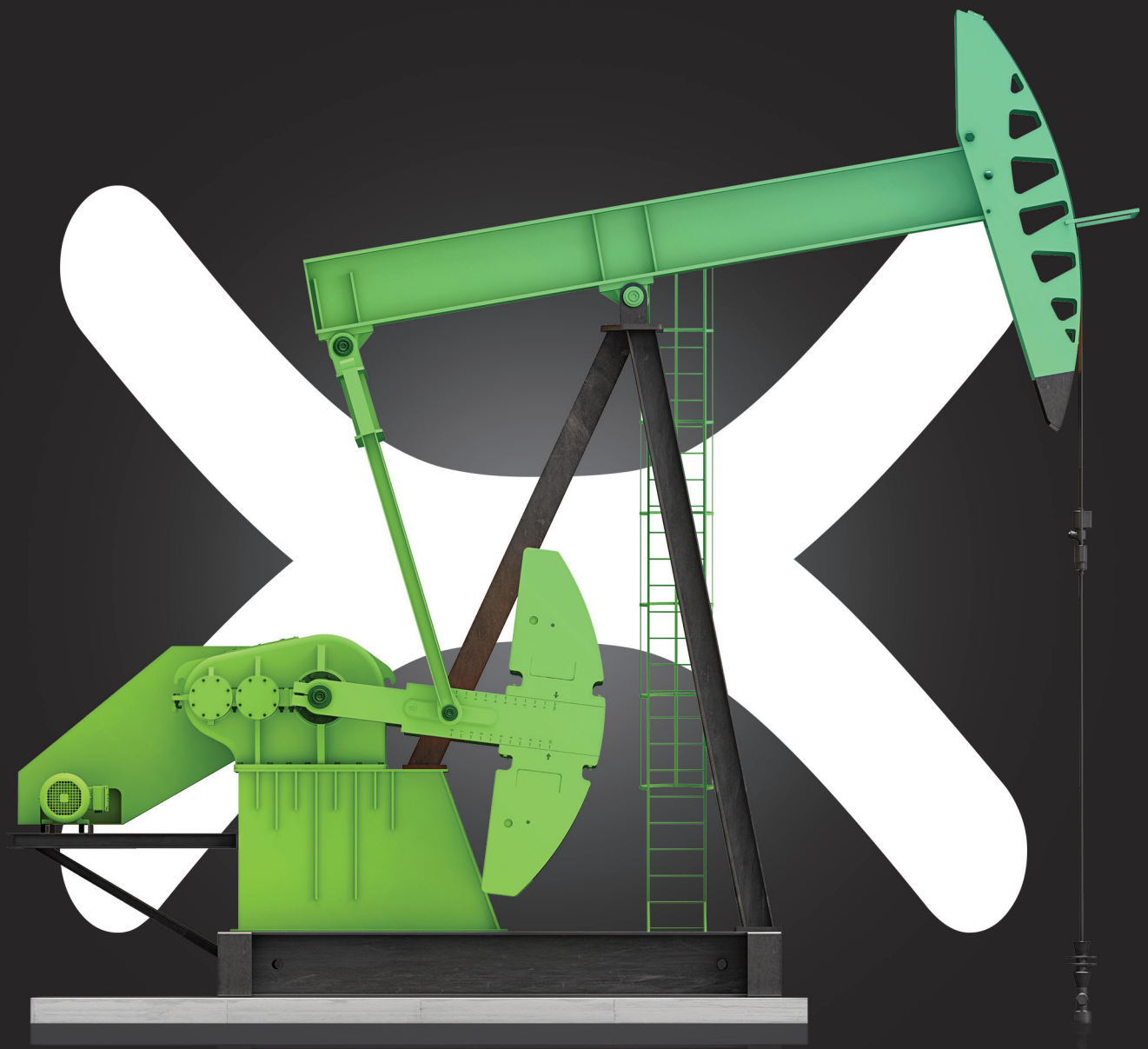
IPS
ELECTRIFY BY INNOVATION

OIL & GAS POWER SOLUTIONS



www.exeron.com

www.ips-group.net

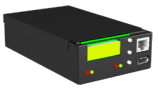
EXERON TECHNOLOGY

EXERON is developed to independently generate, store and supply electricity in remote areas, in off-grid or bad grid locations as well as for sites and loads powered only by diesel gensets, so that it can provide massive OPEX and CO2 reduction or complete diesel genset replacement.

