

HUNTERHEX AB

WELCOME

Hunterhex is offering products for Data center, ICT, telecom & power cabinets, controllers, cooling, AC/DC power backups for emergency networks as well as mobile network operators globally.





General

We provide highly engineered components and systems for industry equipment climate control (Climate Control Division) and high speed pumps and compressors (Turbo Power Division) as well as customized magnetic motor for industry applications (EC Motor Division).

HUNTERHEX focus on solving some of the worlds greatest engineering challenges which sparks our passion for innovation and secures future growth.

Our technological expertise creates a more sustainable future for us.

Our Vision

Sustainability is key for us when we develop new products and technologies. Even during the concept stage we optimize our materials and processes to achieve maximum environmental compatibility. Energy balance and recyclability.

We are continuously working on improving our technological solutions.

Strong R&D and advanced machines give's us
high volume manufacturing capabilities and
short delivery time



Cooling for industry & telecom cabinet



Modern & high quality manufacturing facility



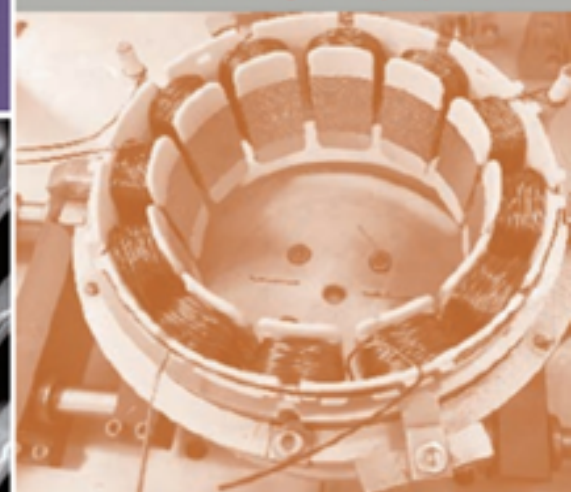
Metal Processing



Heat Exchangers



Heat Exchanger Equipment



Supporting various industry segments



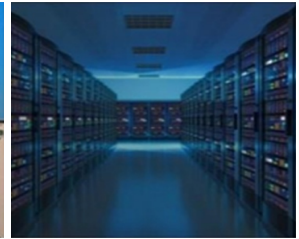
Solar



Wind Power



Telecommunications



Data Center



UPS



Grids



Medical Devices



CCTV / Alarm System



Marine/RV



Solar Street Light

How can you get a lower carbon foot Print?

Direct Current (DC) and renewable solutions, like solar power, automatically gives access to low energy consumption, you charge and consume day time, save DC energy to consume night time, during power failures or power blackouts coming on and off around the clock. Hunterhex DC air conditioner battery cabinets increases uptime and service life time on batteries and equipment and ensure 24/7 functionality.



Why green high technology solutions?

New green battery technologies have taken over EV automotive sector and are also taking more of the data, ICT and communication sector. As a result of that we all are striving for less global warming and lower carbon footprints in our business or daily life, we all want to go green but also have a freedom of life where we are always connected with the world around us.



Data Centers operates with EC fans to get low energy consumption and long service life time by using speed regulation of 1-10V enabling fixed temperatures between 25°C-28°C supported with Free cooling



Outdoor Portable Power Bank 750W
110V – 1500W.

Release's you from office and you can enjoy wildlife or use as a emergency backup.

How can we minimize downtime and increase uptime and revenue in Off-Grid and Grid-tied installations?

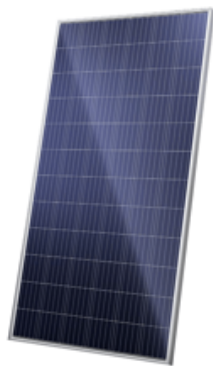
Hunterhex Hybrid PV Solar and Direct Current Product portfolio increases Uptime Revenue in data, ICT and mobile networks

Avoid power failures or power blackouts using smart green DC backup system with low power climate and energy components and PV Solar system.



