

Advanced power management

20W DC/DC converter



From 28 Vdc aircraft network, the converter aims to provide 18 V and 5 V outputs to supply internal integrated control panel subassemblies.

The first subassembly is dedicated to perform power transfer from converter primary side towards secondary galvanically isolated side of converter. This power transfer is made by mean of switching isolated structure built around a high frequency power transformer.

The second subassembly is dedicated to perform converter outputs protection function and to generate 18 V output by mean of linear regulator.

Overheat protection is however available on power subassembly as major power losses will occur at this level linked to energy conversion.

On assemblies current limitations are available in case of output overload or short circuit; 18 V output has its own current limitation in order not to impact 5 V generation in case of output overload and 5 V output has its current limitation impacting primary to secondary energy transfer and so might have an impact on 18V generation performance in case of overload on 5 V output.

This DC/DC converter is certified for DO-254 Design Assurance Level B

Key features

- 28 Volts direct current (Vdc) input
- Protection of DC power sources
- Galvanic isolation
- Level B certification D0254

Application

- Airbus civil aircraft (A350)

Contact

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Specifications

Electrical

| | |
|---------------|---|
| Input voltage | 28 Vdc |
| Output: | Output power 20W +5V $\pm 1\%$ up to 1A max rated current +18V $\pm 3\%$ up to 830 mA max rated current Efficiency > 83% @ 24V input voltage and max output current Overload limitation at 120% max rated output current on both power outputs Over/under voltage hiccup protection Short circuit hiccup protection On/off on 18 V |

Physical

| | |
|--------|-------|
| Width | 50 mm |
| Height | 30 mm |
| Depth | 12 mm |
| Weight | <40 g |

Environmental

| | |
|-------------|--|
| Temperature | -40°C to +70°C (normal operating conditions) |
|-------------|--|

Note: Due to continuous process improvement, specifications are subject to change without notice

Functional diagram