EXERON is a patented all-in-one modular power conversion system initially developed by IPS for defence applications and able to work in the harshest ambient conditions with temperatures from -40°C up to +70°C, high level of dust, sand and humidity.

It can simultaneously manage different power sources – primarily solar and battery, but also grid/emergency diesel generator if available. It uses several battery storage technologies for back-up e.g. Lead-, Ni-Cad-, Li-based. The system output provides uninterruptible DC and AC power for Cathodic Protection, O&G wells, Artificial Lift Systems, Drilling sites, TETRA/RTU, Offshore platforms, Metering systems.

EXERON is a combination of cutting-edge technology and 30 years of experience, proven in the harshest conditions on the earth and already deployed in 60+ countries around the world.



Monitoring & Control Unit

- Cloud monitoring and control
- Battery management system

PDU - Power Distribution Unit

- All I/O Connections
- 100% pre-cabled

Solar Chargers

- N x 2 kW, Hot swap

AC to DC Grid / DG Rectifiers

- N x 2 kW, Hot swap

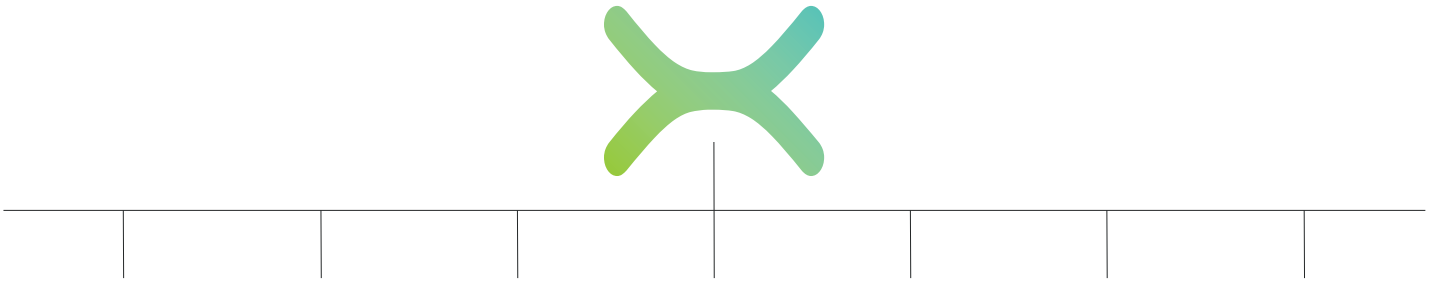
DC to AC Inverters

- N x 4 kVA, Hot swap
- 1 / 3 phase

Cathodic Protection Rectifiers

- N x 2 kW, 0 – 100 V, 40 A
- Remote voltage and current adjustment in the mV/mA range
- Hot swap

EXERON APPLICATIONS IN THE OIL & GAS INDUSTRY



Cathodic Protection

Oil & Gas Wells

Artificial Lift Systems

TETRA / RTU

SCADA Systems

Metering Systems

Valve Automation & Control

Cutting-Edge Technology & Unique System Architecture

- **Specially Developed for O&G Desert Applications**
- **Up to 70°C Ambient Temperature**
- **Unique Battery Cooling**
- **Battery Life Extension**
- **Patented in the USA**
- **No Maintenance Required**

