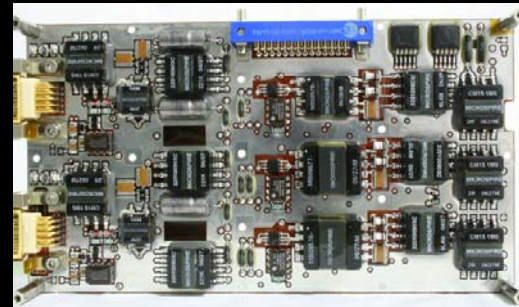


# DC/DC converters

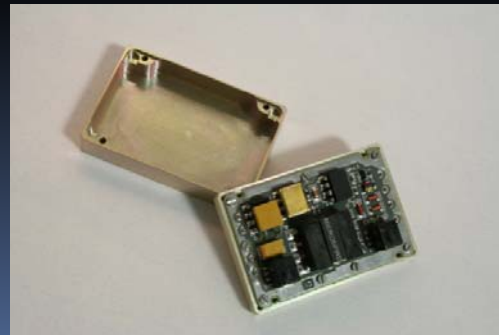
STEEL ELECTRONIQUE designs and manufactures converters for space applications :

- on customer's technical specification



*BECI DC/DC for SPIRALE satellite*

- « off the shelf » DC/DC



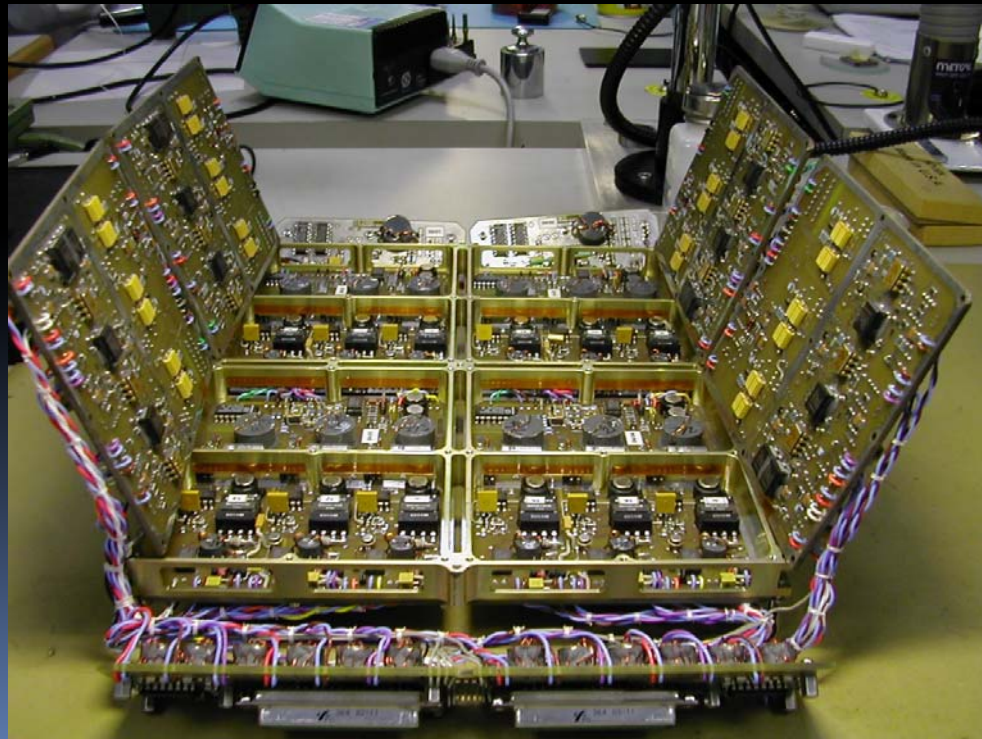
*SLxDC series*

# DC/DC converters

## On customer's specification

- PSU (Power Supply Unit) was designed and manufactured for PACS (Photodetector Array Camera and Spectrometer) for Herschel satellite
- ESA mission (launched 14 May 2009)
- Hi-rel components
- 3 PSU models were manufactured : EM, FM, FS

