

Modular inverter systems
1kVA – 16,8kVA

Floor standing installation
2000 x 600 x 600 mm (h x w x d)

6kVA cabinets, 1-5 x DAC inverter

OPUS INV 24-6.0 OC2066 F
OPUS INV 48/60-6.0 OC2066 F
OPUS INV 110/125-6.0 OC2066 F
OPUS INV 220-6.0 OC2066 F

16.8kVA cabinets, 1-14 x DAC inverter

OPUS INV 24-16.8 OC2066 F
OPUS INV 48/60-16.8 OC2066 F
OPUS INV 110/125-16.8 OC2066 F
OPUS INV 220-16.8 OC2066 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. System is managed by OPUS VID1 controller and local UIF display. Remote monitoring protocols such as Ethernet TCP/IP, Modbus TCP/IP, SCADA IEC61850, SNMP and RS-232 are supported.

OC2066 2000x600x600mm standard cabinet systems deliver maximum 16.8kVA/16.8kW 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
- Options: A+B double DC input
3-phase systems
- 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	Entry top and bottom Connectors on top
Colour	Frame RAL 7037, door RAL 7024
Dimensions & weight	Height 2000mm (w/o feet) Width 600 mm Depth: 600 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	6kVA systems	16,8kVA systems
Nominal input voltage	200-240 VAC, 50-60Hz, 1-phase	200-240 VAC, 50-60Hz, 1-phase
Nominal input current	27 Amps	80 Amps
Input protection	MCB C32A	MCB C100A
Input Connector X2, cabinet	Screw terminal 10mm ² , L-N-PE	Screw terminal 25mm ² , L-N-PE