References

Saudi Aramco

Abu Dhabi Oil Refining Company

Lukoil

Enel

Siemens

ABB

Thales

AES

CATHODIC PROTECTION

Grid-Connected applications – X-CPR Series

Key features

- Input: 1/3 phase
- Output current: 20 – 5 000 A
- Output voltage: 0 – 100 VDC

Advantages

- Ultralight CP controller (2kg)
- Easy and fast installation
- Portable design
- N+1 guaranteed redundancy
- Remote monitoring and precise U/I control in the mV/mA range
- Fully integrated with EXERON
- Scalable

Pipelines

Marine Structures

LNG & LPG Storage Tanks

CATHODIC PROTECTION

Unique Off-grid / Desert Application – XPS NOMAAD Series

PV Input

XPS NOMAAD

EXERON

Output:
0 - 100 VDC,
up to 1 200 A

DG emergency back-up

Battery (1-5 days)
Lead, Ni-Cad, Li-based

Indicative Configuration

Model	XPS NOMAAD 100	XPS NOMAAD 200	XPS NOMAAD 400	XPS NOMAAD 950
Dimensions	1 x (2,8m x 2,3m x 2m)	2 x (5m x 2,3m x 2m)	5 x (5m x 2,3M x 2m)	5 x (5m x 2,3m x 2m)
Battery Capacity	100 kWh	200 kWh	400 kWh	950 kWh

Key features

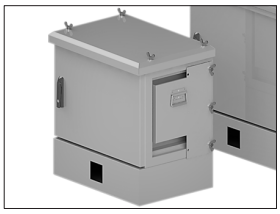
- Non-compression based smart cooling (without A/C)
- Maintenance free
- Max battery temp. range 25°C - 30°C
- Anti-solar radiation shield
- Kinetic air filtering system
- Anti-theft locking system

Benefits

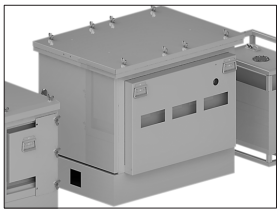
- Highly reliable power supply
- Significant OPEX reduction
- Increased battery life up to 800%
- Remote monitoring and control
- Fully autonomous
- Fast deployment
- Easy, fast and affordable relocation

CATHODIC PROTECTION

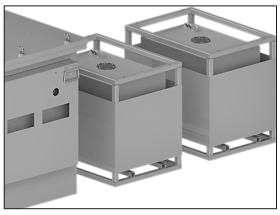
Emergency Mobile Applications – X-CPM Series



A. CP System Cabinet



B. DG Cabinet



C. Fuel Tanks

A + **B** + **C** = Portable CP Station

Cathodic Protection

Key features

- Modular, easy-to-assemble design
- Emergency CP Unit
- All-in-one: CP + DG + fuel tanks + AC output

Advantages

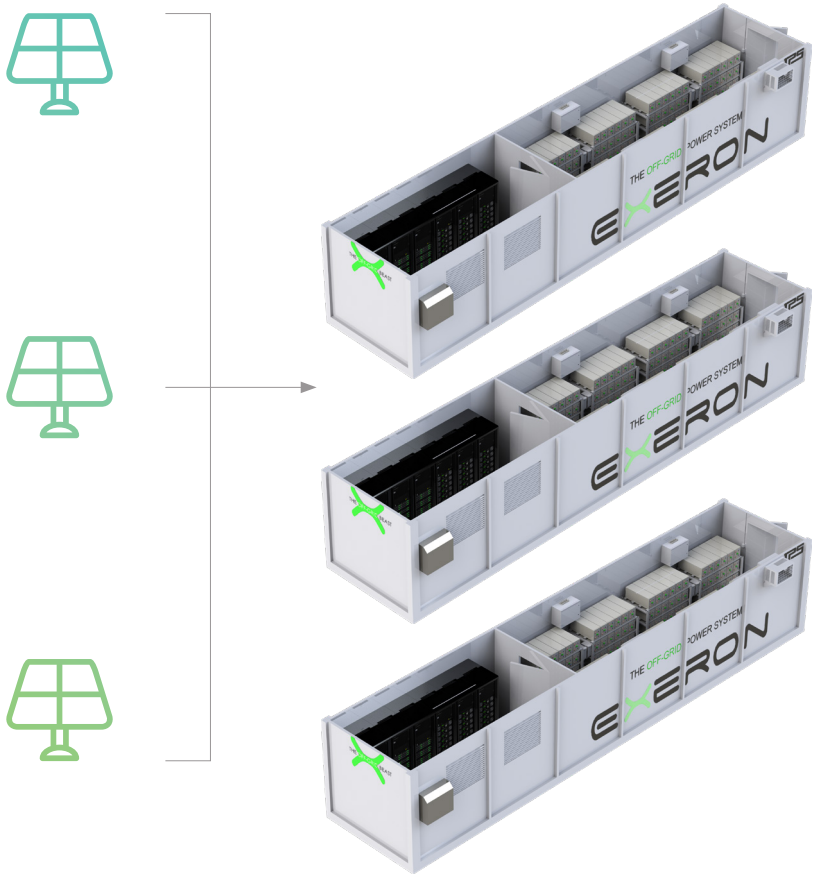
- Easy transportation
- Fast deployment and installation
- Remote monitoring and control
- Ready to operate in a few minutes
- Portable and light components
- Installation requires one pick-up truck and 2 people

