HYbrid Energy Station
HES$^{\mu}$ Micro

Datasheet issued 13 June 2014

Application:

- Ideal backup power source
- Especially for extended power outages
- Cycle charges site batteries (Hybrid operation)
- Low cost, high functionality
- Minimum footprint

Genset Style Enclosure:

- 1200mm x 500mm x 1350mm (w x d x h)
- Folded steel panels
- Painted finish
- Built in fuel tank
- Forced ventilation
- Easy access for maintenance
- Lifting canopy requires less space for maintenance than traditional doors

Engine:

- Hatz 1B40
- Tier 4 final compliant
- 4 stroke compression ignition
- Diesel Fuel
- Vertical, 1 cylinder
- Air cooled
- Naturally aspirated
- In-direct injection

Alternator:

- Permanent Magnet type
- Operating speed 2,200 – 3,600 RPM
- Rated power up to 5kW
- Thermal protection
- Overcurrent protection
- Overspeed protection
- Simple construction; 1 moving part, no bearings or sliding contacts
- Voltage ripple < 1%

Control System:

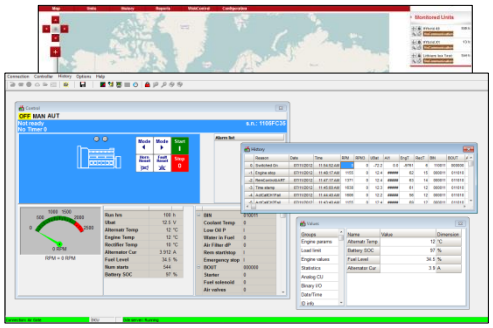
- Microprocessor controlled
- Fully automatic, autonomous operation
- Remote monitoring, diagnosis and control
- Historical data trending
- Monitors and controls all major operating parameters of the HYbrid system
- Expandable to monitor clients equipment or relay signals to client's system*

Due to HYbrid Energy's policy of continuous improvement, these specifications are subject to change without notice

*Indicates optional equipment

Remote Monitoring*:

- On-board GPRS modem
- Full remote control and monitoring
- SMS alerts
- Web based interface
- Historical data recording
- Alarm list and fault reset
- Fleet status at-a-glance



System	Feature	Benefit
Fuel	**350 litre tank**	-Weeks of backup power between refuelling for typical 1-2 kW load
	Fuel purifier*	-Removes large particles and water from fuel supply before engine fuel system
	Secondary Racor turbine filter*	-Increases fuel filter life where there is heavy fuel contamination
	Water in fuel sensor*	-Shuts down engine safely if fuel is contaminated with water
Lube oil	**Bypass oil filter with evaporation chamber***	-Removes contaminants and acidic by-products of combustion. Increases oil life. Ideal for areas with poor fuel quality -Service interval up to 1,000 hours
Electrical System	**100 A rating***	-Peak loads of 100 A possible
	Solar Array*	-Increase fuel efficiency by using solar energy to charge the battery pack and power the site load during the day
Alternator	**100 A rating***	-Max continuous DC load possible, 100 A
	PMG	-Robust, simple and reliable. High efficiency
Enclosure	**All steel construction**	-Secure and vandal resistant
	Forklift pockets*/lifting eyes	-Easy to handle
	High quality paint finish	-Life expectancy >10 years in tough environments
	Good access, lighting*	-Reduced maintenance cost
Controls	**GPRS communication***	-Web based remote monitoring -Remote fault diagnosis and repair -Increased availability
	Flexible	-Configurable to client's requirements*
	Protection functions	-Monitors HES performance and protects the equipment from damage in the case of a malfunction
Battery	**Site batteries**	-Already installed on site, no need for additional investment -Charge Discharge Control reduces fuel consumption by about 50% -No external batteries needed -Increased fuel efficiency
Starter	**Electric start**	-For automatic operation
	Pull start	-Backup starting method in event of starter battery failure