

# ENERGY SAVER

SAVES ENERGY UPTO 40%  
WITH COMPLETE AUTOMATIC OPERATION

## AUTOMATIC DELSTAR CONVERTOR - 'ADLS'



- ▶ Motor STAR and Motor DELTA Hour meters provided (Hour meters helps you Calculate, Verify & Monitor the savings)
- ▶ Other savings, Reduction in KVA & Maximum Demand
- ▶ Improvement in Power Factor and Increased Motor Life
- ▶ Automatic Change over from Delta to Star , Star to Delta
- ▶ Continuous Digital Display of Actual Current
- ▶ Settable Delta to Star Change over Current / Time delay
- ▶ Settable Overload / Hooter (warning) current
- ▶ Optional Single Phasing Preventor
- ▶ Indications of STAR, DELTA Delay, SPP, Hooter (Overload)
- ▶ Emergency Auto / Manual option (By pass)
- ▶ Can be fixed with your existing Motor & Starter
- ▶ DIN Instrument in Metal body for Industrial environment

# ADLS HELPS YOU SAVE ON YOUR ELECTRICITY BILL OF UP TO 40% WITH A PAY BACK OF LESS THAN 6 MONTHS.

## ABOUT ADLS

ADLS is a Automatic Star Delta Converter. ADLS switches the Motor to Star Mode, when the Load is less than 50%, and when the Load increases beyond 50% it Automatically switches the Motor to operate in Delta Mode. ADLS is to be interface with your existing Star-Delta Starter.

## PRINCIPLE OF "ADLS" OPERATION

All motors of higher capacity (generally > 10 hp) are provided with Star / Delta windings. During the Initial Startup the Motor is connected in Star Mode. This is to keep the Initial inrush of current low. Once the motor achieves the required speed, it switches to the Delta Mode, after which the Motor can be loaded. ADLS makes use of the fact that whenever the Load on the Motor is less (< 50%), it switches the Motor to Star Mode, and as soon as the Load increases (> 50%) it switches the Motor to Delta Mode. When the Motor operates in the Star Mode its current consumption drops by 1/3rd, there by Saving Energy. In short ADLS cuts OFF unnecessary wastage of electricity as drawn by the Motor when it is not required.

## WHO CAN USE 'ADLS'?

Any industry using a Star Delta Motor with Load Variations can use ADLS & Save Energy. ADLS is recommended for Applications, where Load changes are not more than two times/minutes (120 times/hour). ADLS can be used with any capacity of Motor, by choosing Appropriate Current Transformer (Ct's) and setting the Current Level as required.

Industries include from Cement, Sugar, Ruber, Paper, Plastic Chemical, Petrochemical, Fertilizers, Tooling, Breweries, Distilleries, Textile, Hotel etc. Applications include Ring Frames, Simplex Machines, Power Press, Compressors, Agitators, Reactors, Conveyors, Blowers, Lathes, MG Welding Sets, etc.

## HOW THE SAVINGS ARE AFFECTED?

The Motor runs in the Delta Mode when loaded (> 50%) and runs in Star Mode when unloaded (< 50%). The savings are to the tune of 10-40% depending on the Motor Load and the Load changes. The more the Unloaded time, the more are the savings. Certain Industrial Applications have clocked more than 50% of savings.

## SAVINGS CHART \*

Motor Capacity	FOR CONTINUOUS RUNNING OF MOTOR FOR 24 HOURS FOR 26 DAYS														
	Normal Consumption in Delta Mode		50% of Unloaded Time			40% of Unloaded Time			30% of Unloaded Time			20% of Unloaded Time			
	UNITS	AMOUNT	UNITS	AMOUNT	SAVINGS	UNITS	AMOUNT	SAVINGS	UNITS	AMOUNT	SAVINGS	UNITS	AMOUNT	SAVINGS	
10HP	4655	23275.00	3103	15515.00	7760.00	3414	17068.00	6207.00	3724	18620.00	4654.00	4034	20171.00	3103.00	
20HP	9310	46550.00	6206	31030.00	15520.00	6828	34140.00	12410.00	7448	37240.00	9310.00	8068	40340.00	6120.00	
30HP	13965	69825.00	9309	46545.00	23280.00	10242	51210.00	16815.00	11172	55860.00	13965.00	12102	60510.00	9315.00	
50HP	23275	116375.00	15515	77575.00	38800.00	17070	85350.00	31025.00	18620	93100.00	23275.00	20170	100850.00	15525.00	
75HP	34912	174562.00	23272	116362.00	58200.00	25605	128025.00	46537.00	27930	139650.00	34912.00	30255	151275.00	23287.00	
100HP	46550	232750.00	31030	155150.00	77600.00	34140	176800.00	62070.00	37240	186200.00	46540.00	40340	201710.00	31030.00	

Amount calculated @Rs. 5/- per unit. The actual savings with ADLS can be monitored & Calculated with built-in STAR & DELTA hour meters

## METHOD OF REFERRING THE ABOVE CHART :

for e.g. consider the case of 30 hp Motor  
 Normal consumption of Units in 26 days (24 hours)  $\cong$  13965 units  
 Amount @ Rs. 5/- per unit (13965 x 5)  $\cong$  69,825.00  
 With 30% of Unloaded Time  
 Units Consumed in 26 days (24 hours)  
 for 70% of 26 days (24 hours) in DELTA MODE  $\cong$  9,775.5 units  
 for 30% of 26 days (24 hours) in STAR MODE  $\cong$  1,396.5 units  
 (for STAR MODE units consumed at 1/3 consumption  
 13965 - 9775.5 = 4189.5 therefor, 4189.5 / 3 = 1396.5)  
 Amount @ Rs. 5/- per unit  $\cong$  55,860.00  
 Nett Amount saved (69825 - 55,860)  $\cong$  13,965.00

\* The figure indicated are an approximate guideline and under test conditions, the savings may vary from case to case basis.

## TECHNICAL SPECIFICATIONS

- Auxiliary Voltage : 230 VAC/110 VAC, 50Hz  $\pm$  15%
- Power Consumption : 6.5 VA (max.)
- Current Display : 0.5", 7 segment LED, (3/4 Digits)
- Display Accuracy : 1%  $\pm$  3 Digits of range selected
- Setting Range : 0-999, 100 : 5 to 1000 : 5 (using Appr. Ct's)
- No. of CT's Reqd. : 1 per unit
- O/p Relay Ratings : 5A @ 230 VAC (Resistive)
- Operating conditions : 5 to 60 C upto 95% RH
- Hysteresis : 2 - 3 Amp. between Star to Delta
- Delta to Star Delay : 0 - 99 sec. settable
- Enclosure : Metal 18 gange-Powder coated
- Mounting : Wall mounting
- Weight : 2600 gms.
- Dimensions (mm) : 230 (h) x 127 (d) x 126 (w)



Manufactured by :

**Cogent Controls**

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