TEST REPORT Performance Testing	
Report Reference No.	C14033
Tested by (+ signature) ..... :	Peter Strajner .....
Date of issue..... :	Tuesday, 08 July 2014
Contents……..:	7 Pages
Testing Laboratory ..... :	SGS Australia Electrical Compliance Solutions
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Applicant's name ..... :	Ozwide Power Strategies
Address ..... :	7 Figtree Place, Casula, NSW, 2170 Australia
Test specification:	(Refer summary of testing on page 2)
Standard..... :	N/A
Test Report Form No. ..... :	PT-TRF
TRF Originator..... :	SGS-ECS
Master TRF..... :	25/06/2014

Test item description..... :	Energy Saving/Power Factor Correction Device
Trade Mark..... :	CELEC
Model/Type reference..... :	ES-1, ES-1R
Batch number ..... :	N/A
Electrical Ratings..... :	ES-1; 240VAC, 50Hz, 11.6A, 2.8kVAr ES-1R; 240VAC, 50Hz, 2.8kVAr, Max Load. 50A

Remarks:

Energy Saving/Power Factor Correction Devices were evaluated at various supply voltages (240V, 250V, 260V), loads (5kW, 8.5kW) and power factors (0.9, 0.8, 0.7).

Model ES-1: Electrical Measurements

Test Method

- Measurement of Voltage (V), Current (A), Kilowatts (kW), Kilovolt-Amps (kVA) and Power Factor (PF) at various supply voltages (240V, 250V, 260V) and power factors (0.9, 0.8, 0.7) with and without the Energy Saving/Power Factor Correction Device connected to the circuit.

- Load was maintained at 5kW.

Remarks

- The reduction in the current when the energy saving/power factor correction device is connected will result in less power loss in the power delivery system (i.e. transmission wiring) and therefore less power consumption overall.

  P (Power loss) = I (Current)^2 x R (Resistance in the wiring)

  As seen in the above equation, The higher the current, the higher the power loss.

Measurements without energy saving device					Measurements with Energy Saving Device				
Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF	Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF
240.2	23.26	5.581	5.025	0.900	240.2	21.11	5.064	5.035	0.994
239.8	26.25	6.285	5.021	0.800	240.6	21.67	5.208	5.073	0.974
240.1	30.03	7.205	5.039	0.700	240.5	23.45	5.635	5.061	0.898
250.2	22.23	5.554	5.012	0.900	251.0	20.22	5.068	5.054	0.997
251.0	24.99	6.265	5.021	0.800	251.1	20.40	5.112	5.029	0.984
250.3	28.51	7.133	5.003	0.700	251.1	22.01	5.522	5.044	0.913
262.5	21.32	5.596	5.033	0.900	261.8	19.23	5.025	5.013	0.998
260.9	24.03	6.236	5.017	0.800	260.6	19.57	5.029	5.029	0.988
259.8	27.67	7.155	5.001	0.700	260.0	21.09	5.475	5.051	0.923

Model ES-1: Electrical Measurements

Test Method

- Measurement of Voltage (V), Current (A), Kilowatts (kW), Kilovolt-Amps (kVA) and Power Factor (PF) at various supply voltages (240V, 250V, 260V) and power factors (0.9, 0.8, 0.7) with and without the Energy Saving/Power Factor Correction Device connected to the circuit.

- Load was maintained at 8.5kW.

Remarks

- The reduction in the current when the energy saving/power factor correction device is connected will result in less power loss in the power delivery system (i.e. transmission wiring) and therefore less power consumption overall.

  P (Power loss) = I (Current)^2 x R (Resistance in the wiring)

  As seen in the above equation, The higher the current, the higher the power loss.

Measurements without energy saving device					Measurements with Energy Saving Device				
Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF	Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF
241.1	39.16	9.442	8.506	0.900	241.5	35.68	8.652	8.533	0.987
252.1	37.38	9.444	8.507	0.900	251.4	34.11	8.625	8.538	0.990
259.2	36.41	9.446	8.504	0.900	259.2	33.16	8.615	8.543	0.992

Model ES-1R: Electrical Measurements

Test Method

- Measurement of Voltage (V), Current (A), Kilowatts (kW), Kilovolt-Amps (kVA) and Power Factor (PF) at various supply voltages (240V, 250V, 260V) and power factors (0.9, 0.8, 0.7) with and without the Energy Saving/Power Factor Correction Device connected to the circuit.

- Load was maintained at 5kW.

Remarks

- Measured output voltage of the energy saving/power factor correction device was 20V less that the input voltage measured.
- Note: A further reduction in the output Voltage of the energy saving/power factor correction device would result in a reduction in Power (kW) and therefore energy saving.
- The reduction in the current when the energy saving/power factor correction device is connected will result in less power loss in the power delivery system (i.e. transmission wiring) and therefore less power consumption overall.

  P (Power loss) = I (Current)^2 x R (Resistance in the wiring)

  As seen in the above equation, The higher the current, the higher the power loss.

