

PROYECTO SOLAR

Caso de éxito

Tempel Group Perú
Junin, Puno, Moquegua y Tacna



Contacto

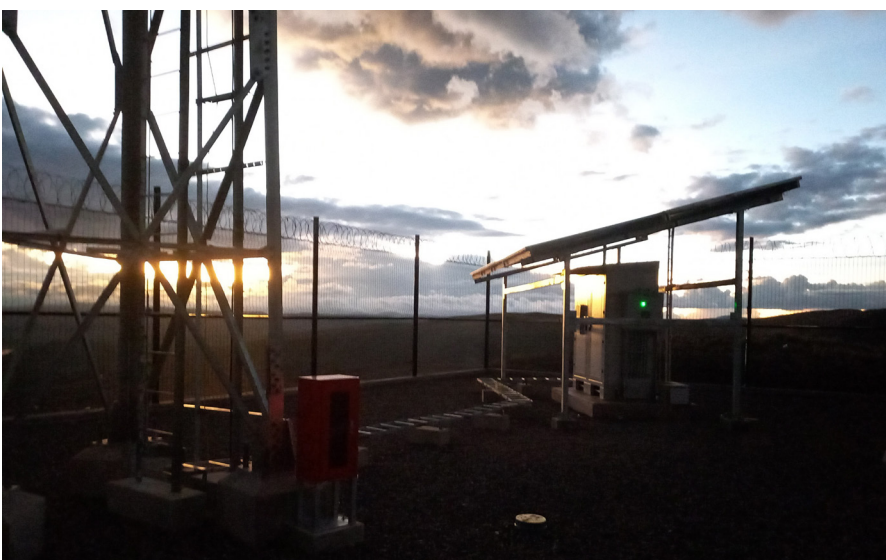
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PROYECTOS: PRONATEL

INSTALACIÓN DE BANDA ANCHA PARA LA CONECTIVIDAD INTEGRAL Y DESARROLLO SOCIAL DE LA REGIÓN JUNIN, PUNO, MOQUEGUA Y TACNA

Solución Fotovoltaica para estaciones de Telecomunicaciones ubicadas en zonas sin disponibilidad de red comercial AC. El sistema permite integrar módulos rectificadores y módulos convertidores solares en un bus DC de 48V, gestionados por un solo controlador SMU01 e integrando alarmar y control de equipos de Climatización, Grupo Electrónico, Baterías de Litio / Plomo e Inversores DC / AC.

Características Principales del Sistema Híbrido:

- Sistema modular Hot Swap
- Un solo bus DC para integración de diferentes fuentes de energía Red comercial, Grupo Electrónico y Fotovoltaica.
- Gestión Local integrada y gestión remota por SNMP TCP/IP
- Capacidad escalable desde 6.4kW hasta 76.8 kW para conexión de paneles solares.
- Gestión de energía fotovoltaica con algoritmo MPPT.
- Altamente eficiente @ >97%, reduce las pérdidas y reduce los costos operativos
- Excelente rendimiento EMC, menor interferencia y excelente susceptibilidad
- Amplio rango de voltaje de entrada, soporta alto voltaje de cadena hasta 430Vdc
- Amplio rango de temperatura, aplicaciones en condiciones climáticas adversas

Caso de éxito

Proyecto de 48 nodos solares aislados en 48VDC en las regiones de Puno, Moquegua, Tacna y Junín. Solución Híbrida con diseño en generación de Energía solar al 100% (ALR 1.2) con capacidad de integrar energía de un grupos electrónico. Paneles solares de 340Wp policristalinos, Baterías de Litio de 100Ah y 150Ah 48VDC marca Kaise, Sistema de energía con capacidad de 12kW solar y 12kW con Red Comercial AC o Grupo Electrónico marca Enetek, se incluye suministro en instalación de Estructuras Metálicas para paneles solares, Transporte, montaje y puesta en marcha.

Datos del proyecto

- Cantidad de nodos de Telecomunicación: 48 Nodos
- Potencia instalada en paneles: 213 kWp
- Amperios Hora instalados con Litio LFP: 1.68 MWh



ETR+ 3048

Product Description

The fully Digital Controlled ETR 3048 rectifier module is designed and optimized for demanding power needs across different applications and industries. The modularity design, coupled with its cost effectiveness package, power density and reliability, ensures the overall availability of the system solution.

Key Features

- **Fully Digital Controlled**
Reduces component count and improves reliability
- **Modular, Scalable and Hot Swappable**
Flexible installations
- **High Power Density**
Reduces footprint
- **Peak Efficient @ 97%**
Reduces losses and lowers operating costs
- **Front-to-back Airflow**
Unobstructed scalability of shelves
- **Excellent EMC Performance**
Lower interference and excellent susceptibility
- **Wide Input Voltage Range**
- Continued operation in demanding grid conditions
- **Wide Temperature Range**
Applications in harsh climatic conditions
- **Compliant with Global Standards**
Delivers quality, performance and reliability in power solutions



Applications

- Macro cell BTS
- Microwave
- LTE / WiMax
- FTTX
- Broadband Access
- Optical Fibre Transmission System
- IDC (Internet Data Centres)

ETS+ 3248

Product Description

The fully Digital Controlled ETS 3248 Solar Converter module is designed with MPPT algorithm, provides real time power tracking and efficiency above 97% for renewable Power in telecom and the other industries. The modularity design, coupled with its cost effectiveness package, power density and reliability, ensures the overall availability of the system solution.

