

APTL

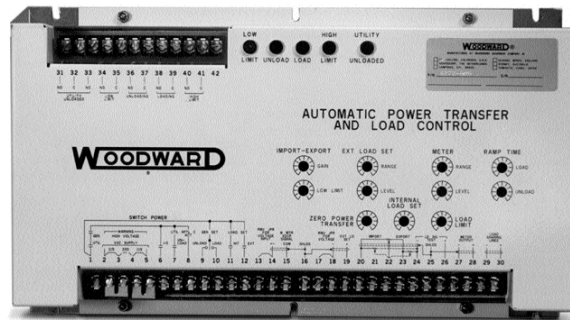
Automatic Power Transfer and Load Control

Applications

The APTL Automatic Power Transfer and Load Control provides new levels of control for standby generators or cogeneration. The control permits truly bumpless transfer of loads from the local system to and from the utility or to and from the plant system.

Long ramp rates can improve engine economics and extend engine life.

- Electronic ramping times for loading or unloading are adjustable from 5 seconds to 132 minutes.
- Power transfer is controlled for:
 - –Utility unload
 - –Generator system unload
 - –Zero power transfer
 - –Amount of load set by computer
 - –Amount of load set by an internal or an external manual pot
- Peak shaving
- Import-export



- Meter output indicates the percentage of system generating capacity in use.
- Adjustable ramps replace MOPs for loading or unloading. Ramp rates for loading and unloading may differ.
- An APTL Control provides low and high limits for generator loading.
- Tracks plant load when not connected to a utility bus.
- Locks in load when paralleled until load or unload mode is selected.

Description

The APTL Control provides a compact control unit for a load-sharing system, offering features not previously available. The APTL prevents load bumps when joining to and separating from a utility.

The APTL Control adjusts the output of the generating system by biasing the load-sharing lines. The APTL will provide loading control for the entire system, or for a single-engine generating set. Individual Generator Loading Controls are needed to unload and load individual units of multiple-generator systems.

Using with Standby Generator

The APTL Control, when combined with electronic load sharing and speed controls and an SPM-A Synchronizer, provides an automatic method of exercising emergency generators or standby systems.

The emergency system is started and synchronized with the utility. Paralleling at no load on the standby generator is accomplished with the synchronizer. The APTL Control is activated by an auxiliary contact on the paralleling circuit breaker. The APTL then holds the emergency generator at no load.

At the same time, switching logic closes the Utility Unload contacts, causing the local load to be transferred from the utility to the emergency generator at the selected rate. When the transfer is completed, the single-pole, double-throw Utility Unload contacts will open. These contacts are used to initiate an automatic separation from the utility.

Several loading methods are available for use when tied to a utility.

After exercising the generators, a bumpless return to the utility is accomplished through the normal sequence of synchronizing and paralleling, and then using the unload mode and the unload-relay contacts in the APTL Control to initiate separation and shutdown of the standby system.

The APTL Control sets new standards of automation for standby generation.

For more information, see technical manual 82381.

- Electronic loading and unloading ramps
- Import/export control
- Peak shaving control
- Zero power transfer
- Eliminates load bumps when paralleling
- CSA Certified

Cogeneration Systems

Automatic load setting is a prime advantage of including an APTL Control in a cogeneration system.

The selection of long ramp times allows improved engine economies and longer engine life.

Engine or system load may be varied according to a schedule from a computer or other outside source, allowing the maximum cogeneration efficiency for a single-engine or multiple-engine system.

The APTL Control will respond to a process control, when generation of electricity is a by-product of the process application.

Specifications

Ramp Rates

Load and Unload Ramp Rates Adjustable from 5 seconds to 132 minutes, elapsed time from no load to full load. Load and unload ramp rates, adjust separately within selected ramp rate ranges.

Import/Export and Zero Power Transfer Response Rates Adjust separately from ramp rates.

Power Requirement

Maximum Power Requirements 10 W

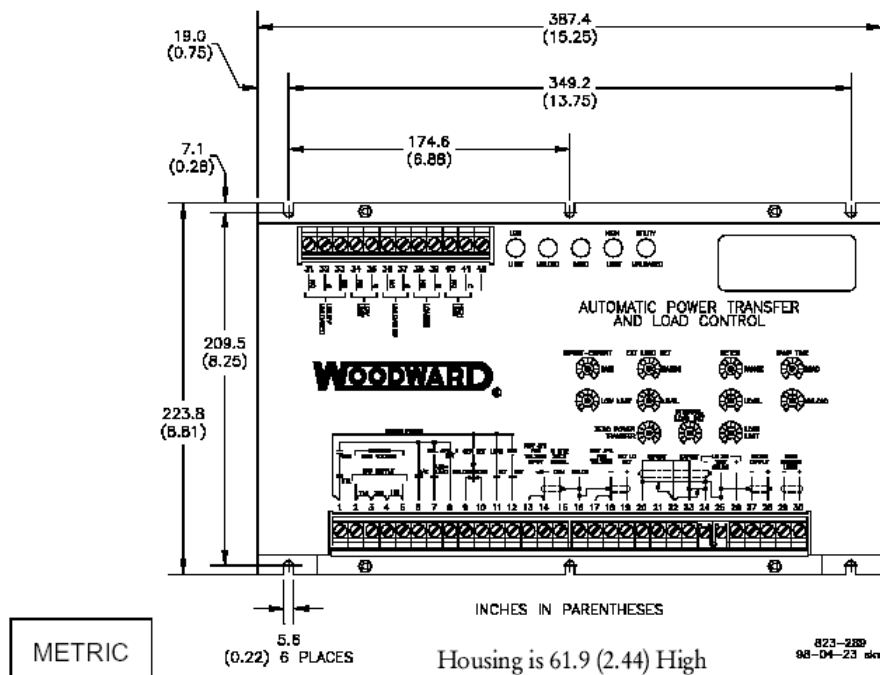
Weight

Approximate Weight 2.4 kg (5.3 lb)

Relay Contacts

Automatic Relay Contacts close and indicators light when:

- Utility is unloaded
- Generator is being loaded
- Generator is being unloaded
- Load is at High Limit
- Load is at Low Limit (generator system is unloaded)



APTL Outline Drawing (Do not use for construction)



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