

Modular 6kVA inverter system

Wall and floor standing installation
800 x 600x 490 mm (h x w x d)

OPUS INV 24-6.0 OC0864 F
OPUS INV 48/60-6.0 OC0864 F
OPUS INV 110/125-6.0 OC0864 F
OPUS INV 220-6.0 OC0864 F



Product Description

OPUS Inverter Systems are robust, free convection cooled, N+1 redundant DC to AC power conversion solutions for critical infrastructure applications such as transmission and distribution substations, process industries, railway signalling and substations and telecommunications.

OPUS Inverter Systems consist of inverter modules, static bypass, manual bypass and AC load distribution. System is configurable to meet the requirements of the application. On top of 2 relay alarms, system can be connected to OPUS VID1 controller and monitored via modern communication protocols such as Ethernet TCP/IP, Modbus TCP/IP, SCADA IEC61850, SNMP and RS-232.

OC0864 800x600x490mm standard cabinet systems deliver maximum 6kVA/6kW with static bypass and manual bypass. System supports typical battery voltages 24V, 48V, 60V, 110V, 125V and 220V. Output voltage is adjustable 200-240VAC 50-60Hz. As an option system can be equipped with two DC inputs A + B to support supply of double powered critical applications. Quantity of Inverter modules and load distribution fuses are configurable to match with requirements of the application.

Features

- Modularity, n+1 redundancy
- Configurable on-line/off-line default supply with bypass and manual bypass modules
- Efficiency on-line 90%, off-line >99%
- Full integration to OPUS DC power systems
- Convection cooling or redundant fans, air flow bottom to top fan
- Nominal Input voltages 24VDC, 48-60VDC, 110-125VDC, 220 VDC
- Flexible design with full front cabling
- Configurable load distribution
- Option: A+B double DC input
- Safety:
 - Cabinet: EN61439-1, EN61439-2
 - Inverters: EN 62368-1
- EMC:
 - Cabinet: EN61439-1, EN61439-2
 - Inverters: EN 61000-6-1 / -2 / -3 / -4

Technical Specifications

| General construction | |
|----------------------|--|
| Cooling, modules | 1000VA modules natural convection 1200VA modules temp. controlled fan |
| Protection | IP 20, Option IP21 |
| Cabling | Default top entry Option bottom entry |
| Colour | Frame RAL 7037, door RAL 7024 |
| Dimensions & weight | Height 800mm (w/o feet) Width 600 mm Depth: 490 mm |

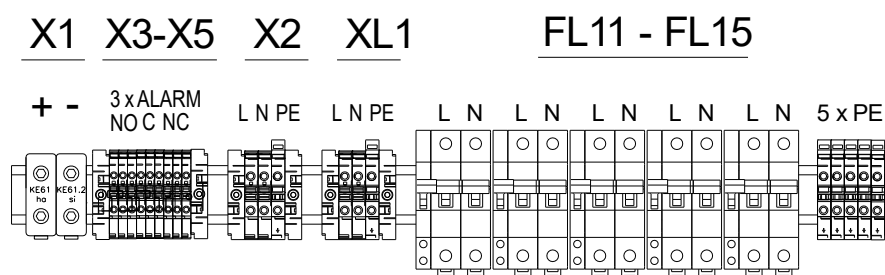
| Environment and standards | |
|---------------------------|---|
| Temp. range | -10°C ... +40°C, derated power up to +60 °C |
| Humidity max | 95% relative humidity, non-condensing |
| Altitude | Max 3km, full power up to 2km above sea level Derating 2% per 100 m between 2-3km |
| Safety | Cabinet: EN61439-1, EN61439-2 Inverter & bypass modules: EN 62368-1 |
| EMC | Cabinet: EN61439-1, EN61439-2 Inverter & bypass modules: EN61000-6-1 / -2 / -3 / -4 Generic |

| Bypass AC Input | |
|-----------------------------|---|
| Nominal input voltage | 200-240 VAC, 50-60Hz, 1-phase |
| Nominal input current | 27 Amps |
| Input protection | MCB C32A |
| Input Connector X2, cabinet | Screw terminal 10mm ² , L-N-PE |

