

PEAK SHAVING SYSTEMS

Trouble getting an upgrade for your power connection? Adding machines and equipment to your production process, want to power a crane, elevator or other power peak drawing equipment? Running an office with more and more people driving electric vehicles?

All of these generate high demand peaks that cost you more money due to the demand charges or make it necessary to upgrade your electric connection.

ATEPS has developed a special device that adds power to that what is available from your regular, 3-phase, wallplug.

Using fast measurement technologies and advanced data processing, energy taken is measured, interpreted and, if reaching a pre-set value, one or more converters are switched off very fast to add power to the outgoing connection(s).

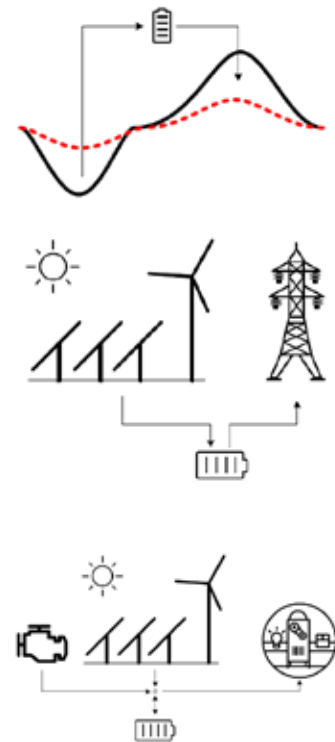
Switching between charging the batteries and discharging them for peak shaving is very fast and fully automatic, no need to check the state of charge batteries yourself, all of this is handled by the integrated control system.

The fast power meter can also be installed elsewhere in your electricity system if it is more convenient to have measurement and in-feed separated from each other.

The system is based around a 30kW converter while additional power can be added by upgrading the system with up to 3 additional converters. The standard battery set with 32,5kWh can be expanded in steps of 32,5kWh, all housed in a 19" cabinets and fully controlled by the ATEPS Master Controller.

Typical Applications:

- Shaving peaks during machine start-up
- Charge buffers for EV-charging with PV-optimisation
- Reduction of contracted grid-cost
- Peak-power supply in combination with fuel-cell and diesel generators
- Optimisation of grid power usage



Combinations:

Almost all the above deployment areas can be combined to further optimize energy consumption and/or commercial objectives. For this, ATEPS uses an advanced Master Controller that monitors and adjust energy flows where and when necessary. Links to various remote SCADA, BIM and energy traders make it possible to integrate the ATEPS systems into fully integrated, large scale, systems.



SPECIFICATIONS

AC on-grid Modus	
AC grid voltage	400V ±10%
AC grid current	42A
AC Power	30kW
Grid-feed-in	30kW
AC frequency	50Hz (59.5Hz~60.5Hz)
AC power factor	0.8~1 leading or lagging
Overload	105%~115% 10min 115%~125% 1min 125%~150% 200ms
Battery	
Nom. Battery voltage	13 modules: 665Vdc
Max. battery current	50A Max
Battery technology	Lithium-NMC
Others	
Response Times	System standby to full power: <200mSec Full charge to full discharge: 80mSec Full discharge to full charge: 80mSec
Cooling	Forced air cooling with changeable fan unit
Noice at full power	<65dB
Housing	19" cabinet 60x70x180cm (WxDxH)
Temperature (in use)	-20°C to 60°C (De-rating >45°C)
Humidity	0-95% non-condensing
CEC Efficiency	96,5%
Communication	TCP/IP, MODbus RTU RS485
Protection	min/max AC voltage, frequency battery voltage, max. power
Maximale Efficiency	97,3%
Communication	MODbus TCP/IP, MODbus RTU, RS485, RS232 CANbus with Sunspec protocol
Protection	min/max AC voltage, frequency battery voltage, max. power
Weight 32,5kWh/30kW system	approx.500kg
Expansion and communication	
Battery Capacity Expansion	19" battery rack with 32,5kWh, no converter
Converter Power Expansion	19" battery rack with 32,5kWh, incl. converter
Supervisory systems	Cloud platform via TCP/IP, Internet & App
Data Logging	Via ATEPS cloud
3rd party controller	Via XML file transfer from local or remote server
Installation	Plug-and-play system with factory preset parameters using standard Mennekes sockets or cable connections

Connection:

