

# Cordex HP™ 4.0kW

Modular Switched Mode Rectifier



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- High performance switched mode rectifier offers near 95% efficiency for reduced operating expenses and carbon footprint
- Available in 75A @ 48Vdc
- High power density, over 23kW per 23" shelf
- Power limiting and wide range AC input
- Hot swappable, 4RU ultra compact design
- Backwards compatibility with Cordex 3.6kW rectifier shelves and power solutions providing cost effective upgrade path

**Cordex High-Performance rectifiers make a proven, reliable platform even better, with significant advancements in efficiency and performance.** In a compact, fan-cooled design, Alpha's HP rectifiers open the possibility for immediate Opex/Capex savings, reducing total cost of ownership and impact on the environment, and are useable under a wider range of applications.

The Cordex HP 4.0kW is a perfect solution for various 48Vdc capacity applications from small remote sites to large power systems at CO's, MTSO's and Data centers. With a high operating efficiency and wide temperature operation, HP series rectifiers are also ideal for harsh outside plant enclosure installations.

The Cordex HP 4.0kW is a backwards compatible solution with existing Cordex 3.6kW shelves and systems, providing users an easy upgrade path to greater power density and reduced OPEX.

Local and remote setup, adjustment and control is a simple single-step process with Cordex CXC system controllers. By utilizing TCP/IP technology, complete configuration and monitoring of power equipment is possible through a network web browser.

# Cordex HP™ 4.0kW Modular Switched Mode Rectifier

Part Number: 010-623-20

## Electrical

### > 4.0kW Rectifier Module(s)

#### Input voltage:

Nominal: .....208 to 277Vac  
Operating: .....187 to 312Vac  
Extended: .....187 to 90Vac (de-rated power)

Input frequency: .....45 to 66Hz

Power factor: .....>0.99 (50 to 100% load)

THD: .....<5% (@ 208Vac)

Efficiency: .....>94.9% peak

Output voltage: .....42 to 60Vdc

Output power: .....4000W continuous/module

Float voltage: .....48 to 58Vdc

Output current: .....74A @ 54Vdc (83.3A max 48V)

Load regulation: .....<±0.5% (static)

Line regulation: .....<±0.1% (static)

Transient response: .....±3% for 40 to 90% load step.

#### Noise:

Voice band: .....<38dB<sub>rn</sub>C

Wide band: .....<30mV RMS (10kHz to 10MHz)  
.....<150mV pk to pk (10kHz to 100MHz)

Psophometric: .....<2mV

Acoustic: .....<60dB<sub>a</sub> @ 1m (3ft)

## Performance / Features

Indicators: .....AC mains OK—green LED  
.....Module OK—green LED  
.....Module fail—red LED

Controls: .....CAN interface to CXC

Adjustments: .....Float voltage

(via CXC controller) Equalize voltage  
High/low voltage alarm  
High voltage shutdown  
Current limit  
Slope  
Start delay  
Protection: .....Current limit/short circuit  
Start delay  
Input/output fuses  
Output high voltage shutdown  
Power limiting  
Thermal foldback/shutdown  
Input transient  
AC low line foldback shutdown

## Mechanical

#### Dimensions:

mm: .....160H x 87W x 300D

inches: .....6.3H x 3.4W x 11.8D

Weight: .....3.9kg (8.6lbs)

## Environmental

#### Temperature:

Standard: .....-40 to 55°C (-40 to 149°F)

Extended: .....-40 to 75°C (-40 to 167°F)

derated power (~3600W @ 65°C (149°F))

Storage: .....-40 to 85°C (-40 to 185°F)

Humidity: .....0 to 95% RH non-condensing

Elevation: .....-500 to 4000m (-1640 to 13120ft)

Heat dissipation: .....<1150 BTU per hour

## Shelves

### > Mechanical

#### 19"/23" shelf (5 modules)

##### Dimensions:

mm: .....177H x 442W x 389D

inches: .....6.9H x 17.4W x 15.3D

Weight: .....8.5kg (19lbs)

Mounting: .....Fits 19" rack flush/center mount

Fits 23" rack center mount only

#### 23" shelf (6 modules)

##### Dimensions:

mm: .....177H x 530W x 389D

inches: .....6.9H x 20.8W x 15.3D

Weight: .....9.5kg (21lbs)

Mounting: .....Fits 23" racks only flush/center mount

### > Connections

Input: .....Box type terminal block  
6 to 16mm<sup>2</sup> (10 to 6AWG)

Output: .....Bus adapters with 3/8" studs on 1" centers

Chassis ground: .....Compression lug

6 to 16mm<sup>2</sup> (10 to 6AWG)

CAN communication: .....RJ 12 offset

## Standards

Safety: .....CSA C22.2 No 60950-1-03

UL 60950-1 1<sup>st</sup> edition

CE marked

IEC/EN 60950-1

EMC: .....ETSI 300 386

Emissions: .....CFR47 (FCC) Part 15 Class B

ICES-03 Class B

EN55022 (CISPR 22) Class B

C-Tick (Australia)

EN 61000-3-2

EN 61000-3-3

Immunity: .....EN 61000-4-2

EN 61000-4-3

EN 61000-4-4

EN 61000-4-5

EN 61000-4-6

EN 61000-4-11

ANSI/IEEE C62.41 Cat B3

NEBS: .....GR-1089 CORE

GR-63 CORE