DC Cooled
Cabinet

+



DC PV Solar
"Charge & Save Energy"

+



19" Lithium Battery
Recharge 5x faster vs lead acid

=

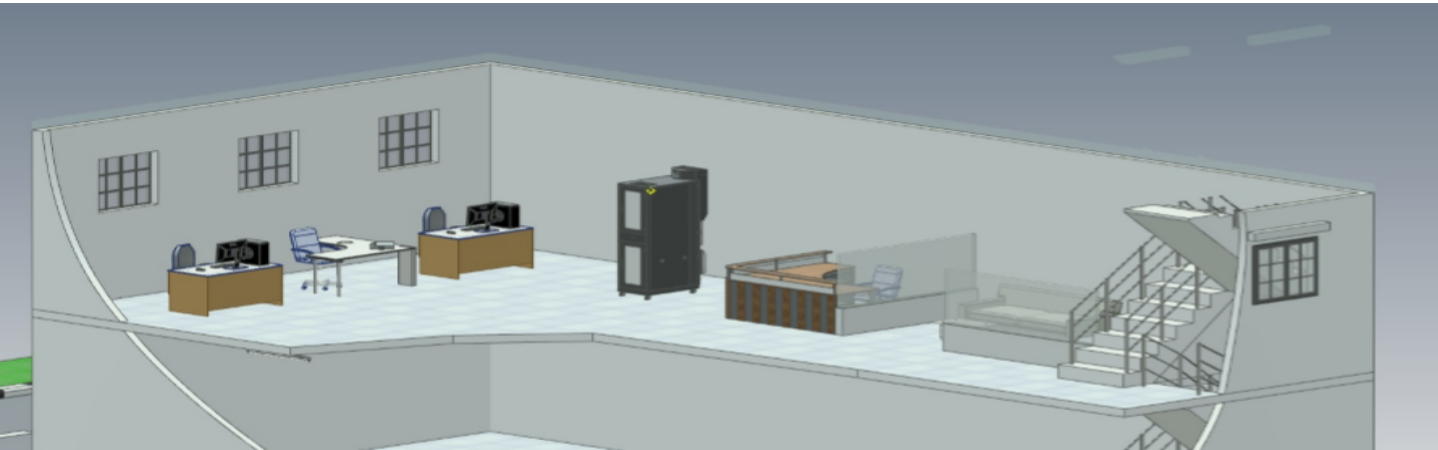


Climate & Energy Enclosures



Customized cabinets
with DC Heat Exchangers
& DC Air Conditioner





Precision Air Conditioner

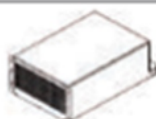
Intelligent free standing server cabinet enclosure with 19" rack inside and built in cooling module.

Design Feature:

- › Specially designed for micro data center cabinet cooling
- › Split design model with indoor and outdoor unit
- * Outdoor unit is exactly same as home appliance products.
- * Indoor unit can be inserted at bottom of cabinet
- › Lowest power consumption with EER up to 5. SEER up to 8, up to 50% power saving than normal air conditioners.



Split Type



Production and Assembly >>



48VDC air conditioner-Telecom cabinet cooling



Specially designed for hybrid power base stations / cabinet cooling with highest efficiency.

Combined unit of AC&HEX



Active cooling by compressor can be 230VAC or 48VDC, while heat exchanger cooling is powered by 48VDC, mainly used for telecommunication field with higher efficiency than pure AC air conditioners. At the same time provide emergency cooling when main power supply is off.

DC Air Conditioners

600W to 4000W cooling capacity

With low power consumption

Long life time - Long Warranty - High

Quality - Direct Current.

- › 500w to 6000W cooling capacity.
- › Low power consumption.
- › DC compressor.
- › DC fans.



Why does DC air conditioners need to operate 24/7?

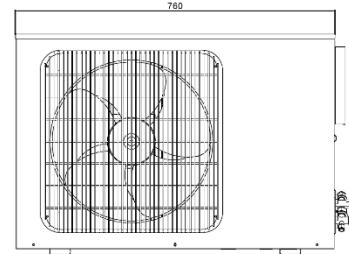
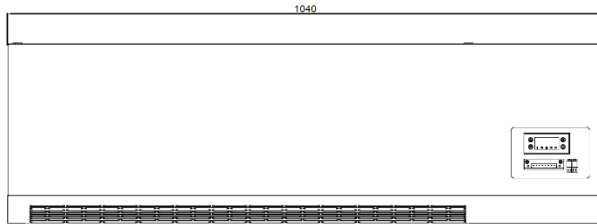
DC air-conditioners task is to cool sensitive cabinet equipment and operates them on direct current (DC), power that is supplied from site battery power backup system. DC air Conditioners can continually operate during AC power failure and also override shorter power blackouts. DC battery backups are widely charged with renewable Solar Power in Off-grid and grid-grid communication networks.



DC air-conditioner products can be widely used in enclosed area for climate control such as; Data Centre's, Wireless Communication Networks that requires in or out door cabinets with IP55 or IP65, Battery Cabinets with LiFePo4 Battery, etc

Available as redundancy versions and/or plug and play installations in walls IP55 or IP65 non air-ducted or air—ducted plug and play modules versions for direct installation.





