Central Office DC/DC converter for 380 V\textsubscript{DC} distribution systems

This Flatpack2 DC/DC converter provides a secondary 310-400 V\textsubscript{DC} output from a main 48V or 60V battery bank.

This allows for high efficient transmission of battery backed up energy to small remote sites without grid.

The galvanic isolated CAN bus allows for direct connection to the controller in a supplying Eltek power system. Advanced monitoring and control can then be achieved without adding a separate controller.

Flatpack2 DC/DC Converter
DC/DC 42-75/380 1350
Doc 241115.615_DS3 – v1.1

APPLICATIONS

TELECOM - FIXED
- Central office
- Distribution hubs

TELECOM – MOBILE / WIRELESS
- Distributed antenna systems

KEY FEATURES
- WIDE INPUT RANGE
- ORING PROTECTION ON OUTPUT
- BOOST MODE
- HIGH EFFICIENCY
- MODULE KEYING
- SEAMLESSLY INTEGRATED IN CONTROL SYSTEM

Smartpack2 System controller
6U System
Flatpack2 DC/DC rack (PN: 324654)
Status of DC/DC converters in Smartpack2 web
### Flatpack2 DC/DC Converter

### Doc 241115.615.DS3 – v1.1

#### MODEL
- **DC/DC 42-75/380 1350**
- **Part number**: 241115.615

#### INPUT DATA
- **Voltage range**: 42 - 75 V\(_{\text{DC}}\) (shutdown < 39 V\(_{\text{DC}}\))
- **Current (maximum)**: 38 A\(_{\text{DC}}\) (62 A\(_{\text{DC}}\) during boost)
- **Protection**: Fuse in negative

#### OUTPUT DATA
- **Voltage (default)**: 400 V\(_{\text{DC}}\)
- **Voltage (adjustable range)**: 310 - 400 V\(_{\text{DC}}\)
- **Power continuous (maximum)**: 1350 W
- **Power boost 15s / 10min recovery**: 2250 W
- **Constant power limit**: V\(_{\text{OUT}}\) > 300 V\(_{\text{DC}}\)
- **Current (maximum)**: 4.5 A (6.2 A during boost)
- **Constant current limit**: V\(_{\text{OUT}}\) < 300 V\(_{\text{DC}}\)
- **Static Voltage regulation (0 - 100% load)**: ±0.5%
- **Ripple, 20MHz bandwidth**: < 1000 mV\(_{\text{p-p}}\)
- **Dynamic Voltage regulation**: ±5.0% for 10-90% or 90-10% load variation, regulation time < 30ms
- **Protection**: Short circuit proof, Shutdown if V\(_{\text{OUT}}\) < 300 V\(_{\text{DC}}\) for 5s (power cycle to restart), OR-ing diode, High temperature protection, Hot plug-in input current limiting, Selective over voltage Shutdown

#### OTHER SPECIFICATIONS
- **Efficiency**: Up to 94.5%
- **Isolation**: 0.71 kV\(_{\text{DC}}\) - input to chassis, 4.2 kV\(_{\text{DC}}\) - input to output, 2.2 kV\(_{\text{DC}}\) - output to chassis, 0.71 kV\(_{\text{DC}}\) - CAN/Alarm to chassis, 0.71 kV\(_{\text{DC}}\) - CAN/Alarm to input, 4.2 kV\(_{\text{DC}}\) - CAN/Alarm to output
- **Alarms: Red LED**
  - Low and high input voltage shutdown, High and low temperature shutdown, Converter Failure, Overvoltage shutdown on output, Fan failure, Low output voltage alarm (V\(_{\text{OUT}}\) < 300 V\(_{\text{DC}}\))
- **Warnings: Yellow LED**
  - Converter in power derate mode, Remote output current limit activated, Input voltage out of range, flashing at overvoltage, Loss of CAN communication with controller
- **Normal operation: Green LED**
- **Alarm relay (NC)**
  - Closes on Alarms (as specified above) and missing supply voltage. [max 75 V\(_{\text{DC}}\)/100 mA]
- **MTBF (Telcordia SR-332 Issue I method III (a))**: >295 000h (@ T\(_{\text{ambient}}\) : 25 °C)
- **Operating temperature**: -40 to +75°C (-40 to +167°F), humidity 5 - 95% RH non-condensing
- **Temperature de-rating above 55°C (131°F)**: 1350W to 800W @ 75°C (167°F)
- **Storage temperature**: -40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing
- **Dimensions [WxHxD]/Weight**: 109 x 41.5 x 327mm (4.25 x 1.69 x 13") / < 1.95 kg (4.3 lbs)

#### DESIGN STANDARDS
- **EMC**: ETSI EN 300 386 v1.6.1, FCC CFR 47 Part 15:2013
  - ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2)
  - RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant

Specifications are subject to change without notice