8 redundancy boards of 3 channels each :  
5V, +/-9V → 48 outputs 40 Watts



# DC/DC converters

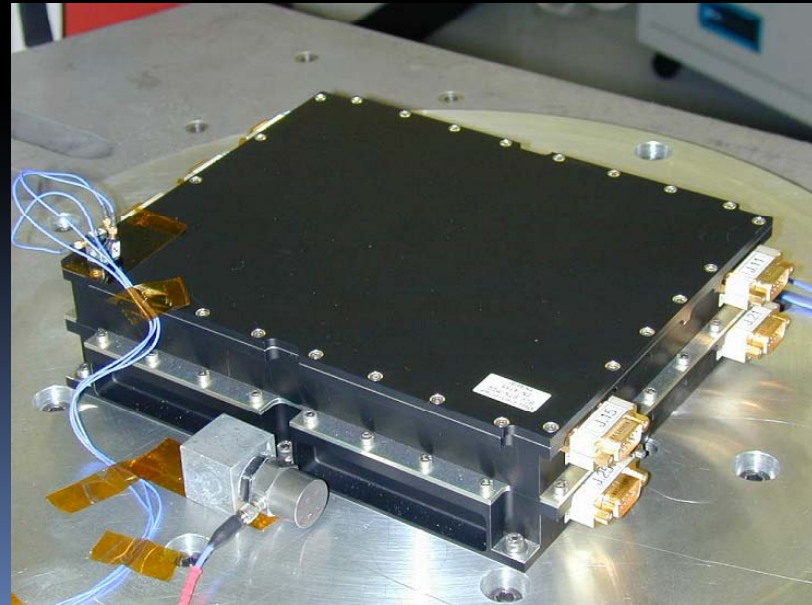
## On customer's specification

- DC/DC for COROT satellite
- CNES mission, Proteus platform (launched 27 December 2006 by Soyuz)
- Hi-rel components
- Manufacturing of 2 modules: EM, FM

The BCV ETN supplies power into BEX and DPU equipments with :

- 2 x 5V
- +/-15V
- 3.3V

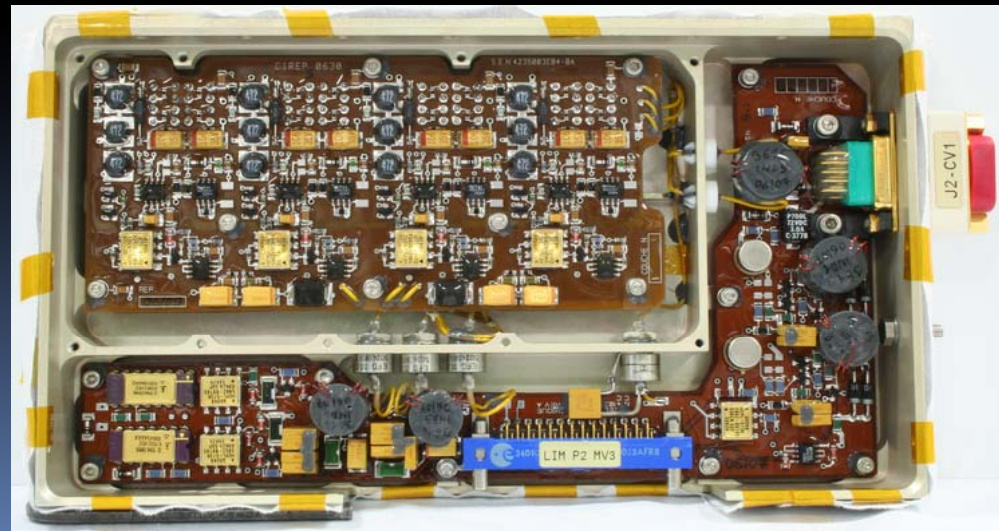
Power = 30 Watts



# DC/DC converters

## On customer's specification

- DC/DC board for microsatellite's On Board Computer
  - 18 converters manufactured for multiple missions (TAS, ASTRIUM, CNES)
  - Using qualified lots of commercial components
- 
- 2 channels in cold redundancy
  - 2 separate primary voltages
  - automatic switch
  - 5.2V/10 Watts and 3.4V/6.8Watts



# DC/DC converters

## « Off the shelf »

STEEL ELECTRONIQUE has decided to develop **FREE ITAR** « off the shelf DC/DC converters » 4 years ago.

With an ambitious R&D program, the target was to propose fully compatible converters with ESA/CNES standards in terms of design, quality and wiring.

A lot of tests were made to guarantee vibrations, shocks, EMC/EMI, TID, SEE, Operational temperature range, Thermal vacuum, ...