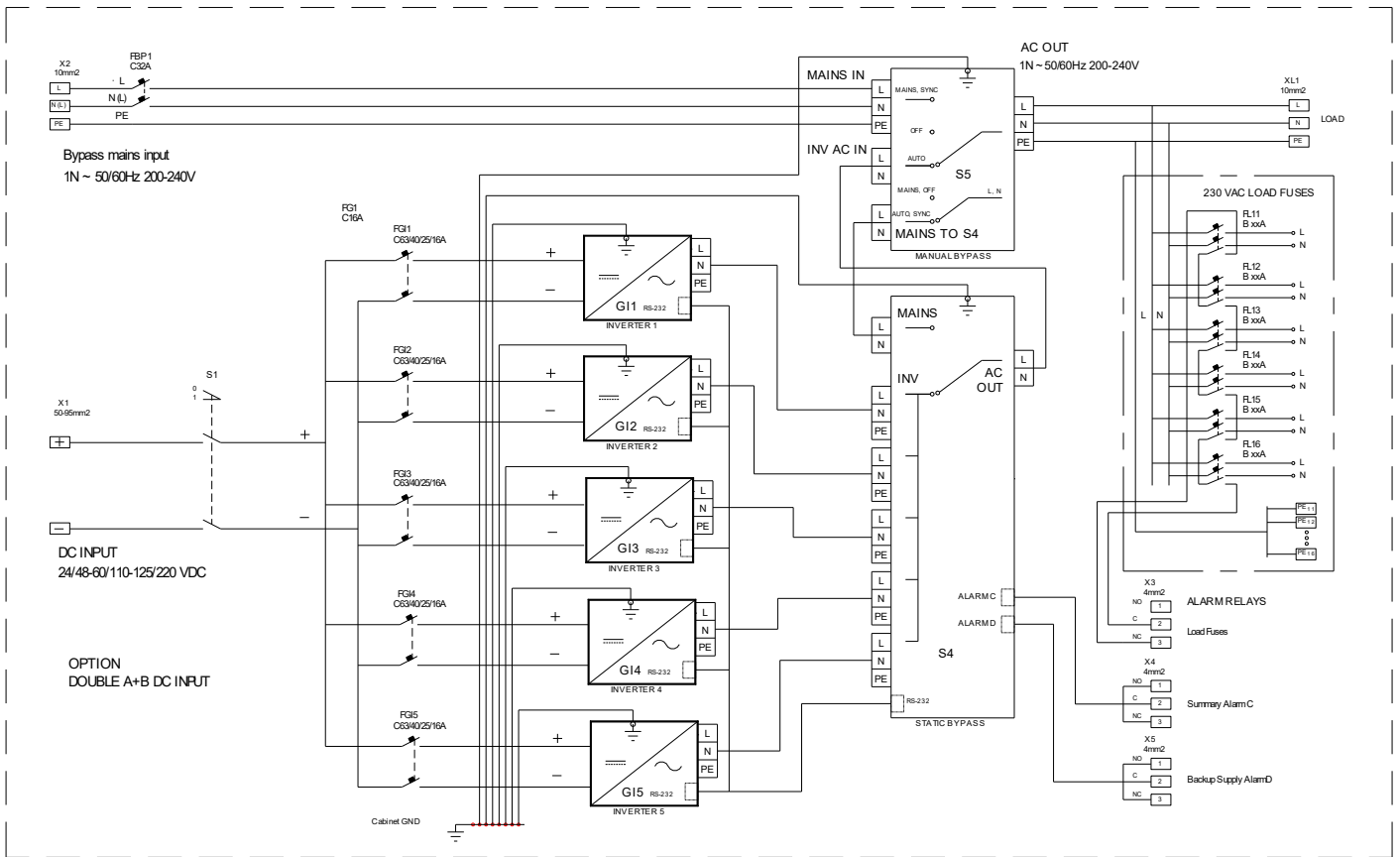
| Inverter's DC input | 24 V | | 48V - 60 V | | 110V – 125 V | | 220 V | |
|---|---|------------|---|------------|---|------------|---|------------|
| | No Fans | Fan cooled | No Fans | Fan cooled | No Fans | Fan cooled | No Fans | Fan cooled |
| Nominal voltage | 24 VDC | | 48 VDC / 60 VDC | | 110 VDC / 125 VDC | | 220 VDC | |
| Voltage range | 20-32 VDC | | 40-72 VDC | | 88-150 VDC | | 178-275 VDC | |
| Nominal current at nom. voltage -10% (1.8vpc) | 5 x 33 A | 5 x 45 A | 5 x 19A | 5 x 32A | 5 x 8A | 5 x 14A | 5 x 4A | 5 x 7A |
| Max current, 5 sec overload | 5 x 75A | | 5 x 50A | | 5 x 22A | | 5 x 11A | |
| Recommended external fuse | 250A | | 200A | | 80A | | 40A | |
| Input Protection per module | MCB C63A | | MCB C40A | | MCB C25A | | MCB C16A | |
| Input connector X1, cabinet | Screw terminal 95mm ² , +/- | | Screw terminal 95mm ² , +/- | | Screw terminal 50mm ² , +/- | | Screw terminal 50mm ² , +/- | |
| Input switch S1 | Main Switch 250A | | Main Switch 200A | | Main Switch 125A | | Main Switch 63A | |

