

## CM648-24 650W 24 to 48V DC Modular DC-DC Converter

Efficient and reliable, these modular rack mount converters allow for easy paralleling of modules to provide redundancy or higher power outputs. Designed for use in modern telecommunications networks these converters offer unrivalled power densities.

The unique design allows for mounting four converters in a 1U x 19" rack space.

"Plug and play" installation allows quick and easy installation and system expansion. These robust, reliable converters are forced cooled by a speed controlled and monitored high reliability fan.

When installed into an Enatel DC system solution the CM648-24 will communicate with a SM3x series controller for system level monitoring and control.

- Forced cooled.
- Thermally protected.
- Input/output voltage and current protected.
- Serial alarm and control interface.
- Microprocessor controlled.



321 Tuam Street  
PO Box 22-333  
Christchurch  
New Zealand

Phone +64-3-366-4550  
Fax +64-3-366-0884  
Email sales@enatel.net  
www.enatel.net



## Specifications

DC Input	
Nominal Input Voltage:	24V
Input Voltage Range:	20-30V
Input Protection:	
Fuses:	Fuse in the positive input with crowbar diode
Input Voltage:	Converter shuts down when input voltage is out of range, Automatically restarts when correct voltage is restored
DC Output	
Nominal Output Voltage:	48V
Output Voltage Range:	46-52V
Maximum Output Current:	13.5A
Maximum Output Power:	650W
Efficiency:	91%
Regulation:	
Line:	± 0.1%
Load:	± 0.5% (no load to full load)
Start-up Time:	Walk-in delay 2-8 seconds depending on load and output voltage.
Protection:	
Current Limit:	Adjustable to 50-100% of maximum rated current
Over Temperature:	Auto current turndown, backup shutdown protection
Polarity Reversal:	Output fuse in positive with crowbar diode
Over Voltage:	Adjustable limit
Noise: (under nominal conditions)	
Ripple <100Hz:	<1mV rms unweighted
Voice Band 100Hz-5KHz:	<1mV rms psophometric
Wide Band 5kHz-1MHz:	<5mV rms unweighted
Peak to Peak 0-20MHz:	<50mV peak to peak
Isolation:	
Input to Output:	4230V DC
Input to Chassis:	2115V DC (VDR to chassis removed)
Output to Chassis:	2115V DC
Environmental Requirements	
Ambient Temperature:	
Nominal:	+25 +/- 5°C
Range:	-10 to +70°C (maximum output power is derated above +50°C)
Storage Temperature:	-20 to +70°C
Humidity:	5-95% RH (non condensing)
Altitude:	<2500m, De-rate maximum ambient temperature by +4°C per 1000m above sea level
Mechanical	
Dimensions W, H, D:	111.5mm, 44mm (1U), 282 overall (rack depth 260mm)
Weight:	1.1kg
Shipping Dimensions W, H, D:	170mm, 52mm, 325mm
Shipping Weight:	1.6kg
Cooling:	Forced cooled.
Compliances	
Safety:	EN60950
Electrostatic Discharge:	CISPR24
Radiated Radio Frequency:	CISPR22
Other:	CE & RoHS compliant
Additional Accessories	
ACM-4T:	1U 4 position DC-DC converter shelf, no cables
Ordering Information	
CMXXX-YY:	
C =	Converter
M =	Modular version
XXX =	Converter rating and output voltage 648 = 650W 48V nom
-YY =	Converter input voltage -24 = 24V nom

