

## Micropack DC/DC 120W

10V-72V/12V

Great small power

The Micropack DC/DC 120W is a convection cooled converter for 12 VDC equipment up to 480W. With an input range of 10-72 VDC, the Micropack DC/DC 120W can be powered from 12, 24, 48 and 60 volt battery back-up systems.



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Doc 241120.400.DS3 – rev3

### INDUSTRY APPLICATIONS

#### RAILWAY INFRASTRUCTURE

- PTC - Positive Train Control
- Control & protection
- Signaling

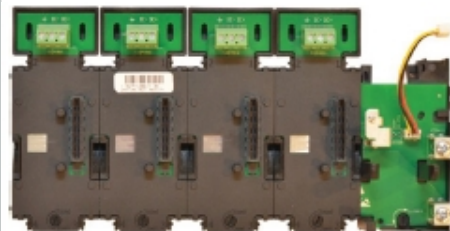
#### TELECOM

- Auxiliary powering of 12V equipment from 48V battery

Various other applications in demanding industries like Marine, Oil & Gas, process etc.



Micropack Power Core 1-pos HC  
(241120.905 for DC/DCs)



Micropack Power Core 4-pos 4Feed  
(241120.907 for DC/DCs)

### KEY FEATURES

- COMPACT AND SHALLOW (149 mm deep)
- DIN RAIL MOUNTABLE
- ON-SITE CONFIGURABLE
- OFF THE SHELF DELIVERY
- STAND-ALONE OPTION
- HOT PLUG IN MODULES
- QUICK TRIP PULSE

# MICROPACK DC/DC 120W

10V-72V/12V



## INPUT DATA

Voltage	10.4-72 V <sub>DC</sub> <sup>1)</sup>
Input current (maximum)	13.5A (Boost 18A)
Inrush current	<11 A <sub>PK</sub>
Protection	Fuse 2x10A on both branches High input voltage by a transil (>75V) Reverse polarity protection (open fuse)

## OUTPUT DATA

Voltage (default)	13.6 VDC
Voltage range with Potentiometer/Controller	10.7-15 VDC /10.7-18 VDC
Power (maximum)	120 W/Boost 160W up to 60 seconds
Current (maximum)	11.5A/Boost up to 15A
Current sharing (10 – 100% load)	5%
Static Voltage regulation (0 – 100% load)	± 0.5 % <sup>2)</sup>
Dynamic Voltage regulation	< 5.0% for 10-90% or 90-10% load variation, regulation time < 5ms <sup>3)</sup>
Hold up time	15ms @ VIN/VOUT 13.6V and full load (9A)
Ripple	< 200 mV peak to peak, 20 MHz bandwidth
Protection	Blocking ORing MosFET Short circuit proof and Quick Trip Pulse High temperature protection Overvoltage Protection Reverse polarity protection (open fuse)

## OTHER SPECIFICATIONS

Efficiency @ Vout 13.6V	VIN 13.6V / 89.5% VIN 27.2V / 90.9% VIN 53.5V / 92%
Isolation	2.8 kVDC - input - output 2.8 kVDC - input- chassis 500 VDC - output - chassis 2.8 kVDC - CAN & ALARM - Chassis 2.8 kVDC - CAN & ALARM - Input 2.8 kVDC - CAN & ALARM - Output 60 VDC - CAN - ALARM
Alarms (Red LED, alarm contact de-energized (open))	Low and high input shutdown, High and low temperature shutdown, Converter Failure, Overvoltage shutdown on output, Low voltage alarm, CAN bus failure
Warnings (Yellow LED)	Converter in power derate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage, Loss of CAN communication with control unit
Normal operation (Green LED)	Flashing when operator reads converter data through control unit
Alarm output	Potential free relay contact, normally activated (closed); deactivated (open) alarms and input missing
MTBF (Telcordia SR-332 Issue I method III (a))	>480 000 (@ Tambient : 25 °C)
Operating temperature	-40 to +70°C (-40 to +158°F), humidity 5 - 95% RH non-condensing Output power de-rates linear from 120W @ 50°C (122°F) to 40W @ 70°C(158°F)
Storage temperature	-40 to +70°C (-40 to +158°F), humidity 0 - 99% RH non-condensing
Dimensions[WxHxD] / Weight	39.0 x 88.5 x 149mm (1.54 x 3.48 x 5.87")/ < 0.5 kg (1 lbs)

## DESIGN STANDARDS

Electrical safety	UL 60950-1-3rd edition, EN 60950-1-3rd edition
EMC	ETSI EN 300 386 V.1.4.1 EN 61000-6-1 / -2 / -3 / -4 FCC CFR 47 Part 15
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3), 2-3 (Class 3.2) & 1-3 (Class3.1) ROHS/WEEE compliant

## ORDERING INFORMATION

Part Number	Description
241120.400	Micropack DC/DC 120W 10-72V/12V

1) Derates below 10.6VDC and shuts down below 8VDC

2) I<sub>OUT</sub> <2A and VIN >60V will increase lowest VOUT. Worst Case: 72VIN and no load gives 11.5 VOUT

3) Dynamic voltage regulation will increase if VOUT < 13V. Worst case: 15% @ 10.7 VDC.