Air Conditioner

Base station cooling – Window type & split type

Design Features

- › Specially designed for base station device cooling application.
- › Split design model got indoor and outdoor unit.
- * Outdoor unit anti-corrosive, very robust DC split version
- * Indoor unit can be mounted on the ceiling or mounted on the wall.

Flexible power supply by DC or AC power source.

For HYBRID applications.

A 48VDC battery bank source. With wide voltage input range from 40 – 60V.

DC Free Cooling with only DC fans and HEX Heat Exchangers 50W/°K to 260W/°K Low Power Consumption long life time – long warrenty – high quality – fans

Example 1: 20°C ambient temperature and 5°C delta t with indoor cabinet temp. 25°C gives 1300W cooling capacity

Example 2: 15°C ambient temperature and 10°C delta t with indoor cabinet temp. 25°C gives 1300W cooling capacity

Heat Exchanger



Mainly used for telecommunication outdoor cabinets, battery cabinet etc.

DC (HEX) Heat Exchanger 50W/°K, HEX combined with active AC or DC compressor that start up when ambient temperature rises above 20°C to 21°C.

Example: DC Heat Exchanger operate from ambient temperature -50°C to +20°C and then the DC HEX cannot achieve and maintain 25°C inside. The active AC or DC compressor will start up when the ambient temperatures rises above 20°C to 21°C to continue to maintain 25°C inside the cabinet.

DC HEX and Air Conditioner in combination built into one unit to ensure 24/7 operation and save energy all year around.

Combined unit of AC&HEX



Active cooling with compressor that can be 230VAC or 48VDC powered.

Combined with DC Heat Exchanger powered with 48VDC.

This combined version is mainly used for telecommunication field with higher efficiency than pure AC air conditioner.

When there is a power failure the 48VDC Heat exchanger will take care of emergency cooling

DC Heat
Exchanger



DC Heat Exchangers 50-260W/°K – 150 000 hours fan life time



- » DC Free Cooling.
- » DC Heat Exchangers 50-260W/°K
- » Up to 150 000 hours fan life time through controllers speed control.
- » No contaminated or polluted air inside cabinet.
- » Anti-corrosion treated with 10 years life time.
- » Designed to cool and serve systems tied to DC direct current renewables
- » Extreme low energy consumption with DC fans.

DC Free Cooling with Hex Heat
Exchangers 50w/°K to 260W/°K with
Low Power Consumption - Long
Warranty – High Quality - Fans

DC Heat Exchanger Cabinet

- › DC free cooling.
- › DC controllers.
- › DC fans.
- › Long life time.
- › Anti corrosion treat.



Industry & telecom cabinet

SAMPLE PRODUCT LINE



Smart Green 24/8 Uninterruptable Climate and Energy Solutions for Data,
ICT and Telecom Networks Product Groups

DC Backup & Charging PV Solar Panels & Solutions

Irradiance 1000W/m², Cell temperature
25°C, AM 1.5 NOCT: Irradiance
800W/m², Ambient temperature 20°C,
Wind Speed 1 m/s

DC Backup 5x faster recharge with green LiFePo₄ Batteries

3,2V & 3.6V Lithium Cells 12V Block
lithium batteries 48v Rack lithium
batteries builtin CANbus BMS 2V Solar
Batteries

Equipped DC Cooled Enclosures

Direct Current (DC) Enables
Operation From DC Backup
Battery System in Case of
Power Failure