Load without energy saving device					Energy Saving Device				
Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF	Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF
240.4	23.19	5.568	5.007	0.900	240.8	18.059	4.342	4.273	0.984
240.2	26.09	6.258	5.008	0.800	240.4	17.929	4.304	4.250	0.987
240.2	30.13	7.227	5.052	0.700	240.3	19.128	4.589	4.259	0.928
249.7	22.32	5.566	5.012	0.900	250.6	17.324	4.336	4.286	0.989
250.6	24.92	6.236	4.991	0.800	250.3	17.386	4.346	4.220	0.971
250.4	28.63	7.159	5.011	0.700	250.5	17.953	4.49	4.241	0.944
260.6	21.34	5.554	5.009	0.900	260.4	16.76	4.359	4.232	0.971
259.9	24.18	6.277	5.019	0.800	260.6	16.886	4.397	4.290	0.960
260.2	27.63	7.180	5.017	0.700	260.4	17.195	4.47	4.258	0.953

Model ES-1R: Electrical Measurements

Test Method

- Measurement of Voltage (V), Current (A), Kilowatts (kW), Kilovolt-Amps (kVA) and Power Factor (PF) at various supply voltages (240V, 250V, 260V) and power factors (0.9, 0.8, 0.7) with and without the Energy Saving/Power Factor Correction Device connected to the circuit.

- Load was maintained at 8.5kW.

Remarks

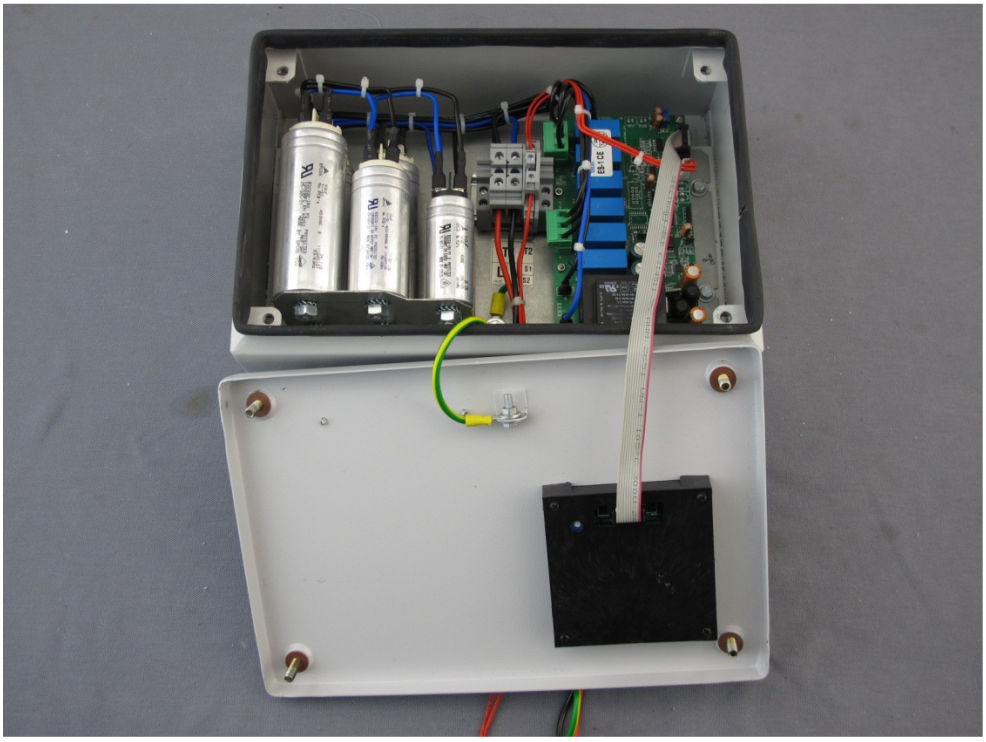
- Measured output voltage of the energy saving/power factor correction device was 20V less that the input voltage measured.
- Note: A further reduction in the output Voltage of the energy saving/power factor correction device would result in a reduction in Power (kW) and therefore energy saving.
- The reduction in the current when the energy saving/power factor correction device is connected will result in less power loss in the power delivery system (i.e. transmission wiring) and therefore less power consumption overall.

  P (Power loss) = I (Current)^2 x R (Resistance in the wiring)

  As seen in the above equation, The higher the current, the higher the power loss.

Measurements without energy saving device					Measurements with Energy Saving Device				
Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF	Voltage (V)	Current (A)	Power (kVA)	Power (kW)	PF
240	39.45	9.462	8.508	0.900	240.6	30.74	7.391	7.228	0.978
250.2	37.7	9.458	8.511	0.900	250.5	29.01	7.258	7.143	0.984
259.2	36.82	9.459	8.506	0.900	260.2	28.8	7.49	7.376	0.985

PHOTOGRAPHY (Model ES-1):



PHOTOGRAPHY (Model ES-1R):