

# Converter Regulator Unit for Aviation



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The Model 2037 Converter Regulator Unit (CRU) converts aircraft AC power to regulated 37 VDC power for the Electrical Flight Control System (EFCS) of the SAAB JAS 39 "Gripen" Fighter Aircraft, from a three-phase, AC power generated by a Permanent Magnet Generator (PMG). The voltage and frequency of this PMG varies as a function of engine speed.

This lightweight CRU has been especially designed to fulfil exceptional reliability demands. To achieve a high MTBF the principle of "Magnetic Amplifier" has been chosen which was an extraordinary challenge for the engineering since weight was also a critical issue.

The unit meets all environmental requirements of common military standards for airborne equipment and is fully qualified in accordance with equipment specification based on MIL-STDs.

Since cooling is provided by thermal conduction via the ground plate (no fan), the CRU is absolutely maintenance-free. Based on our ILS-Department's extensive Know-how, we are able to offer complete ILS packages.



Converter Regulator Unit (CRU), Model 2037

## For Military Aircraft

### Standard Features

- Completely qualified
- Short-circuit protected
- No fans
- Low weight and size
- High reliability

### Application

- Military aircraft

### Support Service

- Complete Integrated Logistic Support (ILS)



## Electrical Specifications

### Input

Voltage ..... 80 to 130 Vrms  
 Frequency ..... 2400 to 4000 Hz

### Output

Voltage ..... 37 VDC,  $\pm 2$  V  
 Power ..... 620 W continuously,  
 1000 W peak (0.5 s)  
 Overload ..... Fully protected against shorts and  
 overload with automatic recovery  
 Efficiency .....  $\geq 90\%$  at max. load (100% PMG speed)

## Environmental Specification

Temperature range .....  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  (operation)  
 .....  $-55^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  (storage)  
 Humidity ..... 95% max.  
 ..... (MIL-STD 810 C, M 507.1, Pr. II)  
 Shock ..... 30 g/2.5 ms, 11 g/20 ms  
 Bump ..... 25 g/6 ms

Vibration ..... Random, 10-2000 Hz/10 g  
 ..... Gun fire 10-2000 Hz/15 g  
 Altitude ..... 9 kPa continuously, 4.5 kPa for 5 min.  
 EMC ..... Acc. to MIL-STD 461B, CE03, CE07,  
 RE02, RS02, RS03, RS08  
 Protection ..... IP 66 according to DIN 40050

## Physical Characteristics

Dimensions ..... Height 100 mm  
 Width 145 mm  
 Depth 184 mm  
 Weight ..... 2.975 kg  
 Interface ..... Military qualified connectors (MS)

## Design Characteristics

MTBF .....  $> 130,000$  h  
 Qualification ..... Fully qualified in accordance with  
 equipment specification,  
 based on MIL-STDs

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