | Adjustable (70 - 90 % of calibrated run power) |
| <b>Overvoltage</b>  | 265 V ac                                       |
| <b>Undervoltage</b>   | 190 V ac                                       |
| <b>Number of restarts allowed in a 60-second period (rapid-cycling)</b> | 4  |
| <b>Trip Delay Times</b>   |  |
| <b>Overcurrent</b>  | 5 seconds                                      |
| <b>Dry-well</b>   | 4 seconds                                      |
| <b>Restart Delay Times</b>  |  |
| <b>Over/undervoltage</b>  | 2 seconds                                      |
| <b>All other faults (dry-well recovery timer)</b>                       | Manual, 2-225 minutes                          |

#### Input Characteristics

|                       |  |
|-----------------------|--|
| <b>Supply Voltage</b> | 230 V ac   |
| <b>Load Range</b>     | 1/3 – 3 hp   |
| <b>Frequency</b>      | 50/60 Hz<br>(Note: 50 Hz will increase all delay timers by 20 %) |

#### Output Characteristics

**Output Contact Rating (SPST)** 3 hp @ 240 V ac (17 A max.)

#### General Characteristics

|                                      |  |
|--------------------------------------|--|
| <b>Operating Temperature</b>         | -40 °C to 70 °C (-40 °F to 158 °F)             |
| <b>Maximum Input Power</b>           | 5 W (max.)                                     |
| <b>Dimensions</b>                    | Fitted to Grundfos* Control Box                |
| <b>Weight</b>                        | 14 oz.   |
| <b>Mounting Methods</b>              | Grundfos* Control Box                          |
| <b>Standards Passed</b>              |  |
| <b>Electrostatic Discharge (ESD)</b> | IEC 61000-4-2, Level 2, 4 kV contact, 6 kV air |

\*Grundfos is a trademark of its respective owner.

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