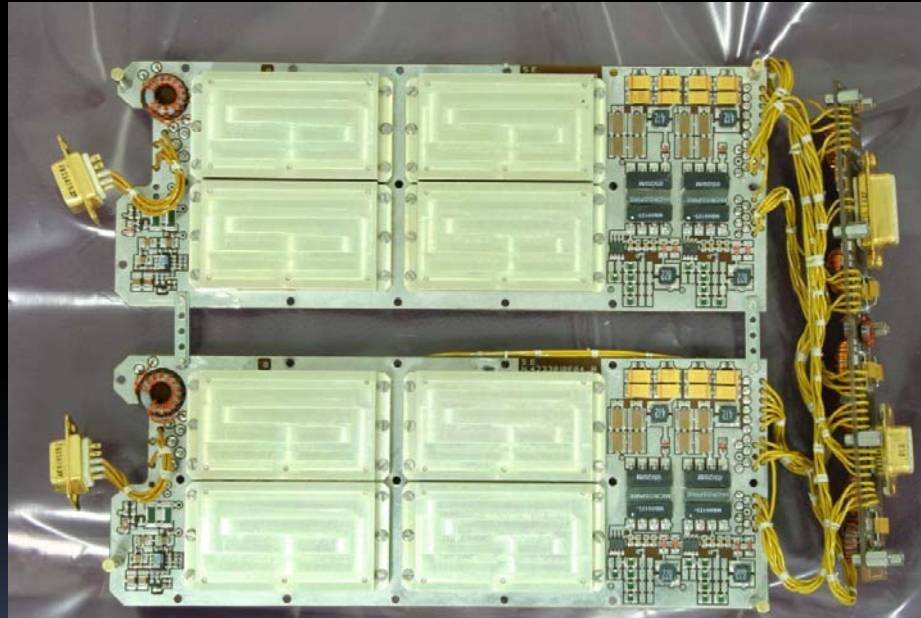
# AND NOW THESE PARTS ARE AVAILABLE



# DC/DC converters

## « Off the shelf »

MICROSCOPE. The main scientific objective is the test of the Equivalence Principle with an accuracy of one hundred times better than the one obtained with experiments realised on Earth.



*Eight SEDC28 by board. 4 boards to supply power to FEEU and ICU equipments for MICROSCOPE*

# DC/DC converters

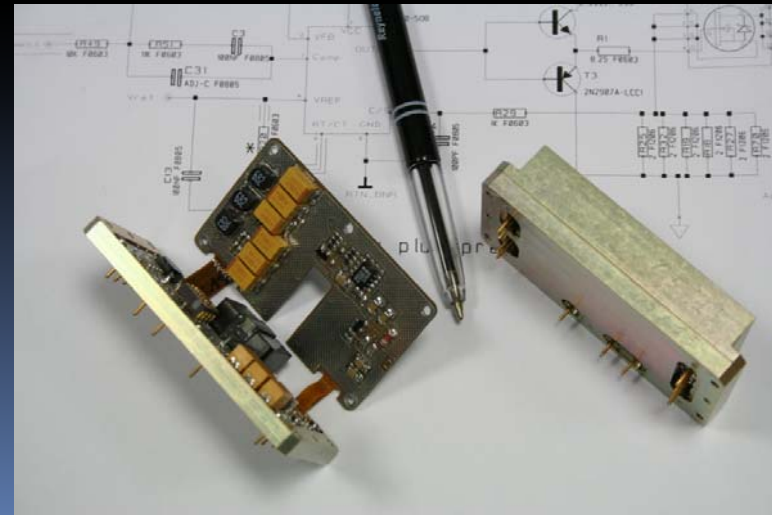
## « Off the shelf »

MEXIC on TARANIS SATELLITE (CNES mission)

MEXIC is a set of 2 electronic boxes comprised of the 8 analyzers associated with the instruments, providing electronic power to the instruments, management of the payload modes and the interface with the Mass Storage and the platform computer. MEXIC also ensures the synchronization of the instruments from events detections by the photometers.

It uses :

- 12 SEDC28 3.3V - 6.6 Watts
- 4 SEDC28 5.2V - 10 Watts
- 8 SEDC28 12V - 8 Watts



# DC/DC converters

## « Off the shelf »

The ECLAIRs telescope is the key element of the SVOM mission (Space-based multi-band Variable Object Monitor), a Chinese-French project dedicated to the study of multi-wavelengths from gamma ray bursts.

CESR (Space Center for Research about Radiation) and CEA ( Research Center about atomic energy) decide to procure the new serie of SLxDC28 converters.

The equipment uses :

- 4 SL2DC28 3.3V ( 2 = ESA standard ECSS-Q-ST-60C Rev1 class 2)
- 2 SL2DC +15V
- 2 SL2DC -15V
- 2 SL2DC 5.2V

5 equipments will be manufactured

