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CASE STUDY

Lion Company Thailand

Project ID: A-012344

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General Manager



LION COMPANY THAILAND

Case Study & Installation

Electric energy-saving device for Lion Company Thailand

OBJECTIVE

To achieve BKK electrical energy saving at least 8%

METHOD

Smart Optimizer ECOD is an electric power saving device which

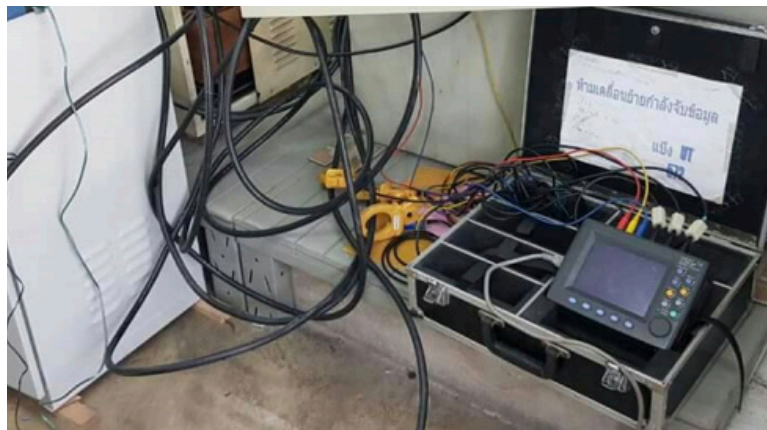
- Control the voltage and current in the optimum range
- Filtering harmonic and increase power factor
- Improve quality of electrical power supply in overall.

PROBLEM STATEMENT

- Energy saving is a persistent strategy of Lion Thailand to enhance competitiveness and environmental conservation.
- Metropolitan Electrical Authority will increase FT charges in May, 2017 hence electricity cost per unit will increase.

WORKING PRINCIPLE

Electronic controller regulates the direction of the current in the coil of each transformer (one per phase) to regulate and balance the network parameter to sustain within it highest performance whilst minimizing power loss.



Bangkok office test 2nd floor air conditioning system, Building B (6 - 10 February, 2017).



Sriracha Gas Sulfonation 2nd test with root blower motor on the 4th of April, 2017.

LION COMPANY THAILAND

Test Results

	Unit	Input Device off	Input Device on	Output Device off	Output Device on
Average voltage	Volt	374.92	375.31	366.48	362.41
Average current	Amp	22.04	20.46	22.40	20.73
Average power	VA	14318.57	13293.63	14265.85	13012.45
Power Factor average		0.52	0.57	0.52	0.56
Test period		14:23-14:28	14:16-14:22	14:34-14:39	15:02-15:06
		Input		Output	
Saving on Apparent power	%VA	-7.16		-8.79	

