



CA-4824-6RM19

DC-DC Converter

User Manual

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TASC Systems Inc. • Langley, BC • Canada

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PREFACE

This document describes the installation and operation of TASC Systems' CA-4824-6RM19 DC-DC Converter.

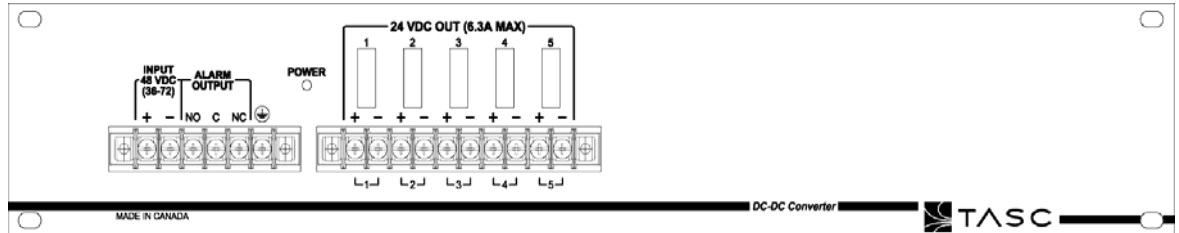
Hardware described in this document is subject to ongoing development and improvement. Consequently there may be minor discrepancies between the information in this document and the performance and design of the hardware and software.

Before connecting any equipment to the CA-4824-6RM19, the user is advised to read the Product Description section of this document in its entirety. Application of voltages in excess of the built-in protection could seriously damage the CA-4824-6RM19 and the equipment connected to it.

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1.0 PRODUCT DESCRIPTION



The CA-4824-6RM19 is a 19" rack mountable isolated DC-DC converter manufactured in Canada by TASC Systems Inc. This converter is designed to provide years of trouble free service where a positive 24 volt DC supply is required from a negative 36-72 volt DC source. The converter provides input to output isolation and input to earth ground isolation to ensure that negative ground components can be powered safely from a positive ground source such as would be found at a Telecom base station site. The converter provides 6.3 amps of continuous current at 24 volts DC and the output is distributed across five, individually fused connection points. The five GMT fuse holders allow for various loads on the output of the supply to be individually fused with a fuse value that is safe for that particular load. Each fused output has a unique positive and negative terminal.

1.1 Input Voltage

The input to the CA-4824-6RM19 is a screw down terminal with #6 studs and can accept a voltage between 36 and 72 volts DC. The input voltage can be either positively or negatively grounded. Please ensure that the input is not connected with the incorrect polarization as damage will result. In either a positively or negatively polarized connection, the negative of the source voltage will always be connected to the negative terminal of the converter and the positive will always be connected to the positive terminal of the converter. A recommended fuse value for the input of this device would be from 6 to 10 amps slow blow.

1.2 Output Voltage

The outputs of the converter are screw down terminals with #6 studs. There are five GMT fuse holders that allow for various loads on the output of the supply to be individually fused with a fuse value that is safe for the particular load. The sum of all loads connected to the converter should not exceed 6.3 amps. Each fused output has a dedicated positive and negative terminal. GMT fuses are not supplied with the CA-4824-6RM19.

1.3 Earth Ground

An earth ground connection is provided as a screw down terminal with a #6 stud. Connect this terminal to earth ground only. Do not connect the earth ground of the converter to the source voltage ground as this could result in damage.

1.4 Alarm Output

The CA-4824-6RM19 is equipped with an alarm output, which can be connected to an external alarm panel to monitor the health of the converter. The connections are a screw terminal with #6 studs. The alarm output is an isolated form C relay with normally closed (NC), common (C), and normally open (NO) connections. The alarm panel can supply either positively or negatively grounded source voltage. Make connections from the alarm panel to the common (C) and normally closed (NC) connections of the converter to short the alarm panel source voltage under normal operating conditions and show an open circuit to the alarm panel in an alarm condition. Make connections from the alarm panel to the common (C) and normally open (NO) connections of the converter to show an open circuit to the alarm panel under normal operating conditions and to short the alarm panel source voltage in an alarm condition.

1.5 Power LED

Once voltage is supplied to the input of the converter, the Power LED located on the front panel will illuminate green indicating that the converter has supply voltage attached to it and the outputs are active.

2.0 SPECIFICATIONS

OUTPUT	
DC Voltage	24V
Rated Current	6.3A
Current Range	0 ~ 6.3A
Rated Power	151.2W
Ripple & Noise (max.) Note 1	150mVp-p
Voltage Adj. Range	23 ~ 30VDC (factory set to 24.3VDC)
Voltage Tolerance Note 2	±1.0%
Line Regulation	±0.3%
Load Regulation	±0.3%
Setup, Rise Time	2s, 50ms at full load
Hold Time (Typ.)	24ms at full load
INPUT	
Voltage Range	36 ~ 72VDC
Efficiency (Typ.)	80%
DC Current (Typ.)	3.4A/48V
Inrush Current (Typ.)	13.1A / 56VDC
Leakage Current	<0.35mA / 56VDC
PROTECTION	
Over Load	105 ~ 135% rated output power Protection type: Fold back current limiting, recovers automatically after fault condition is removed
Over Voltage	31.5 ~ 37.5V/10% LOAD Protection Type: Hiccup mode, recovers automatically after fault condition is removed
ENVIRONMENT	
Working Temp.	-10 ~ +60°C (Refer to output load derating curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp., Humidity	-20 ~ +85°C, 10 ~ 95% RH
Temp. Coefficient	±0.03%/°C (0 ~ 50°C)
Vibration	10 ~ 500 Hz, 2G 10min./1 cycle, 60 min. each along X, Y, Z axes
Safety & EMC	
Withstand Voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC
EMI Conduction & Radiation	Compliance to EN55022 (CISPR22) Class B
EMS Immunity	Compliance to EN61000-4-2,3,4,6,8; ENV50204 Light industry level, criteria A
OTHERS	
MTBF	289.9K hrs min, MIL-HDBK-217F (25°C)
Dimension	483*125*87mm (L*W*H)
Weight	1.86Kg

Notes:

1. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
2. Tolerance: includes set up tolerance, line regulation and load regulation.