

# INSTALLATION & OPERATION V SERIES LOAD CONTROLS AND POWER CELLS FOR VARIABLE FREQUENCY AND DIRECT CURRENT POWER



Power Cells Sense Motor Power From Variable Frequency  
And DC Drives — V Series Load Controls Use This Signal  
To:

- Adjust Machines and Processes
- Signal Beginning or End of Process
- Detect Trouble
- Protect Machines and Processes

 **LOAD CONTROLS  
INCORPORATED**

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# POWER CELLS

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Various models of the Power Cell are used to sense variable frequency and DC power. They utilize Hall effect sensors that are not affected by wave shape or frequency.

## MODEL NUMBER

PH-3 For Variable Frequency Power to 350 Amps  
PH-1000V For Variable Frequency Power to 1000 Amps  
PH-1 For DC Power to 350 Amps  
PH-1000DCV For DC Power to 1000 Amps

## HOOKUP ON

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These Power Cells are matched to the load with plug-in voltage and current networks. (See Page 14)

The output of the Power Cell goes to a V series load control.

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# FEATURES ON ALL V SERIES CONTROLS

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## ADJUSTABLE SET POINTS

When power reaches your selected SET POINT a built-in Relay Output is activated (tripped). Relay stays tripped (latched). You choose when to reset.

## ANALOG OUTPUT

Hook to the Load Meter for monitoring load, easy setup and adjustment.

## EASY SETUP WITH SET READ SWITCHES

Press the SET READ Switch and the SET POINT for that Channel is displayed on the LOAD METER.

- You **know** where the SET POINT is
- Easily verify proper operation

## BUILT-IN STARTUP TIMER

Adjustable Timer eliminates false trips while the Motor is starting.

## FILTER OUT NUISANCE TRIPS

Adjustable On-Delay Timer. Trip won't activate until the selected delay time is exceeded.

## RESET

The Control can be Reset

- Automatically — when the overload is gone
- Remotely — with switch, relay or programmable controller
- Manually

## TRIP INHIBIT

The Control can be remotely bypassed during any part of the cycle when not required.

## Also Available

Remote Set Point Adjustment for All Models

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## STANDARD LOAD CONTROLS

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The relays trip when a Set Point is reached. Set Points can be:  
High Trip — Trips when the power goes above the Set Point  
Low Trip — Trips when the power goes below the Set Point

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## STANDARD LOAD CONTROL MODEL NUMBERS

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**PFR-1500V Single Set Point**  
One Set Point — High Trip

**PFR-1500VL**  
One Set Point — Low Trip

**PFR-1700V Dual Set Points**  
Two Set Points — Both High Trip

**PFR-1700VHL High-Low Set Points**  
Two Set Points — One High Trip, One Low Trip

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## COMPENSATOR™ LOAD CONTROLS

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For machine tool applications the IDLE or BASELINE power of a machine tool drifts because of changes in:

- Temperature
- Lubricant Viscosity
- Mechanical Clearance
- Idle Speed

For accurate dull or broken tool detection, grinder gap elimination, this drift should be zeroed out.

- A limit switch or programmable controller signal tells the COMPENSATOR™ each time the machine is in the idle or "BASELINE" position.
- The COMPENSATOR™ samples this power level and retains it as a reference.
- The SET POINTS are related to this BASELINE.

In other words, the COMPENSATOR™ zeros out the BASELINE power for each cycle. The absolute trip point changes as conditions change but always remains a fixed amount away from the BASELINE. This means no constant fine tuning. It adjusts itself.

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## COMPENSATOR™ LOAD CONTROL MODEL NUMBERS

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**PCR-1800V COMPENSATOR™**  
Single Set Point Above the Compensating Baseline

**PCR-1810V COMPENSATOR™**  
Two Set Points: One Compensating, One Standard

**PCR-1820V COMPENSATOR™**  
Two Set Points, Both Compensating

# INSTALLATION

## MOUNTING

The Load Control should be mounted in a control cabinet or in a protected area. The four phillips head screws on the Control should be removed and used for attaching the mounting brackets to the Control.

The Power Cell should be mounted so that the motor supply leads can pass through the holes. Direction is important. The Load side (the Load Controls Label) must face the load.

## INPUT CONNECTIONS TO THE LOAD CONTROL

A 3 foot 4 wire shielded cable is provided to connect the Power Cell to the V Series Control. If more length is needed, use shielded cable.

White	SIG
Red	V+
Black	V-
Green	GND

Shield Wire - Connected to "Chassis GND" on Load Control NOT connected at Power Cell.

## 120 Volt Power

Connect to the 120VAC terminals on the Load Control. Ground the Load Control Chassis.