RESULT OF TEST ON ROOT BLOWER MOTOR (GS2) 4TH APRIL 2017

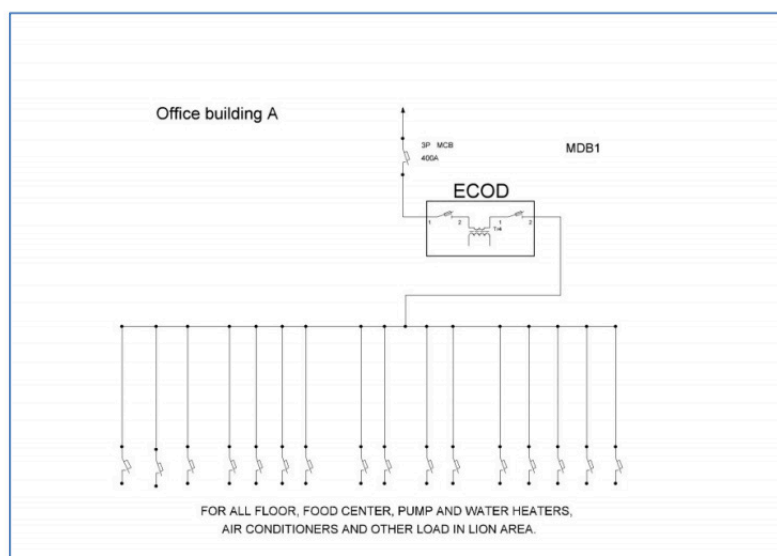
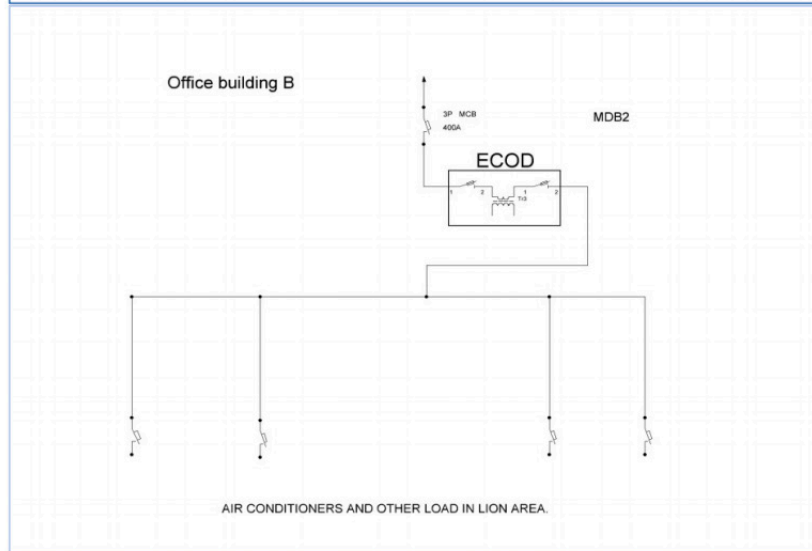
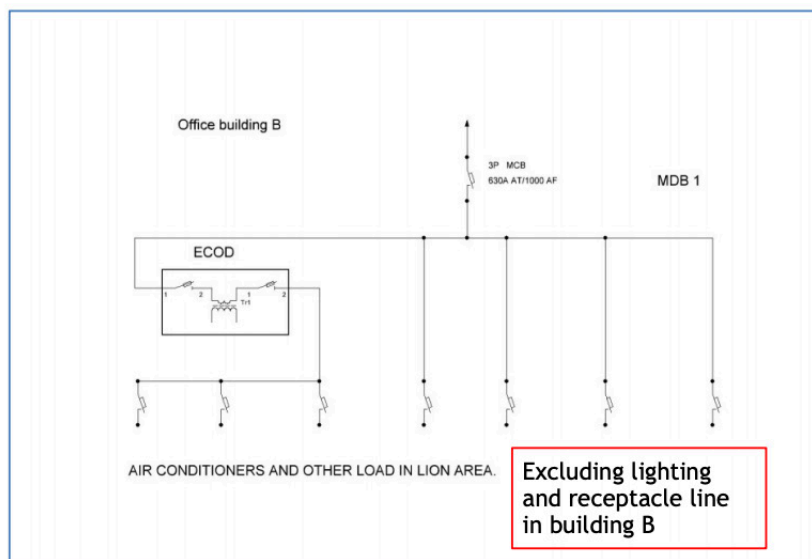
Measuring the electrical power on device input and output to ensure the integrity of the device.

Test summary :

- 8.79% saving on apparent power
- No evidence of Electric power performance drop by device

Lead time from order to installation: 15 days

Installation proposal below)



