

# INSTALLATION & OPERATION

## PCR-1830V LOAD CONTROL AND POWER CELLS FOR VARIABLE FREQUENCY AND DIRECT CURRENT POWER

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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.

The output of the Power Cell goes to the PCR-1830V load control.

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### FEATURES

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#### 3 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. The characteristics of these Set Points can be changed.

#### 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 START-UP 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. The On Delay for Set 1 can be defeated.

#### 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

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# SET POINT CHARACTERISTICS

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## REGULAR SET POINTS

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  
All 3 Set Points can be Regular. Set 1 can be high or low.

## COMPENSATOR™ SET POINTS

For machine tool applications such as grinder gap elimination or dull tool detection the drifts in idle or "BASELINE" power 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™ zeroes 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. Set 1 and Set 2 can be compensated.

## Adjustment Ranges for Set Points

3%-50% — Expands the adjustment range to provide more sensitivity and precision at low loads (especially for COMPENSATED Set Points)

6%-100% — For General Use

On Delay — For Set 1, the Trip Delay can be removed from the circuit for maximum response speed - useful for grinder gap elimination.

## CHANGING CHARACTERISTICS

The factory settings for the characteristics are marked on the Control adjacent to the Serial Number on the side. To change them, remove the cover (4 Phillips screws) and find the 6 Position DIP SWITCH.

## SWITCH POSITIONS

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Set 1		Set 2	
COMPENSATED	Switch 2 OFF	COMPENSATED	Switch 6 OFF
Regular	2 ON	Regular	6 ON
High Trip	3 OFF	3%-50% Range	5 ON
Low Trip	3 ON	6%-100% Range	5 OFF
3%-50% Range	1 ON		
6%-100% Range	1 OFF		
Defeat On Delay	4 OFF		

Set 3 is always Regular with 6%-100% Range.

# 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

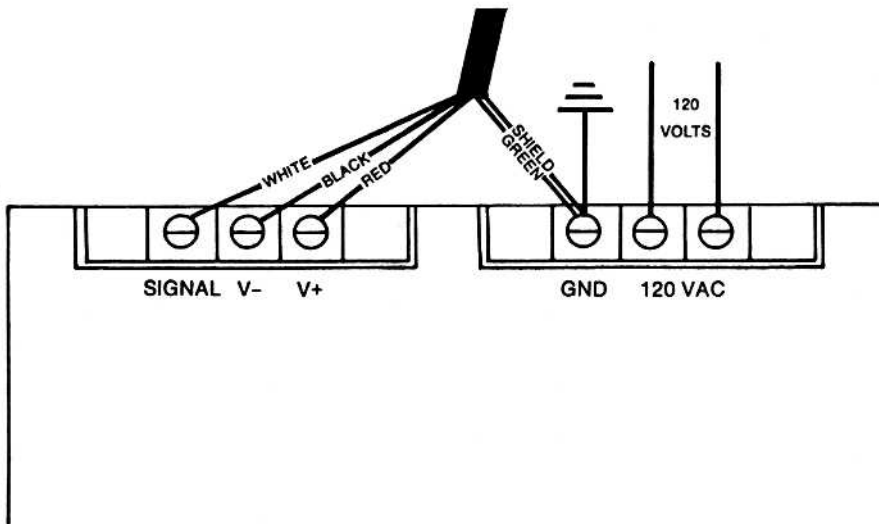
A 3 foot 4 wire shielded cable is provided to connect the Power Cell to the V Series Control. If more length is needed, use shielded cable.

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.

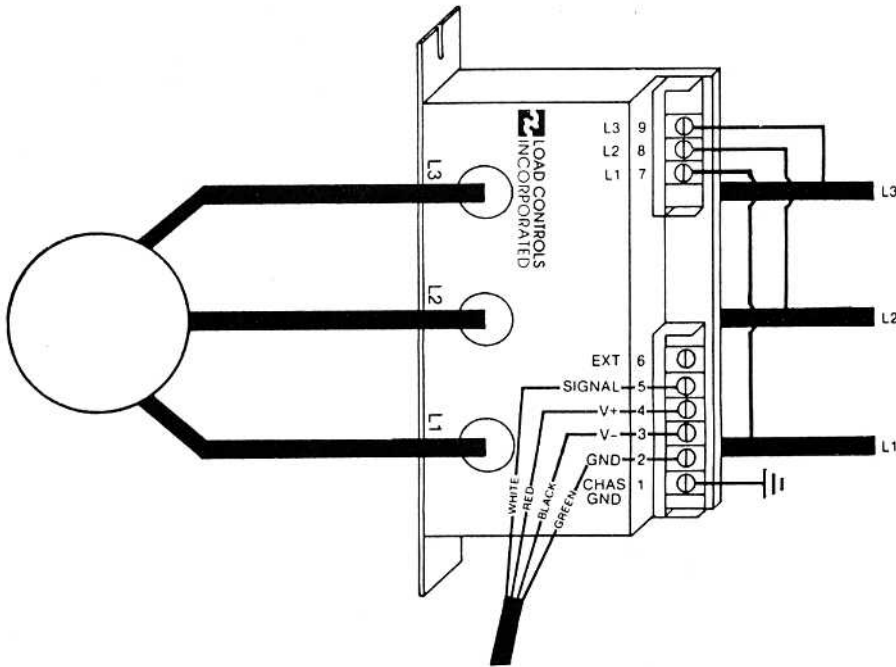


# PH-3 & PH-1000V POWER CELLS For Three Phase Power

Pass each of the phases through the L1, L2, L3 holes in the Cell. Be certain that **DIRECTION** is correct. The LOAD side of the Cell should face the load. The Power Cell should be on the output side of the drive.

From a convenient location provide a voltage signal for each phase with 20 gauge or larger wire. The voltage signal should also come from the output side of the Drive.

- L1 to Terminal 7
  - L2 to Terminal 8
  - L3 to Terminal 9
- Make sure that the voltage samples don't get switched



Hook up PH-1000V like PH-3

## TERMINALS 1-6

- |       |   |           |
|-------|---|-----------|
|       | 1 | Chas. GND |
| Green | 2 | GND       |
| Black | 3 | V-        |
| Red   | 4 | V+        |
| White | 5 | SIG       |
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