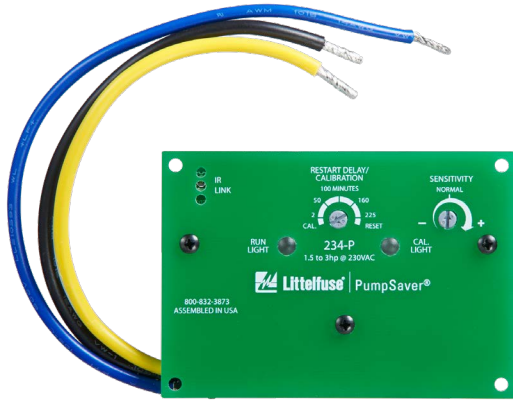


Protection Relays

Motor and Pump Protection

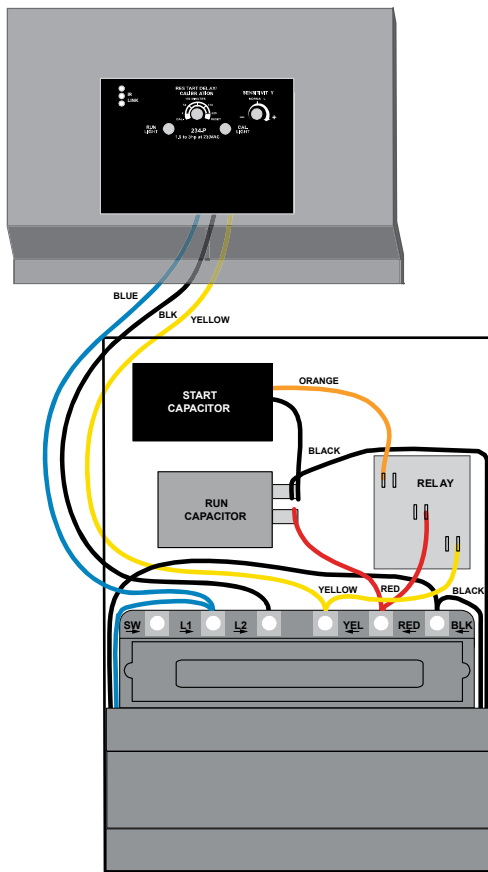
234-P

Single-Phase Pump Monitor



Wiring Diagram

234-P CONNECTIONS IN GRUNDFOS* CONTROL BOX



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).

Features & Benefits

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

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

Input Characteristics

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

Output Characteristics

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

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

*Grundfos is a trademark of its respective owner.