

## **CYCLIC LOAD ENERGY SAVER**

### **Save Energy Up to 25% - 30%**

**Cyclic Load Energy Saver** is an micro controlled equipment developed to save power on variable load machines like Presses, Injection Moulding Machines, Agitators, Conveyers and Textiles Mills, etc. These Units delta to Star Change over the power saving can be up to 25-30 % of the no load power. The amount invested can be realised in Just 7 to 8 months.

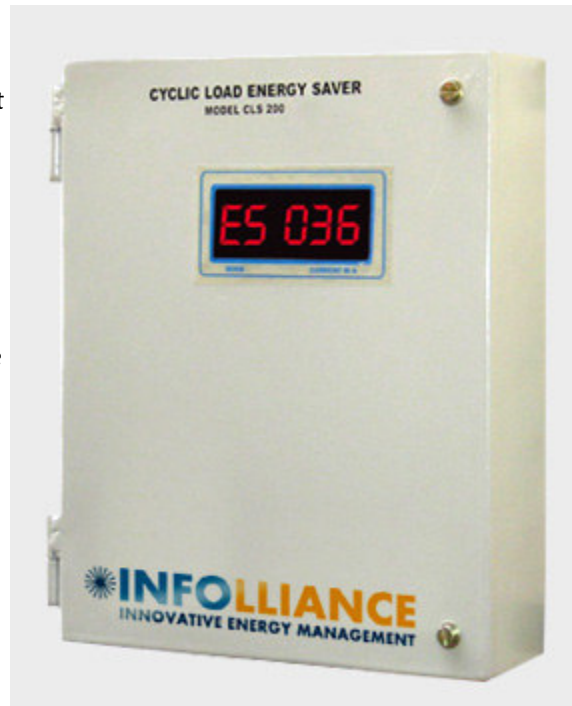
#### **Principle Of Operation:**

During partial load of no load period motor is supplied with 400/440V as that much power is not required in that load condition. So by reducing the voltage applied during partial load periods power can be saved. Normally motors run in delta mode. i.e. full voltage is applied to the motor. So by making the motor to run in star mode during these no load periods only  $1/\sqrt{3}$  times the line voltage is applied which reduces the power input to the motor.

**CLS 200** : Suitable for partially loaded machines and gradually increasing loads like Cooling Tower Fans, Blowers, Ring Frames, Centrifuges, Agitators, Etc.

**CLS 200C** : Suitable for fast changing loads like Compressors, Presses, etc., This incorporated additional facility or Over Riding Timer which limits the number of changeover per hour.

**CLS 200DX**: Suitable for Air/Chilling Compressor, Injection Moulding Machines, etc. this incorporates all the feature of CLS 200 and CLS 200C.



### Advantages

- Lesser Heating of Motors
- Improved Power Factor
- Reduced Power Bills
- Short payback Periods
- Reduction in Maximum Demand

### Advantages of Excellent Cyclic Load Energy Saver

- Bright LED display indicate the Motor current (A) with indicate of Adjustment ad set values.
- 5 Cycle delay for contactor change over which safe guards Star and Delta to close after proper release.
- INSTANT OVER LOAD : Instantaneous isolation of Motors
- NORMAL OVER LOAD : with delay of 3 seconds with Indication of last Over Load Current.
- Auto bypassing during abnormal condition
- Auto over riding timing during frequent change over
- Auto Bypass during CT failure or loose connections.

### OPTIONAL (3 C.T models)

#### Minimum Current Relay :

This is meant to use in applications where it is required top Trim the motors when it is not doing any useful work. It is based on the principle of minimum current drawn when application or motor is not rendering any worthwhile work

#### Zero Current Transition :

This is based on the "Down Trend" of the current during change over. Trip used to protect the systems against Timer and contactor failures. This trip is indicated as "CF" in the mode display

#### Single Phasing :

This is a current based single Phasing, This prevent the motor from any phase failures. This trip is indicated as "SP" in the mode display

### Energy Saving Studies:

Capacity of Motor (H.P)	Equipment	Operating Current/(power Consumption in KW		Savings (Kwh/Hr or Units/Hr)	Savings/Year in RM (Two Shift Operation) RM 0.23/Units	Pay Back Period Approx (Months)
		DELTA	STAR			
20	Cooling Tower	15.2 (6.5)	10.1 (5.5)	1	1,325/-	18
30	Centralised Grinding M/C	14.5 (5)	7.5 (3.1)	1.9	2,517/-	10
40	Lathe	21.8 (7.6)	8.9 (3.7)	2.3	3,048/-	8
30	Compressor	14 (4.8)	6 (2.6)	1.2	1,590/-	12
50	Shearing Machine	22 (7.6)	8 (8.3)	2	2,650/-	9
20	Air Handling Unit	12.8 (4.4)	7.8 (3.2)	1.2	1,590/-	12
15	Centrifuge	12.2 (7.3)	4.4 (3.1)	2	2,650/-	9
200	Compressor	77A (32)	30 (17.5)	5	6,624/-	7

### Applications:

1. Presses
2. Shearing Machines
3. Simplex Machines
4. Agitators & Conveyors
5. M.G.Welding Set
6. Injection Moulding Machine
7. Cutting Machines
8. Centrifuges
9. Cooling Tower Fans
10. Centerless Grinding Machines
11. Compressors
12. Ring frames
13. Crushers
14. Blowers & Water Pump
15. Lathe, Etc.,

### Specifications:

Supply Voltage	: Operation 230V, 50 Hz
Power Consumption	: 6VA
Delta-star Changeover time	: 5-45 Sec. (Adjustable)
Star-Delta Changeover time	: Instantaneous



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