Key Features

- **MPPT**
Maximum Power point Tracking
- **Highly Efficient @ >97%**
Reduces losses and lowers operating costs
- **Excellent EMC Performance**
Lower interference and excellent susceptibility
- **Wide Input Voltage Range**
Support High String Voltage up to 430Vdc
- **Wide Temperature Range**
Applications in harsh climatic conditions
- **Compliant with Global Standards**
Delivers quality, performance and reliability in power solutions



ModuFlex+ Hybrid Power Core 6kW Rectifier + 6.4kW Solar

Product Description

The ModuFlex+ hybrid series is designed using Enetek's high efficiency switchmode rectifier modules, solar converter modules as well as DC/DC converter modules. Coupled with the intelligent controller, the solution comes complete with the respective load and battery distribution, AC incoming as well as surge protection. The solution can be customized accordingly to specific requirements.

The user friendly SMU01 controller, coupled with its compact size and simple-to-operate interface, is highly adaptable and provides the monitoring and management of the system solution.

Key Features

- **MPPT**
Maximum Power point Tracking
- **Highly Efficient @ >97%**
Reduces losses and lowers operating costs
- **Input Ground Fault Detection**
PV input Continuous Ground fault detection
- **Galvanic Isolation**
Isolation between PV input and output
- **Excellent EMC Performance**
Lower interference and excellent susceptibility
- **Wide Input Voltage Range**
Support High String Voltage up to 430Vdc
- **Wide Temperature Range**
Applications in harsh climatic conditions
- **Compliant with Global Standards**
Delivers quality, performance and reliability in power solutions



Applications

- Remote Sites
- Macro cell BTS
- Microwave
- LTE / WiMax
- FTTX
- Broadband Access
- Optical Fibre Transmission System

SMU01 Smart Monitoring Unit

Product Description

SMU01 is an intelligent controller suitable for use with Enetek's range of telecom rectifiers. The simple and effective controller unit offers a complete power system management function including data acquisition and processing, battery management as well as monitoring and control of the system solution.

The user-friendly SMU01 controller, coupled with its compact size and easy-to-use interface, is highly adaptable and can be incorporated into small design spaces.

Key Features

- Control and management for rectifier modules and peripheral devices
- Alarm/Data logging @ > 10,000 records
- Multiple language options
- Intelligent energy saving management
- Comprehensive battery management including mid-point monitoring, temperature compensation and capacity testing
- Multiple LVD controls
- Fast charge control with timer
- Site information management
- Local display with 4 keys for menu navigation
- RS485/USB for remote connection to GUI
- Web-based configuration
- TCP/IP and SNMP interface for remote monitoring
- 1 x SD slot
- 1 x wireless GSM interface slot (Optional)



Optional Features

- AC parameters monitoring module (voltage, current frequency)
- 24-point battery monitoring module c/w 2 x temperature sensor
- Extended DC monitoring module (2 x voltage, 8 x current)
- Extended digital input/output module c/w fan management
- Expandable load/battery fuse sensing module

ModuFlex+ Hybrid Power Core 612kW Rectifier + 12.8kW Solar

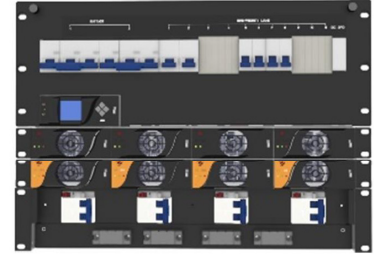
Product Description

The ModuFlex+ Hybrid series is designed using Enetek's high efficiency switch-mode rectifier modules and solar converter modules, allowing both grid/genset inputs as well as PV input. Coupled with the intelligent controller, the powercore comes complete with the respective load and battery distribution, AC incoming as well as surge protection. The solution can be customized accordingly to specific requirements.

The user friendly SMU01 controller, coupled with its compact size and simple-to-operate interface, is highly adaptable and provides the monitoring and management of the system solution.

Key Features

- Wide MPPT Range
To optimize solar power conversion
- Wide Temperature Range
Applications in harsh environment
- Modular and Scalable Design
Hot pluggable replacement or expansion
- Highly Efficient @ >97%
Reduces losses and lowers Operating cost
- PV Input Ground Fault Detection
Optional PV Input Ground Fault Detection
- Excellent EMC Performance
- Lower interference and excellent susceptibility
- Compliant with Global Standards
Delivers quality, performance and reliability



Applications

- Remote Sites
- Macro cell BTS
- Microwave
- LTE / WiMax
- FTTX
- Broadband Access
- Optical Fibre Transmission System

VHR TL48100LFP-3U 48V 100Ah

Product Description

Kaise TL-LFP series is a 48V LiFePO₄ (lithium Iron phosphate) battery module. With the advanced LiFePO₄ cell technology and smart BMS, the product has the benefit of long cycle life, small size, light weight, high safety, environmental protection and strong environmental adaptability, it is ideal for backup and energy storage application even in harsh outdoor environments.

Applications

- Telecommunications
- UPS and IDC Datacenter
- Renewable Energy Storage System



VHR TL48150 LFP 48V 150Ah

Product Description

Kaise TL-LFP series is a 48V LiFePO₄ (lithium Iron phosphate) battery module. With the advanced LiFePO₄ cell technology and smart BMS, the product has the benefit of long cycle life, small size, light weight, high safety, environmental protection and strong environmental adaptability, it is ideal for backup and energy storage application even in harsh outdoor environments.

Applications

- Telecommunications
- UPS and IDC Datacenter
- Renewable Energy Storage System



VHR TL48200 LFP 48V 200Ah

Product Description

Kaise TL-LFP series is a 48V LiFePO₄ (lithium Iron phosphate) battery module. With the advanced LiFePO₄ cell technology and smart BMS, the product has the benefit of long cycle life, small size, light weight, high safety, environmental protection and strong environmental adaptability, it is ideal for backup and energy storage application even in harsh outdoor environments.

Applications

- Telecommunications
- UPS and IDC Datacenter
- Renewable Energy Storage System