DRILLING & OIL FIELD APPLICATIONS

PV Strings

Battery (1-5 days)
Lead-, Ni-Cad, Li-based

Multiple
Appllications



Unconventional O&G Wells (easy-to-relocate off-grid power installations)

Conventional O&G Wells

Artificial Lift Systems

Chemical Injection Skids

Advantages

- Unlimited back-up time
- A clean renewable solution
- Reduced energy cost
- Significant OPEX reduction
- Full remote monitoring
- Scalable: 2kW – several MW
- Reducing / eliminating DG operation

OIL & GAS TELEMETRY

RTU, TETRA, Automation

Multiple outputs

- DC: 48 V, 24 V, 12 V
- AC: 1/3 phase

Advantages

- N + N redundancy
- Automatic battery capacity test
- Battery life enhancement
- Unlimited back-up capability
- Indoor or outdoor design
- Full range of solutions for off-grid and grid-connected equipment

8 kW off-grid power system for TETRA

OIL & GAS TELEMETRY

SCADA and data centres

Key features

- High-quality pure sine-wave output signal (Δf < 0.01%)
- Automatic transfer between grid and secondary source (DG)

Advantages

- Galvanic insulation at both system input and output
- High level of reliability and redundancy

400 kVA Inverter for heavy duty industrial UPS system

BATTERY CHARGING & BACK-UP SOLUTIONS

Battery Chargers / Rectifiers

Key Features

- DC Output Voltage: 12 / 24 / 48 / 60 / 110 / 220 / 360 V
- Output Current: 10 A – 30 000 A
- Lead- / Ni-Cad / Li-based Batteries
- Precise battery management
- Hot swap technology

Advantages

- High efficiency > 98%
- N + N redundancy
- Fail-safe modular structure
- Up to 70°C ambient temperature
- Indoor or outdoor cabinet configuration
- Zero Maintenance

