

Science and technology create quality

AS.RG/E Series Elevator Energy Regenerator Device

Safety - High reliability of the product design

The design and production of AS.RG/E Series Elevator Energy Regenerator Devices are based on mature developing team, advanced production and test system of Shanghai Sigriner STEP Electric Co., LTD., products are in conformity with the international standards, all components are made with high quality products, high efficiency operation, high reliability, long operating life.

AS.RG/E Series Elevator Energy Regenerator Devices work in the inverter braking state, It can feedback the braking state of the inverter DC bus voltage of pump to the grid, so it can limit the DC bus voltage, protect the inverter effectively.

AS.RG/E Series Elevator Energy Regenerator Devices use flexible feedback PWM algorithm, there is no impact for inverter dc bus in the work of the state. And while the inverter work in other status, the energy Regenerator devices do not work. So in the whole work cycle, the inverter is not subject to the influence energy Regenerator device.

The energy Regenerator devices will automatically stop working during error protection time, the inverter dc bus of pump energy will consume through the braking resistance, and the inverter can work as usual. And we also can connect the fault output of the energy regenerator device to the external fault input port of the inverter, while the energy regenerator device fault protection, the inverter will be not work after receive the fault signal, to wait for staff to work out the fault before continue working



Energy Saving - Green electricity transformation technology

In addition to protect the frequency inverter, the most significant advantage of the energy regenerator device is saving energy, which is consistent with the basic state policy of our country about the energy conservation and emission reduction.

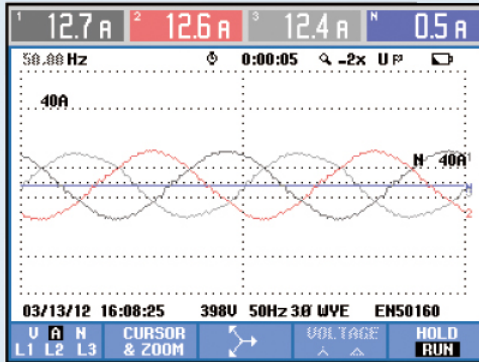
The inverter usually take to the method of dynamic braking, and equipped with high power braking resistance, and consume the electricity of regenerative on the resistor. Dynamic braking has the following shortcomings:

- Wasting energy, reducing the efficiency of system
- Serious resistance heating, cause deterioration of the environment, influence other equipments work normally
- Easy dynamic braking, sometimes unable to inhibit the rapid braking to produce the pumping voltage, limiting the improvement of braking performance.

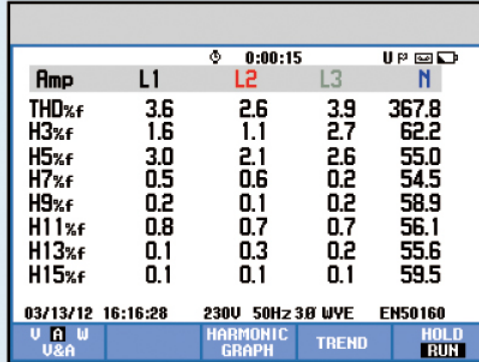
Environmental Protection - Feedback low harmonic energy

AS.RG/E Series Elevator Energy Regenerator Device output good power quality, satisfy IEC61000-3-2 and GB/T14549 to the requirements of the harmonic wave for the power, feedback the energy utilization rate is high, high power quality feedback.

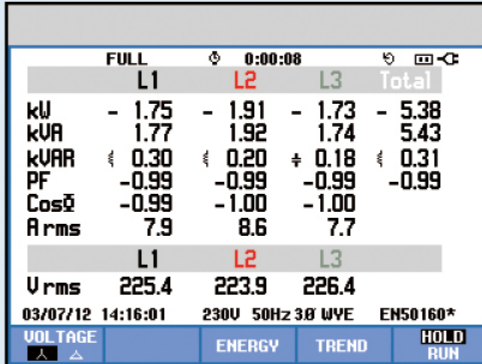
- Low THD. Feedback low harmonic energy to power grid.
- High power factor. Power factor is approximate to 1, and can be used for the compensation of the power grid.
- Low noise < 65dB. Meet with 2 class noise standards for residential, commercial and industrial and mixed.
- Components. The components through the ROHS standards.



