

Transformer Rectifier Unit for Aviation



The Wärtsilä Model 2030 Transformer Rectifier Unit (TRU) converts aircraft primary AC power to 28 Vdc power from a three-phase, 115 Volt, 400 Hz generator.

This lightweight 125 Amp. TRU has been especially designed for Fighter Aircraft application (SAAB JAS 39 "Gripen"). It fulfils exceptional reliability demands and it meets all environmental requirements of common military standards for airborne equipment. In order to achieve low weight, Wärtsilä uses special aluminum ribbon coils for TRUs instead of ordinary copper wires for the transformer. A 12-pulse rectification provides low ripple DC output.

Since cooling is provided by thermal conduction via the ground plate, no forced air cooling is necessary. The absence of blowers result in high reliability and absolutely maintenance-free operation. These factors ensure low unit life-cycle cost.

Based on our ILS-Department's extensive Know-how we are able to offer complete ILS packages.

For Military Aircraft

Standard Features

- Completely qualified
- No pressure cooling
- No fans
- Low weight and size
- Aluminium ribbon coils
- High reliability

Application

- Military aircraft

Support Service

- Complete integrated logistic support (ILS)



TRU 125 Amp., Model 2030, 115 V/400 Hz - 28 Vdc



Electrical Specifications

Input

Voltage 115/200 Vac, 3-ph
 Frequency 400 Hz, \pm 8%
 Voltage spikes
 and transients Acc. to MIL-STD 704 D
 Frequency Transients Acc. to MIL-STD 704 D

Output

Voltage 28 Vdc
 Current 125 A
 Ripple 2.5 Vpp max. at 125 A
 Overload 150 A/5 min, 200 A/1 min, 500 A/1 s
 Efficiency > 86%

Environmental Specification

Temperature range -40°C to +75°C (operation),
 -55°C to +95°C (storage)
 Humidity < 95%
 Shock 30 g/2,5 ms, 25 g/6 ms, 15 g/20 ms
 acc. to MIL-STD 810 D

Vibration Random, 15 g RMS
 Altitude 4.4 kPa (20,000 m)
 EMC Acc. to MIL-STD 461B,
 CE01, CE07, RE02
 Protection IP 20 acc. to DIN 40050

Physical Characteristics

Dimensions Height 142 mm
 Width 142 mm
 Depth 210 mm
 Weight 6.1 kg

Design Characteristics

Power per weight/
 per volume 574 W/kg, 827 W/ltr.
 Dielectric Resistance > 100 M Ω
 MTBF > 75,000 h
 Speciality Unit requires thermal resistance to
 the mounting structure of 0.04°C/W
 or better

sales@euroatlas-wartsila.de

www.wartsila.com

WÄRTSILÄ® is a registered trademark. Copyright © 2017 Wärtsilä Corporation.
 Specifications are subject to change without prior notice.

