



OPUS DUAL Inverter Systems

DUAL Inverters
Static switches
Manual bypasses
AC distribution
Subracks
1-phase and 3-phase systems



Product Description

The OPUS Inverter system is a redundant, fault tolerant system. Inverter system is optimal solution when long autonomy time and long battery service life are required. Inverter system is compatible with several battery configurations. Inverter system fits in the standard 19" racks and cabinets. DUAL inverters efficiencies are high, up to 90%.

The OPUS Inverter system has a modular construction. The inverter modules can be combined with static switch, manual bypass, AC distribution and 3-phase synchronization modules based on customer's needs.

The OPUS Inverter system can be integrated in the same cabinet as Efore DC power systems with advanced VID+ controller, temperature sensors and battery monitoring.

Features

- Fully compatible with OPUS VID+ controller
- Support to 48 and 60Vdc nominal battery voltages
- Standard 19" rack
- Small size, light weight
- Remote monitoring
- High efficiency
- Hot swap N + 1 redundant system, plug in modules
- Static switch allows On-line and Off-line modes
- High overload capability
- Parallel connectable 1500 VA to 30 kVA
- 1-phase and 3-phase output



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Technical Specifications, Inverter modules

Type	DC input Range	Nominal AC output	Nominal Power	Cooling	Dimensions Without Handles	Weight
EIM62435FR	40...72 VDC	230 VAC, 50 Hz	1500VA/1200W	Forced, fan	220 x 64 x 409 mm	4.4 kg

Electrical	
Input voltage nominal	48/60 VDC
Nominal output power	1200W / 1500VA
Input voltage range	40 – 72 VDC, User programmable start-up and shut down voltage limits and delays
Input current,	35 A, max continuous 50 A, max 5 sec peak
Inrush current	< 20 A
Output voltage	Nominal 230 VAC sine wave, user programmable 200 – 240V, floating output
Output frequency	Nominal 50 Hz, user programmable 40 – 70 Hz
Overload, 5 s	140%, 1700W
Overload, 60 s	110%, max time can be limited shorter. Number of restart attempts and delays are user programmable
Output current, nominal	6.5 A 13 A Max short circuit current, 1-4 sec
Efficiency	90 %
Load power factor range	Full power rating from 0 inductive to 0 capacitive
THD, resistive load	< 2 %
Crest factor	> 2.5
Static regulation, 0...100% load	+/- 3%
Transient recovery	< 0.3 ms
Psofometric noise, input	< 2 mV
Isolation	Input-Chassis 1500 VAC (2000 VDC), Input-Output 3000 VAC (4000 VDC), Output-Chassis 1500 VAC (2000 VDC)
Protection	Output current limiting, Overload and short circuit proof. Internal input and output fuses Additionally external fuse max C40A must be used in supply of each inverter module
Standards	
Safety	EN60950-1
EMC	Inverters: EN55022B, EN61000-6-3, EN61000-6-2, ETS 300 132-2,BTNR 2511 Static switch: As inverters except immunity: EN61000-4-3 radiated immunity according to EN61000-6-1. Other immunity standards EN61000-6-2
Alarms, Indications and controls	
LED-indications	Input ON; Output ON; Output overloading, 4 levels; Overload/Fault
Relay alarms	2 relay contacts; Fault in system summary alarm (module failure, DC input low, etc) Primary supply failure (system with bypass) or Output ON indication (system without bypass). Relay contact rating: 60VDC/1A
Remote monitoring	Web interface, SNMP traps, SMTP mail alerts and Modbus TCP/IP through VIDI+ controller. Status information: for example input and output voltage, power, temperature, faults, etc. Parameter adjustment: limits, output voltage, overload, faults, etc.