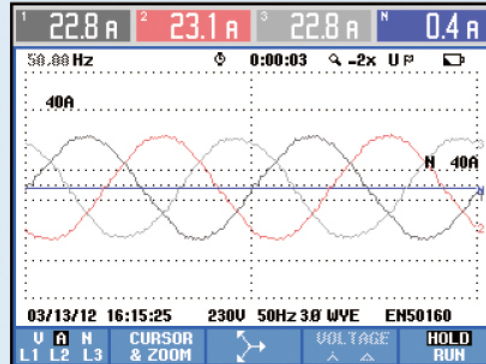
15kW half load output current



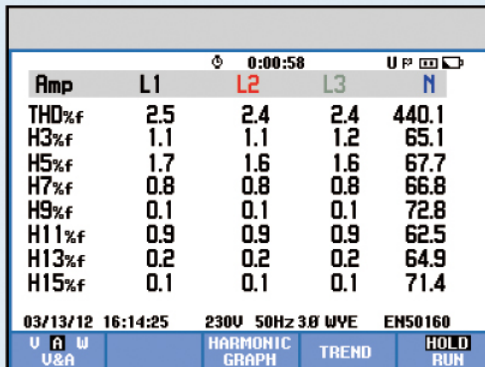
15kW half load current THD



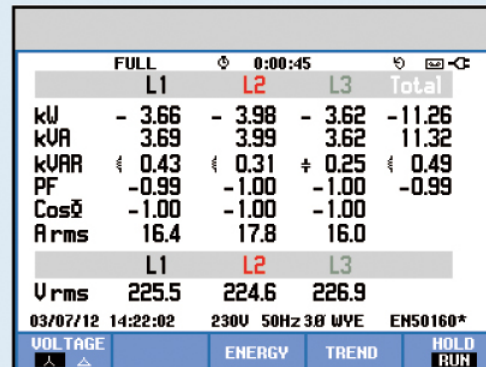
15kW 30% load power factor



15kW measured feedback rated current wave form



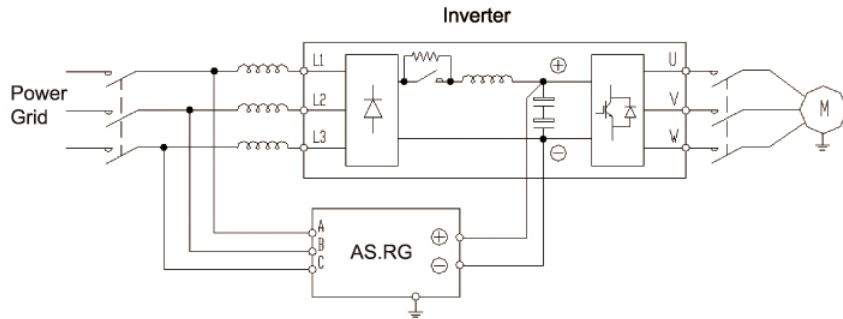
15kW rated current THD



15kW rated power factor

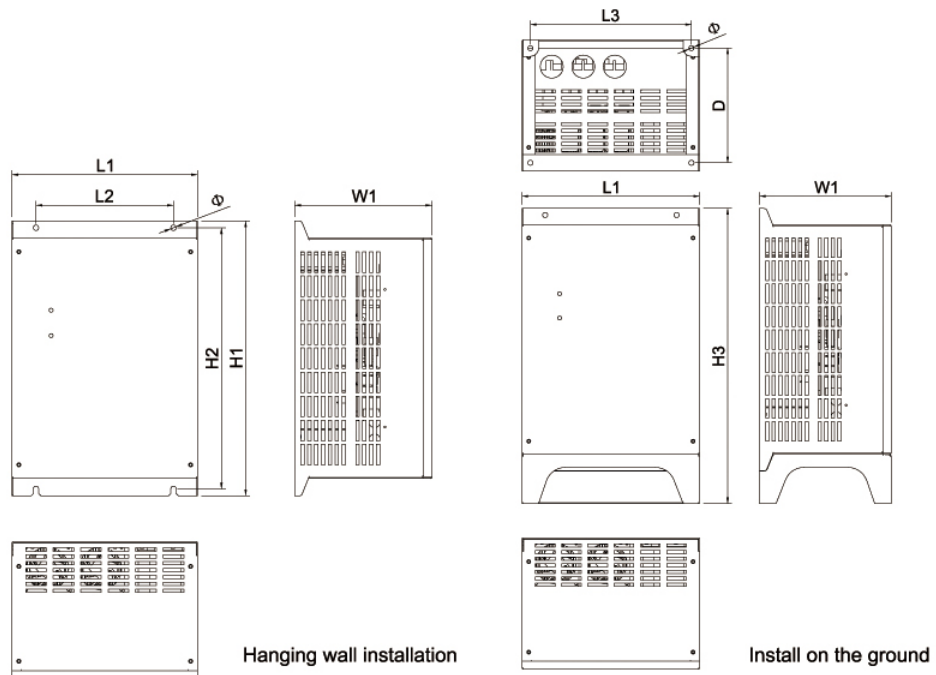
Simple - Fool style installation and wiring

