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# INSTALLATION & OPERATION

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## LCI MOTOR LOAD CONTROLS

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## LCI Motor Load Controls Sense Motor Horsepower—

Use this valuable feedback 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

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The POWER to a motor measured in watts or horsepower is essentially linear for all motor loads and is the best indicator of the work being done by a motor. This is more sensitive than just sensing Amps.

These Controls have a built-in fast response Power Sensor

- Voltage is taken from two of the phases
- Current (amperage) is taken from the remaining phase
- Power Factor is calculated from the lag of the current behind the voltage

THREE PHASE POWER = VOLTS X AMPS X POWER FACTOR X 1.73

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## FEATURES ON ALL 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-1500 Single Set Point**

One Set Point — High Trip

**PFR-1500L**

One Set Point — Low Trip

**PFR-1700 Dual Set Points**

Two Set Points — Both High Trip

**PFR-1700HL 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 CONTROLS MODEL NUMBERS

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**PCR-1800 COMPENSATOR™**

Single Set Point Above the Compensating Baseline

**PCR-1810 COMPENSATOR™**

Two Set Points: One Compensating, One Standard

**PCR-1820 COMPENSATOR™**

Two Set Points, Both Compensating