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Mechanical	
Dimensions	220 x 64 x 409 mm
Connectors in modules rear panel	Plug-in connectors DIN41612 F48, DIN4162 H15
Connectors in sub-racks rear panel	MSR8170 sub-rack: <ul style="list-style-type: none"> - DC input and GND M5 screw for cable clamp, 2 per powerframe - AC output M4 screw for cable clamp, 1 per powerframe - 88818008 AC bus bars M6 screws for cable clamp Connectors are shielded from hazardous contact
Enclosure	Steel casing IP20

Environmental	
Operating temperature/ Humidity	0...+45°C full power, +45...60°C reduced power, derating -2%/°C typically
Cooling	Forced cooling front to rear, 2 fans inside the module. Fans are redundant, one fan is enough for cooling in normal conditions
Altitude	Full power up to 2000m, derating -2%/100m, max altitude 3000m

Technical Specifications, Static switch module 7.5 kVA

Electrical								
Type	Nominal voltage	Frequency Range	Nominal Power	Max continuous Current	Max off-line short time peak current	Cooling	Dimensions Without Handles	Weight
EBPU69230FR	230 VAC	40-70 Hz	7500 VA	33 A	Limited by mains fuse	Forced, fan	220 x 64 x 409 mm	3 kg

Alarms, Indications and controls	
LED-indications	Overload – Fault – Mains failure – Mains in use – Inverter failure – Inverter in use – Synchronized – Communication
Relay alarms	Fault in system – Primary supply failure
Remote monitoring	Web interface, SNMP traps, SMTP mail alerts and Modbus TCP/IP through VIDI+ controller. Status information: for example input and output voltage, power, temperature, faults, etc. Parameter adjustment: limits, output voltage, overload, faults, etc.

Mechanical	
Connectors in modules rear panel	Plug-in connectors DIN41612 F48, DIN41612 H15
Enclosure	Steel casing IP20
Environmental	
Operating temperature	0...+45°C full power, +45...+60°C reduced power
Standards	
Safety	EN60950-1
EMC	EN55022B, EN61000-6-3, EN61000-6-2, EN61000-6-1



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Technical Specifications, Static switch module 30 kVA

Electrical								
Type	Nominal voltage	Frequency Range	Nominal Power	Max continuous Current	Max off-line short time peak current	Cooling	Dimensions Without Handles	Weight
EBPU69430FR	230 VAC	40-70 Hz	30 kVA	125 A	5000 A /10ms 400A/0.3s 200A/1min	Forced, fan	220 x 131 x 400 mm	3 kg
Alarms, Indications and controls								
LED-indications	Overload – Fault – Mains failure – Mains in use – Inverter failure – Inverter in use – Synchronized – Communication							
Relay alarms	Fault in system – Primary supply failure							
Remote monitoring	Web interface, SNMP traps, SMTP mail alerts and Modbus TCP/IP through VIDI+ controller. Status information: for example input and output voltage, power, temperature, faults, etc. Parameter adjustment: limits, output voltage, overload, faults, etc.							
Mechanical								
Connectors in modules rear panel	Plug-in connectors							
Enclosure	Steel casing IP20							
Environmental								
Operating temperature	0...+45°C full power, +45...+60°C reduced power							
Standards								
Safety	EN60950-1							
EMC	EN55022B, EN61000-6-3, EN61000-6-2, EN61000-6-1							

Order Information

Inverters		
Type	Description	Order number
EIM62434FR	DUAL Inverter 40 ... 72 VDC, 230 VAC, 1500VA / 1200 W	9060X0000091
Static switch modules		
Type	Description	Order number
EBPU69230FR	DUAL Static switch, 7.5 kVA	9060X0000090
EBPU69430FR	DUAL Static switch, 30 kVA	
Systems		
Type	Description	Order number
MSR8170	Sub-rack with position for 2 pcs DUAL inverter	9060X0000093
MSR8180	Sub-rack for DUAL inverter and DUAL Static switch 7.5 kVA, 19" x 1.5U x 480 mm	9060X0000360
MBP68300	Sub-rack including manual bypass and position for DUAL Static switch 7.5 kVA, 19" x 1.5U x 480 mm	9060X0000092
MBP68360	Sub-rack including manual bypass, AC distribution and position for DUAL Static switch 7.5 kVA, 19" x 1.5U x 480 mm	
MBP68400	Sub-rack including manual bypass and position for DUAL Static switch 30 kVA, 19" x 3U x 480 mm	8160X0001169
8169274	Coverplate set for empty module space in 19" 1.5U subrack	9060X0000085
VIDI SAM kit	Adapter kit required for remote monitoring of inverters and bypass module.	8320X0004402
Other (3-phase, > 7.2kVA or other configurations)		
Contact sales		



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