AS.RG/E Series Elevator Energy Regenerator Device with the fuse, reactor in its internal integration, and used adaptive control algorithm, installation and debugging is very simple, only need 5 cable connection to finish wiring, reducing the possibility of wrong operation.



Various Installation - Hanging installation and Installed on the ground

AS.RG/E Series Elevator Energy Regenerator Devices design variety installation for customers, it can be installed on the ground, and also can be hung on the wall or on the elevator control cabinet, flexible installation can meet different customers' installation needs.



Installation Size

Power (kW)	L1(mm)	L2(mm)	L3(mm)	H1(mm)	H2(mm)	H3(mm)	W1(mm)	D(mm)	Φ(mm)
11-15	270	200	245	400	380	450	200	175	8
18.5-30	340	200	315	500	480	550	210	185	8

Technology Advantages

- Using the special high-speed algorithm control chip, timely and accurate tracking the power grid voltage, feedback impact small, high efficiency
- Using the flexible feedback PWM technology, output accurate phase, and suppress higher harmonic effectively
- Adopting high speed switching device IGBT, less switch loss, high efficiency Nets side current waveform sine change, total current harmonic (THD) is far less than 5%
- Dispense with special transformer, and it can be suitable for many applications places
- Dispense with chopper for breaking, and it also can match braking resistance to enhance the system security
- Adopting the special energy feedback reactor, dv/dt with high resistance to impact ,iron core loss low, and with longevity and high efficiency
- With the over-current, short circuit, temperature and grid side abnormal voltage protection etc. defensive function
- Having the dynamic response quickly, can output large current in a short time, and the overall high efficiency
- Using long life ball bearing fan and forced air cooling, equipment work in low temperature, and feedback with the high efficiency
- Meet with many strict standards of the country and the industry

Product Standard And Technical Indicator

AS.RG/E		4011	4015	4018	4022	4030
Match Elevator Power (KW)		11	15	18	22	30
Peak Current	A	17	24	28	34	42
Average Current	A	9	12	14	17	21
Input	DC input voltage V	570V ~750V adjustable (optional hand-held operators), by default 630V				
	Dc voltage protection value	800V				
Output	Power grid voltage	380V				
	Power grid voltage unbalance	±10%				
	Phase unbalance	3%				
	Power grid frequency	50Hz				
	Power grid frequency unbalance	±3Hz				
	AC power factor	≥0.99				
	Efficiency	≥96%				
	Feedback current harmonics (THD)	5%				
	Feedback mode	Feedback in sine current mode				
	Control algorithm	Space vector algorithm				
Protection	Protection ability	Over-heating, Over-voltage, Over-current, Short circuit, Power grid failure (phase lack, low voltage, etc)				
	Protection class	IP20				
	Cooling method	Forced air cooling				
Environment	Installation environment	Indoors, altitude no more than 1000m, no conductive dust and corrosive gases				
	Ambient Temperature	-10℃~ 40℃				
	Ambient Humidity	Less than 90%RH and no condensation				
	Vibration degrees	Bigger than 9.8m/s ² (1G) and less than 20Hz, or bigger than 1.6m/s ² (0.2G) and range 20 to 50Hz				

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