| AC output | 24 V | | 48V - 60 V | | 110V – 125 V | | 220 V | |
|------------------------------|--|------------|------------|------------|--------------|------------|------------|------------|
| | No Fans | Fan cooled | No Fans | Fan cooled | No Fans | Fan cooled | No Fans | Fan cooled |
| Output voltage and frequency | On-line mode: Nominal 230 VAC/50Hz sine wave, user programmable 200–240V / 50–60 Hz Off-line mode: Mains voltage and frequency, transfer time to backup supply 4msec (programmable) | | | | | | | |
| Nominal max power | 5kVA / 3kW | 6kVA / 4kW | 5kVA/3.5kW | 6kVA / 6kW | 5kVA/3.5kW | 6kVA / 6kW | 5kVA/3.5kW | 6kVA / 6kW |
| Max continuous current | 5 x 4.4 A | 5 x 5.2 A | 5 x 4.4 A | 5 x 5.2 A | 5 x 4.4 A | 5 x 5.2 A | 5 x 4.4 A | 5 x 5.2 A |
| Overload capacity, 5 sec | 5 x 1200 W | | 5 x 1700 W | | 5 x 1700 W | | 5 x 1700 W | |
| Overload capacity, 60 sec | 110% for all models, number of restart attempts and delays are user programmable | | | | | | | |
| Max short circuit current | 5 x 13 A / 1-4 sec | | | | | | | |
| Load Distribution | Bulk terminal X3 / 10 mm ² , configurable load MCB 2-pole + aux, 1-5pcs | | | | | | | |

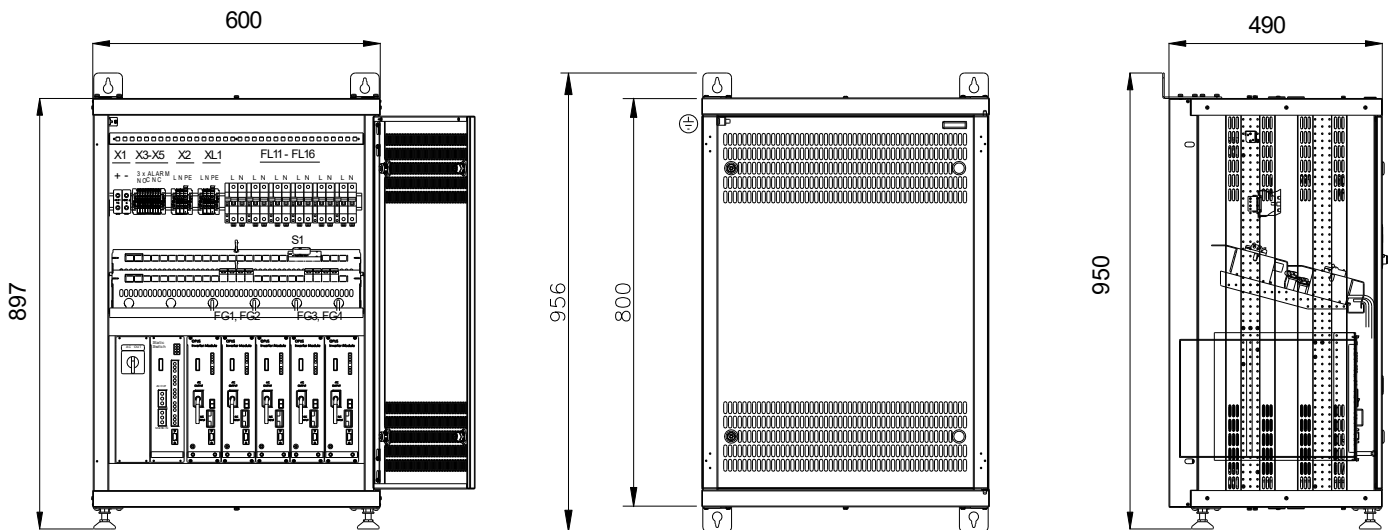
| Connections | |
|-----------------------------|--|
| Bypass AC Input, cabinet | Screw terminal X2, 10mm ² , L-N-PE, MCB C32A 1-pole |
| DC Input inverters, cabinet | Screw terminal X1, 50-95mm ² , fuse protection per inverter module, see above |
| AC Load bulk output | Screw terminal XL1, 10mm ² , L-N-PE |
| AC load distribution | Configurable 2-pole load MCBs + aux contacts, LF11-FL15, 1-5pcs |
| Relay alarms, 3pcs | Screw terminals X3-X5, 4mm ² , summary alarm, backup supply, load fuse fault |
| Integration to OPUS systems | VIDI Controller, VIDI-SAM aux controller and User Interface needed for integration |



Block Diagram, Configurable Wall Cabinet options



Mechanical Dimensions



Order Information

| Systems, Description | Order number | Voltage / Power |
|-------------------------------|--------------|---------------------------------|
| OPUS INV 24-6.0 OC0864 F | 922X015892 | 24VDC / 230VAC 1kVA – 6kVA |
| OPUS INV 48/60-6.0 OC0864 F | 922X015893 | 48V-60DC / 230VAC 1kVA – 6kVA |
| OPUS INV 110/125-6.0 OC0864 F | 922X015894 | 110-125VDC / 230VAC 1kVA – 6kVA |
| OPUS INV 220-6.0 OC0864 F | 922X015895 | 220VDC / 230VAC 1kVA – 6kVA |

| INV module 1kVA natural cooling | INV module 1.2kVA fan cooling |
|------------------------------------|----------------------------------|
| DAC62132VF | DAC62232VF |
| DAC62134VF | DAC62234VF |
| DAC62135VF | DAC62235VF |
| DAC62136VF | DAC62236VF |