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Client References

Client References

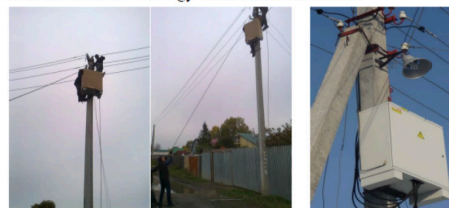
Client	Type of device	Data of installation	Remarks
UFA international air port	ES-IN-ML-80	06.06.2015	See attached, average energy savings effect 19%
Moscow ,Meat factory БИКОМ	ES-IN-ML-250	29.09.1998	See attached, average energy savings effect 14%
Moscow ,Meat factory ЧЕРКИЗОВСКИЙ	ES-IN-ML-250	01.07.1999	See attached, average energy savings effect 12-16%
Obninsk, municipality	ES-IN-ML-160	01.06.1997	Street lighting, See attached average energy savings effect 13.8-18.3%
Naro-Fominsk, municipality	ES-IN-ML-50	02.06.2004	Street lighting, See attached average energy savings effect 15 %
Moscow, SBERBANK	ES-IN-ML-160	12.10.2010	See attached average energy savings effect 12.4 %
Balakowo, Metal Factory SEVERSTAL	ES-IN-ML-250	21.01.2016	See attached average energy savings effect 19.6 %
Kaluga, VOLVO Trucks corporation	ES-IN-ML-200	19.07.2010	See attached average energy savings effect 16.3 %
Moskow, Wimm-Bill-Dann Foods	ES-IN-ML-130	21.08.2014	See attached average energy savings effect 10.6 %

Where we installed our equipment

- "Russian Railways", Branch at Novosibirsk.
www.rzd.ru
Result - Reduced energy consumption by 13.6%.
- Groupe Auchan Branch at Ryazan city
www.auchan.ru
Result - Reduced energy consumption by 14%.
- Group companies Rolf- largest dealer of cars in Russia
www.rolf.ru
Result- Reducing electricity consumption by 15%.
- Supermarket chain KOMANDOR
www.sm-komandor.ru
Result - Reduced energy consumption by 18.9%. • Olympic Sports Complex. Moscow
www.olimpik.ru
- ZAO Volihinsky Brewery. Result - Reduced energy consumption by 18.5%.
- Novosibirsk STI clinic. Result - Reduced energy consumption by 20%.
- ZAO Severstal-Resource.
<http://olcon.severstal.com/rus/about/index.phtml>
Russia's largest producer of iron ore, coking coal and gold. Result - Reduced energy consumption by 11.6
- Supermarket chain "Retail Service" in Barnaul. Result - Reduced energy consumption by 21.5%.
- KAZZINC LLP. - The largest producer of zinc in Kazakhstan
www.kazzinc.com
Kazakhstan, Ust-Kamenegorsk. Result - Reduced energy consumption by 12.7%.
- OJSC Magnit - the largest supermarket chain in Russia.
www.magnit-info.ru

Result - Reduced energy consumption by 15.1%.

- Supermarket chain Pyaterochka
www.pyaterochka.ru
Result - Reduced energy consumption by 14.9%.
- State energy company VOLOGDAOBLKOMUNENERGO Vologda. Result - Reduced energy consumption by 13.9%.
- RAO EESA Russia - West Siberian Branch, Novosibirsk
www.interrao.ru Energy Distributor in Russia.

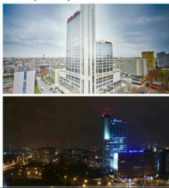




- Zoo. Novosibirsk city. Result - Reduced energy consumption by 14.7%.



2. POLAND

Feigin Electric Europe and Spin Holding <http://www.spinholding.pl/pl/>

Client	Type of device	Data of installation	Remarks
ALTUS, Izera, Katowice 	ES-IN-ML-160	08.07.2016	See attached, average energy savings effect 14%
Factory POLSAD 	ES-IN-ML-160	29..05.2016	See attached, average energy savings effect 13.6%
FORUM Mall 	ES-IN-ML-160	01.07.2016	See attached, average energy savings effect 12-13%

3. IRELAND and UK

Our partner Suarevolt Ltd <http://www.dermotday.com/squarevolt/>

SPAR store, McGreevy Retail LLP MCGREEVY SHOPS LTD 24 MAIN STREET HILLTOWN NEWRY BT34 5UH	ES-IN-ML-160	27.01.2017	See attached, average energy savings effect on test
MK PANELS LTD. No. 3 Jamestown Industrial Centre, Jamestown Road, Inchicore, Dublin 8 Email: sales@mkpanels.ie Web: www.mkpanels.ie Tel: 4731383 Fax: 4711187	ES-IN-ML-160	06.04.2017	See attached, average energy savings effect on test