High efficiency and reliable IP6x rectifiers

With the rollout of 4G, LTE and other broadband services, the telecom infrastructure is installed closer to where people are. The challenge for the operators is to provide an optimal service without having a significant visual impact in the city streets, shopping malls or sports arenas.

The Chameleon 48/650 HE is targeting these applications. A compact and insignificant exterior and a powerful interior well protected by an IP65 housing. It is prepared for mounting close to the Telecom equipment on a pole or wall. The plugs provide fast connection without breaking the IP protection.

CHAMELEON RECTIFIERS

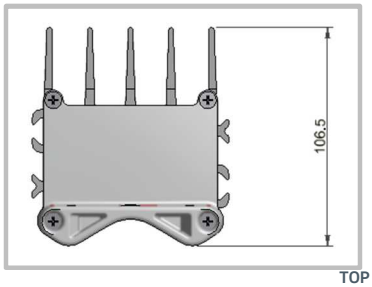
48 / 650 HE

Doc 241125.1XX.DS3 – v0C

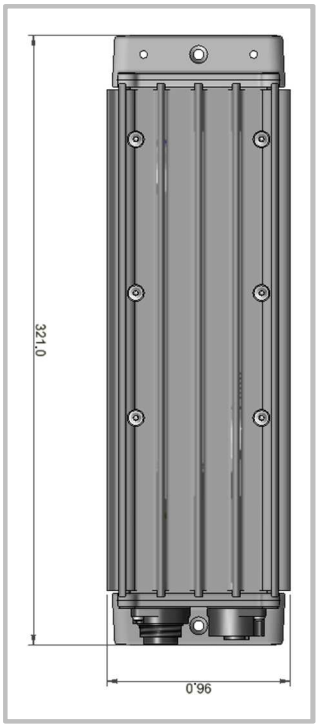
APPLICATIONS

TELECOM – MOBILE / WIRELESS

- **SMALL CELL**
  - **LTE**
  - **3G**
  - **4G**
  - **WIMAX**



TOP VIEW



FRONT VIEW

KEY FEATURES

- SURGE PROTECTION ON INPUT AND OUTPUT
- HEAT SINK FOR OPTIMAL PASSIVE COOLING
- IP 65 PLUG AND PLAY CONNECTORS
- HIGH EFFICIENCY (HE)
- WIDE TEMPERATURE RANGE
- POLE OR WALL MOUNT
- GLOBAL COMPLIANCE (CE, UL)
- TELECOM SPECIFICATIONS

CHAMELEON RECTIFIERS

48 / 650 HE

Model	48/650 HE
Part number	241125.105
INPUT DATA	
Voltage (nominal)	185 - 277 V_{AC}
Voltage (operating range)	85 - 305 V_{AC}
Frequency	45 - 66 Hz
Current (maximum) @ nominal input, full load	3.7 A_{RMS}
Recommended up-stream breaker individual feed	10A B-char[1] / 10A D-char
Recommended up-stream breaker 2 rect. per feed	16A D-char / 20A C-char
Surge	IEC 61000-4-5 (Test level X: 8 kV)[2]
Power Factor	> 0.99 at full load
Protection	Fuse in L & N, Shutdown above 305 V_{AC}
OUTPUT DATA	
Voltage (default)	53.5 V_{DC}
Voltage (adjustable range)	43.5 - 57.6 V_{DC}
Power @ 230 V_{AC} maximum	650 W
Power @ 110 V_{AC} maximum	440 W
Current (maximum) @ nominal input, full load	13.5 A (@ 48 V_{DC})
Surge	IEC 61000-4-5 (Test level X: 8 kV)
Current sharing (10 - 100% load)	±5% of maximum current from 10 to 100% load
Static Voltage regulation (10 - 100% load)	±0.5%
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms
Hold up time, maximum output power	>20ms; output voltage > 42 V_{DC}
Ripple	< 150 mV peak to peak, 30 MHz bandwidth
Protection	ORing FET, Short circuit proof, High temperature protection
OTHER SPECIFICATIONS	
Efficiency @ nominal input	Up to 95.5%
Isolation	3.0 kV_{AC} - input to output, 1.5 kV_{AC} - input to earth, 710 V_{DC} - output to earth
Alarms, alarm relay (NO) Switching capacity max 75V/2A/60W	Open and no power on output: low/high Mains or Temperature shutdown, Rectifier Failure, Overvoltage on output Open and power: load > 90% of available power
Monitoring, Eltek controller	CAN bus
Cooling	Passive / Convection
Acoustic noise	< 40dBA at nominal input and full load
Environmental Protection	Anodized IP65 aluminum chassis, conformal coating of PCB
Operating temperature Maximum output power derates above temp / to	-45 to + 70°C [-49 to +158°F] 55°C [131°F] / 450 W @ 70°C [+158°F]
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing
Dimensions[WxHxD] / Weight [excluding brackets]	96 x 321 x 107mm (3.78 x 12.63 x 4.19") / ~ 3 kg (6.6 lbs)
CONNECTIONS	
AC	IP65 plug (eco|mate); L, N & PE
DC, monitoring and control	IP65 plug (eco|mate); Output +, Output -, Alarm NO, Alarm C, CAN_L & CAN_H
DESIGN STANDARDS	
Electrical safety	UL 60950-1 [3], EN 60950-1
EMC	ETSI EN 300 386 V.1.6.1 EN 61000-6-1 / -2 / -3 / -4 , FCC Part 15 Subpart 109
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-4 (Class 4.1E & 4.2H) RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant Seismic Zone 4 (Telcordia GR 63 Core)

1) Discrimination not achieved - up-stream breaker opens before fuse in rectifier
2) Test voltage > 6kV and load below 1A, performance criteria B (reset and automatically restart).
3) UL 60950-1 available later

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