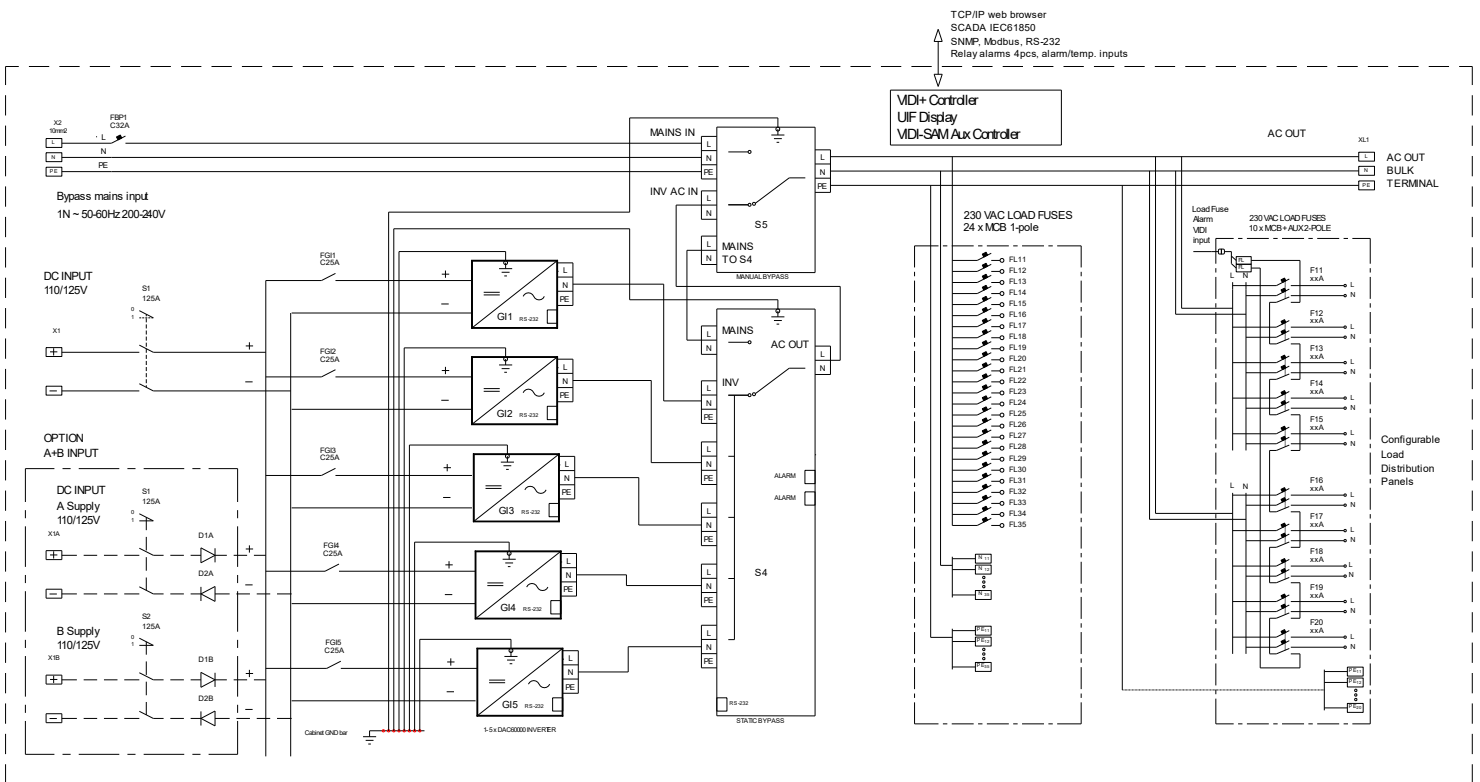
Inverter's DC input	24 V		48V - 60 V		110V - 125 V		220 V	
	No Fans	Fan cooled	No Fans	Fan cooled	No Fans	Fan cooled	No Fans	Fan cooled
Nominal voltage	24 VDC		48 VDC / 60 VDC		110 VDC / 125 VDC		220 VDC	
Voltage range	20-32 VDC		40-72 VDC		88-150 VDC		178-275 VDC	
Input Protection per module	MCB C63A		MCB C40A		MCB C25A		MCB C16A	
	6kVA		6kVA		6kVA		6kVA	
Max nominal current at nom.voltage -10% (1.8vpc)	5 x 33A	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 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	
	16.8kVA		16.8kVA		16.8kVA		16.8kVA	
Max nominal current at nom.voltage -10% (1.8vpc)	14 x 33A	14 x 45 A	14 x 19A	14 x 32A	14 x 8A	14 x 14A	14 x 4A	14 x 7A
Max current, 5 sec overload	14 x 75A		14 x 50A		14 x 22A		14 x 11A	
Recommended external fuse	630A		500A		200A		100A	
Input connector X1, cabinet	Bolt connection		Bolt connection		Screw terminal 95mm ² , +/-		Screw terminal 50mm ² , +/-	
Input switch S1	Main Switch 630A		Main Switch 500A		Main Switch 250A		Main Switch 125A	

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)							
Max power, 6kVA Pmax 16.8kVA	5kVA/3kW 14kVA/8.4kW	6kVA / 4kW 16.8kVA/11.2kW	5kVA/3.5kW 14kVA/9.8kW	6kVA / 6kW 16.8kVA/16.8kW	5kVA/3.5kW 14kVA/9.8kW	6kVA / 6kW 16.8kVA/16.8kW	5kVA/3.5kW 14kVA/9.8kW	6kVA / 6kW 16.8kVA/16.8kW
Max current, 6kVA	22 A	26 A	22 A	26 A	22 A	26 A	22 A	26 A
Max curr, 16.8kVA	62 A	73 A	62 A	73 A	62 A	73 A	62 A	73 A
Overload capacity, 5 sec	1200 W per module		1700 W per module		1700 W per module		1700 W per module	
Overload capacity, 60 sec	110% for all models, number of restart attempts and delays are user programmable							
Max short circuit current	13 A / 1-4 sec per module							
Load Distribution	Bulk terminal XL1 / 10/16 mm ² , configurable load distribution panels							

