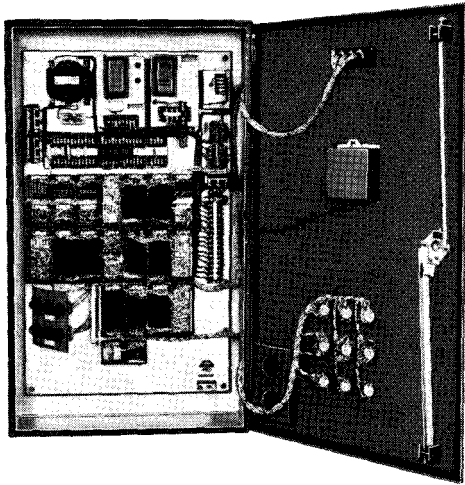




NEW SHEET

NORPAK[®] LOAD DEMAND CONTROL



Typical Wall Mounted NORPAK
Load Demand Control

The best use of industrial power dollar is often not just a matter of efficient machinery and good power factor, but is also determined by the monthly charge based on the greatest peak power drawn during the preceding billing period, even though the average power required might be only a fraction of this peak power requirement. In other words the financial charges to the power consumer are generally a combination of:

- I. Maximum Demand
- II. Total electrical energy consumed during the period for which these charges are computed.

The NORPAK LOAD DEMAND CONTROLLER is a highly accurate and reliable solid state control device for reducing demand charges of industrial power users with some controllable loads or inplant power generation equipment.

240/480	CLASS 8934	60 CYCLES	ADDITIONS AND SPECIAL FEATURES
Description	Price	Description	Price
LOAD DEMAND CONTROL.....	\$7100	ADDITIONAL OPERATING POINTS.....	★
Complete with:		REMOTE DIFFERENCE READOUT.....	★
— Adjustable IDEAL Rate		REMOTE DEMAND PERIOD CLOCK.....	★
— Adjustable Zero Offset		PRINTED LOG.....	★
— FIVE Adjustable Control Points			
— Demand Internal Clock			
— Difference Readout			

★For these and other modifications consult factory.

APPLICATION DATA

DEMAND LIMIT: Maximum demand limit can be easily changed to meet future load conditions.

OPERATING POINTS: Five operating points are each independently adjustable and suitable for sounding alarms and controlling loads.

ZERO OFFSET: Adjustable zero offset permits modifying "ideal" rate to allow heavy use of power at the beginning of demand interval without exceeding maximum demand.

SOLID STATE CIRCUITRY: NORPAK logic circuit elements are completely encapsulated in epoxy resin. The re-

sulting package is a solid unit which will resist mechanical or thermal shocks and is inert to almost any industrial atmosphere. Since all circuits are static, there is no need for routine mechanical adjustments or inspection, life for most practical purposes is unlimited.

DEMAND INTERVAL CLOCK: 12 inch diameter clock supplied as integral part of controller.

CONTROLLER: All control assembled in a single wall mounted enclosure of rigid industrial construction suitable for moderately dusty atmospheres.



NORPAK[®] LOAD DEMAND CONTROL

OPERATION

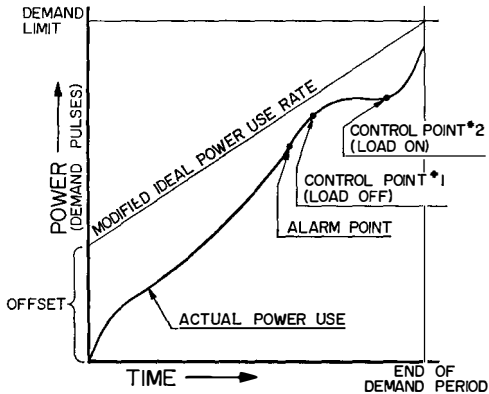


Figure 1

Operation of the Load Demand control is based on generating the ideal rate curve by producing a uniform pulse rate over the demand interval. These ideal pulses are next compared to the actual use KWH pulses of a specific KWH value repeated from the company's billing meters, (refer to Fig. 2). The difference between the ideal rate pulses and the actually used KWH pulses throughout the demand interval is used to automatically remove certain power loads to hold the demand within some preset value. Control decisions are made with preset points. These are adjusted by the user to shed and restore incremental loads, depending on how much difference exists between actual demand and ideal demand. Five control points are provided as standard, however additional control points can be added if required.

On most loads it is desirable to modify the ideal rate by incorporating an offset, (refer to Fig. 1). This offset prevents premature control action, thereby avoiding unnecessary control operation during the early part of the demand interval. Proper choice of offset will minimize production interruption without getting into the position of not being able to prevent exceeding the demand limit.

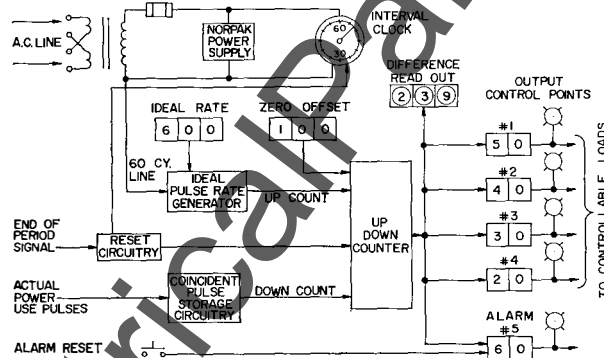


Figure 2

ELECTRICAL RATINGS

Input Power Requirements			Output Control Points ①			
Volts	Frequency	Rating	Volts	Current Rating		Fusing
				Continuous	Peak Inrush	
240/480	60 Cycles	1 KVA	120	1 Amp. RMS	7 Amps. RMS	2 Amp. ②

① Ratings are for each of five (5) solid state switch outputs.
 ② Quick acting fuses; buss limit on Type KAA-2 or equivalent recommended.

Signal devices for KWH pulses and end of period inputs:
 Commercially available repeater relays will adapt well as NORPAK inputs. (Relays supplied by customer).
 Operating Temperature Range: 0° C to 60° C (32 to 140° F).

APPLICATION NOTES:

In order for the NORPAK load demand control to perform its function, two basic requirements must be met:

- Precise sensing of the utility demand metering equipment: the most direct way to sense the utility metering equipment is to repeat the position of contact devices in the watt hour meter for demand pulses or totalizing relay for end of internal timing. If the utility does not permit this, the customer must do

one of the following; Use an inductive pickup scheme, or duplicate the utility metering equipment.

- Adjust plant load in response to the NORPAK control decisions; demand limit, operating point outputs, and zero offset setting are determined after thorough study of metering equipment, demand interval, the nature of the load and the means used to reduce load as the maximum demand is approached.