

Report of Installation on Escalator at Nanjing Shopping Mall, China July 2005. Average Savings 18% Giving a Payback of 14 Months

This report covers the installation of an EnviroStart onto an 11kW 23A motor driving the up-side of one of the escalators at the Nanjing Shopping Mall Complex.

The system is running on average for 14 hours a day for 360 days a year. Like all escalators the loading on the system is actually quite small as the unit is heavily geared.



The Escalator Motor Within the Top Standing Pit



Had this been intended as a permanent installation then the EnviroStart would have been fixed to the outside of the removable control gear cabinet.



Line condition on this site was good though the sub-station supplied voltage was only 368V.

The installation task was fairly onerous as the control system on this particular escalator not only had a reversing capability but additionally provided a junction box facility to other local systems associated with the escalator function. (This can be seen by looking closely at the control cabinet photograph adjacent).

The original system was DOL though switched through a number of contactors, all of which had to stay in circuit to maintain the safety and operational integrity of the escalator.

The EnviroStart was wired to retain all of the forward and reverse characteristics of the escalator control maintaining existing switch systems and auxiliary external to the control cabinet.

As can be seen from the consumption details shown overleaf whether the escalator was loaded or not the savings were substantial, averaging 18%.

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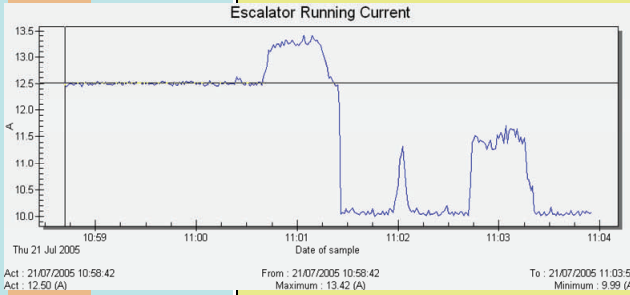
EnviroStart Three Phase G6 Soft Start & MEC Audit Analysis

Date: 21.7.2005 Customer: Nanjing Shopping Mall



Application	Motor Identity	MEC Or SS	Motor Plate kW	Motor Plate A	Motor Power in A Meas	Motor Power Factor Meas	Hours Motor Rms/Day On Load	Hours Motor Rms/Day Off Load	Days Motor Rms/Year	Motor Load %	E/Start Size	kW/Day Without E/Start	Motor Cost/Day Without E/Start	kW/Day With E/Start	Motor Cost/Day With E/Start	Savings as a %	Savings in £ per day	Savings in £ per year	P/Back in Years	EnviroStart Type Required	Cost of EnviroStart Unit (No Installation)
1 Escalator (Up)	B Level2	C MEC	D 11.0kW	E 23.0A	F 12.5A	G 0.38PF	H 14	I 350	J 54	11.0kW	104.8kW	£6.82	92.3kW	£6.00	12.0	£0.82	£286.24	1.10	400-TPMEC G6-11	£315	

Shows clear savings in the region of 19%. This would vary dependant on loading however observing the other escalators in the mall loading was rarely more than 3 - 4 people



MEC Savings	Cost of all Units
£286	£315

Summary Information

Total kW of Motors Audited	kW/Year Savings Shown	kW/day Savings Shown on This Sheet	P/B Period in Years Based on SS & MEC's
11.00kW	4.404kW	12.58kW	1.10 Years
Electricity Cost/kWh	Site PF	Site Voltage	P/B Period in Years Based on MEC's Only
£0.065	0.94PF	368V	1.10 Years
Days/Yr Motors Run	Hours/Day Motors Run	Average Savings/Motor	
Days 350	Hours 14.00	12.00	

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