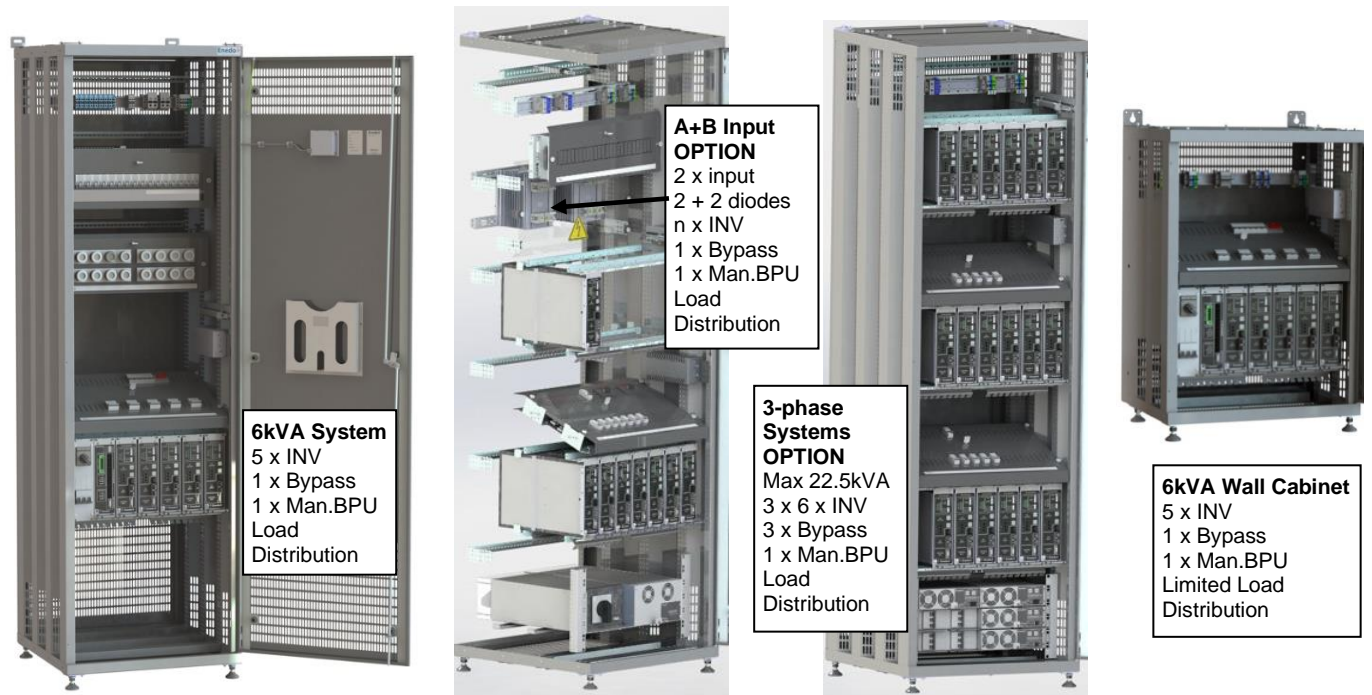
Alarms and monitoring

Relay alarms, 4pcs	VIDI Controller, configurable alarms, screw terminals 1.5mm ²
Alarm/temp. inputs, 4pcs	configurable alarm or temp.measurement inputs, screw terminals 1.5mm ²
Remote monitoring	Ethernet RJ-45, Modbus, SCADA, SNMP, RS-232

Block Diagram, Configurable cabinet options, Example 110VDC 6kVA



Layout examples, OPUS Inverter cabinet systems



Order Information

System Description	Order number	Voltage Power
OPUS INV 24-6.0 OC2066 F	922X016026	24VDC / 230VAC 1kVA – 6kVA
OPUS INV 24-16.8 OC2066 F	922X016031	24VDC / 230VAC 1kVA – 16.8kVA
OPUS INV 48/60-6.0 OC2066 F	922X016027	48V-60DC / 230VAC 1kVA – 6kVA
OPUS INV 48/60-16.8 OC2066 F	922X016032	48V-60DC / 230VAC 1kVA – 16.8kVA
OPUS INV 110/125-6.0 OC2066 F	922X016028	110-125VDC / 230VAC 1kVA – 6kVA
OPUS INV 110/125-16.8 OC2066 F	922X016033	110-125VDC / 230VAC 1kVA – 16.8kVA
OPUS INV 220-6.0 OC2066 F	922X016029	220VDC / 230VAC 1kVA – 6kVA
OPUS INV 220-16.8 OC2066 F	922X016034	220VDC / 230VAC 1kVA – 16.8kVA

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