Controls MODbus 485

DC Air Conditioner

DC Heat Exchanger

Rectifier Systems

Sine Wave Inverters

» Gain more Uptime & Revenue with lithium (LiFePo4) Technology



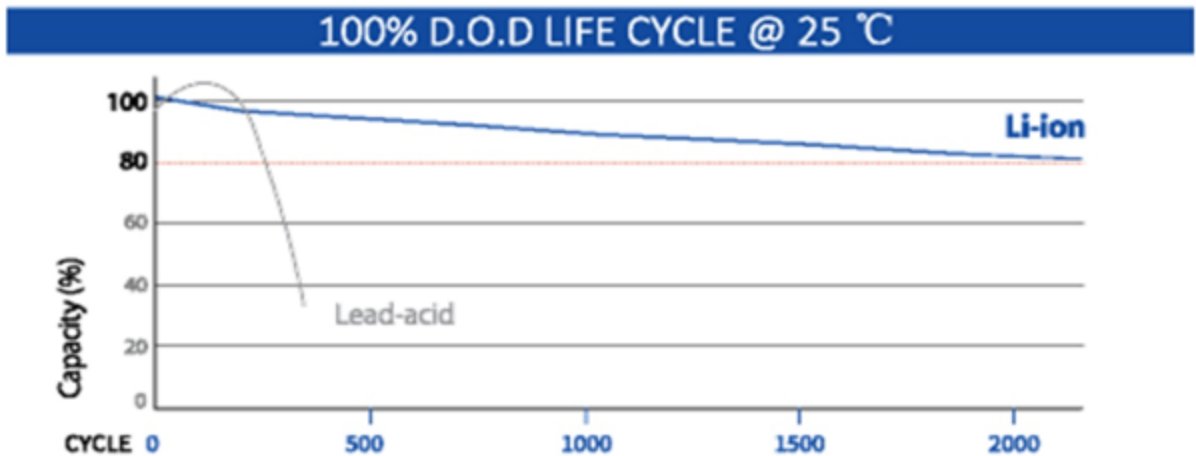
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|--|--|
| » 48V 50Ah Lithium phosphate | » Lithium Replacement Battery for old lead acid |
| » Easy drop in when expanding DC backup | » Easy drop in when swap out of old lead acid batteries in old installations |
| » BuiltIn BMS with CANbus controller | » BuiltIn BMS with CANbus controller |
| » 5x faster recharge vs lead acid batteries | » 5x faster recharge vs lead acid batteries |
| » stands high cycling 2000-3000 recharge cycles after 80% deep discharge | » Stands high cycling 2000-3000 recharge cycles after 80% deep discharge |
| » 5-10x longer life time vs lead acid batteries | » 5-10x longer life time vs lead acid batteries |
| » ½ the weight vs lead acid batteries | » ½ the weight vs lead acid batteries |
| » Great fit in DC cooled outdoor cabinets | » 4x 12V serial string = 48V, 420Ah, 5120Wh |
| | » Nice fit in DC cooled outdoor cabinets |



» DC Cooled Cabinets take care of battery climate

» Equipment is DC cooled 24/7

» **Lithium Phosphate LiFePo_4** Battery Cells has 5 to 10 times longer life time and is a green long lasting technology



» If lead acid batteries are discharged more than 50% it result in 300 cycles or less in life time.

» LiFePo_4 (lithium ion phosphate) batteries can be continually discharged to 100% DOD and there is no long term effect. You can expect to get 3000 cycles or more in life time.



PV Solar Solutions

- » Irradiance 1000W/m², Cell temperature 25°C, AM 1.5
- » NOCT: Irradiance 800W/m², Ambient temperature 25°C, Wind Speed 1 m/s
- » 250W to 388W PV Solar Panels
- » 48V DC Direct Current
- » 12 to 25 years warranty
- » MPPT Solar charger
- » Solar tracker
- » Inverter systems



Solar Energy – Shadow & Rain Protection



INVERTERS

1 KVA to 10 KVA 19 inch rack mounted high frequency inverter.

Designed for Industrial Application, DC/DC or DC/AC

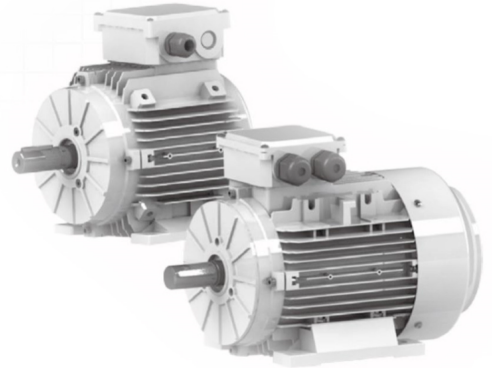
Applications

01. Telecom Stations
02. Communication Centers.
03. Data Centers
04. SCADA Networks and Data Equipment
05. Radio Base Stations / Cell Sites
06. Monitoring/Control Centers
07. City Wifi
08. Emergency Communications
09. Railway & Metro
10. Marine & Offshore
- 11 Building Management Systems
12. Fire Alarm System
13. Power Utilities System Control
14. Power Plant / Station
15. Power Monitoring System
16. Solar Power System
17. Wind Energy System



EC Motor Division

EC technology means regulated and speed controlled performance. Economically it makes a big difference in energy saving when speed regulated and switches off when no longer needed.



Another bonus of this technology is brushless commutation. This allows our EC to operate completely waer-free, so they are much quieter, suffer no dropping in performance and have much longer service life.

So, while our customers reduce their electricity bills day by day they also benefit from extended maintenace interval, wich means even greater cost savings for parts and labor.

Combined with permanent magnetic motor design, the EC motor division offer's all customers the highest operational efficiency up to IES level to reach Erp2020 Regulation.