BATTERY CHARGING & BACK-UP SOLUTIONS

UPS Systems

Key Features

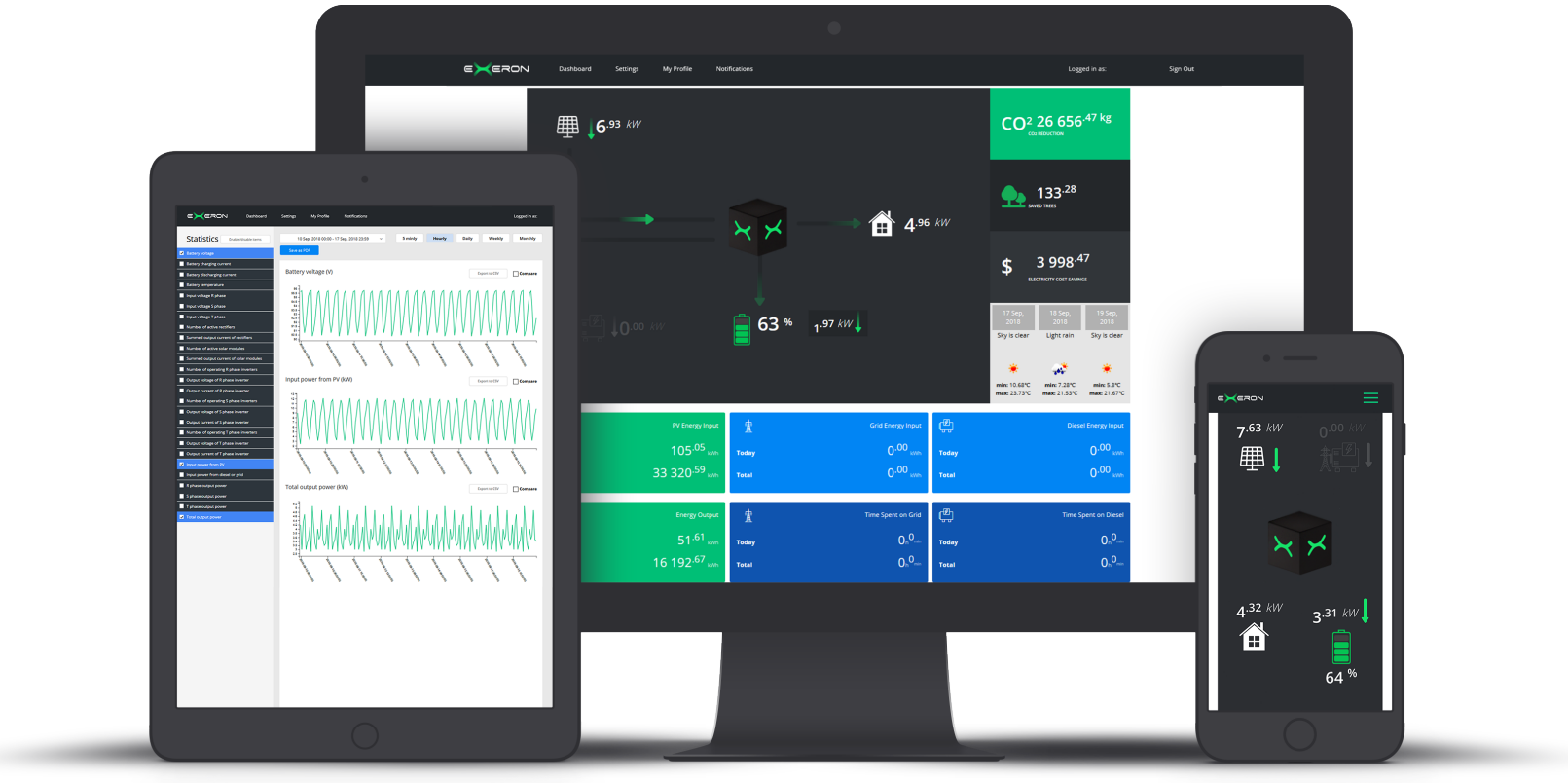
- AC Output Voltage: 1 / 3 / split-phase
- Battery back-up time: 30 min up to customer's requirements
- Battery system Voltage: 48 V DC up to 270 V DC
- UPS output power steps: 4 kVA
- Battery recharge time < 10h
- Active cooling / free cooling / heat exchange

Advantages

- Online with double voltage conversion, VFI
- Highest level of load protection
- Galvanic insulation between input / output / battery
- Power output upgrade in a few seconds, in steps of 4 kVA
- Indoor / Outdoor applications
- Zero maintenance

CLOUD MONITORING SYSTEM

- Remote cloud monitoring 24/7
- User friendly interface
- A wide international network of certified service partners
- Technical customer service line support
- Continuous system, battery and user equipment's health check
- System performance and environmental data base



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