

## CM1048-24 1kW 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 CM1048-24 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.



## Specifications

|                                   |  |
|-----------------------------------|--|
| <b>DC Input</b>                   |  |
| 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 |
| <b>DC Output</b>                  |  |
| Nominal Output Voltage:           | 48V  |
| Output Voltage Range:             | 46-52V   |
| Maximum Output Current:           | 21.6A  |
| Maximum Output Power:             | 1040W  |
| 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:                  | 3000V AC   |
| Input to Chassis:                 | 1500V AC (VDR to chassis removed)  |
| Output to Chassis:                | 1500V AC   |
| <b>Environmental Requirements</b> |  |
| <b>Ambient Temperature:</b>       |  |
| 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                                    |
| <b>Mechanical</b>                 |  |
| 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.   |
| <b>Compliances</b>                |  |
| Safety:                           | EN60950  |
| Electrostatic Discharge:          | CISPR24  |
| Radiated Radio Frequency:         | CISPR22  |
| Other:                            | CE & RoHS compliant  |
| <b>Additional Accessories</b>     |  |
| ACM-4T:                           | 1U 4 position DC-DC converter shelf, no cables   |
| <b>Ordering Information</b>       |  |
| CMXXX-YY:                         |  |
| C =                               | Converter  |
| M =                               | Modular version  |
| XXX =                             | Converter rating and output voltage<br>1048 = 1000W 48V nom  |
| -YY =                             | Converter input voltage<br>-24 = 24V nom   |

