The Auto Transformer Rectifier Unit (ATRU) is designed to convert a 3-ph aircraft AC voltage of 200 VΔ-400 Hz into a voltage of 270 Vdc. The ATRU consists state-of-the-art power conversion components and was developed for a US defense program of an unmanned aeronautical vehicle. All components are housed in an aluminium cabinet designed according to the general requirements of military aircraft.

For Military Aircraft & UAV

**Standard Features**
- Wide temperature range
- High efficiency > 95%
- Low weight and size
- RTCA DO 160G
- MIL-STD 704E

**Application**
- Military fixed & rotary wing

**Support Service**
- Complete integrated logistic support (ILS)

**Key Features of the ATRU:**
- 12 pulse rectifier
- Input EMI supression filter
- Front panel LED indicators & external monitoring interface connector
- Power / weight ratio: > 1.38 kW / kg
- High MTBF
- Passive components
**Electrical Specifications**

**Input**
Voltage .................. 200 Vac, 3-ph  
Frequency ................. 400 Hz, ± 8%  
Voltage spikes  
and transients............ Acc. to MIL-STD 704 E  
Frequency transients..... Acc. to MIL-STD 704 E

**Output**
Voltage .................. 270 Vdc  
Current ................. 74 A  
Ripple ..................... < 6 Vrms at 20 kW load  
without capacity load  
Overload.................. 110 A for 2 min  
160 A for 5 sec  
Efficiency ................. > 95% at 100% load

**Monitoring**
Temperature of the transformer and rectifier by PT100

**Environmental Specification**
Temperature range .......... -40°C to +71°C (operation)  
-55°C to +85°C (storage)

Humidity ................... < 95%  
Shock .......................... 20 g/11 ms, crash 40 g/11 ms  
Vibration ..................... Random, 15 g RMS  
Altitude ...................... - 500 up to +15,000 m  
EMC ............................. Acc. to MIL-STD 461B, CE102 (> 150 kHz),  
CE106 CS101, 103-105, 114, 116,  
RE102, RE103, RE02  
Protection ..................... IP 20 acc. to DIN 40050

**Physical Characteristics**
Dimensions ................. Height 204 mm  
Weight ...................... 14.5 kg

**Design Characteristics**
Power per weight/  
per volume .................. 1,380 W/kg  
Isolation resistance ...... > 100 MΩ  
MTBF .......................... > 1,000,000 h