Axon’s powerful

WATTSYS®

BUS BAR RANGE!
**AXON’S POWERFUL WATTSYS® BUS BAR RANGE!**

Axon’ Cable enjoys a wealth of expertise in the design and manufacture of bus bars. This technology based on flat sections of aluminum enables the carrying of very high currents within the challenging aerospace environment.

**BUS BARS:**

**POWERFUL BUT LIGHTWEIGHT**

Drawing on its long heritage of designing such systems for satellites, Axon’ Cable is able to develop bus bar systems for reliable energy distribution in the different parts of an aircraft or for land-based applications. This turn-key interconnect is a time-saving solution which allows for easy integration with the customer’s equipment.

The flat configuration of the bus bars allows for:
- mass reduction compared to traditional copper solutions, which is a key issue in aerospace applications,
- improved heat dissipation in comparison with a circular power cable bundle,
- significant improvement in voltage drop throughout the power distribution chain,
- the possibility of including filtering within the bus bar (capacitance between potentials).

The materials used have been selected to withstand extreme temperatures (-35°C to +150°C) and even cosmic radiation. The construction of the bars can be single or multi-layer. Depending on the application, different shapes can be studied for specific applications.

**BAR INTERCONNECTION**

The bar can be connected via many kinds of connectors and wires with different gauge sizes. The interconnection of WattSys® bars is carried out with dismountable flexible or rigid links:

- Dismountable flexible links: Wire bundles (e.g. MIL, ECCS wires) soldered to the bars,
- Flexible copper power braids,
- Dismountable rigid terminations: Contacts soldered onto the bars (compatible with standard connectors),
- Bolted connections,
- Axon’ power connectors,
- Versatys Connectors (MMC),
- Versatys connectors developed by Axon’ have many advantages: Smaller than D-Sub connectors for the same power rating,
- Weight saving,
- Dismountable or non-dismountable versions,
- Easy to dismount/interchangeable contacts (dismountable version): no tooling required,
- Quick and easy to mate and lock (D-Click version),
- Cost-effective solution.

**LEADER IN INTERCONNECT SOLUTIONS**

Axon’ offers a complete service from the choice of material or components, to the design, routing, manufacturing, test and qualification of the bus bars. 2D or 3D mock ups can be developed to ensure perfect integration with the customer’s equipment. The company is equipped with ISO 7 and ISO 8 clean rooms with very stable temperature and humidity control.

Axon’ Cable excels in the design and manufacture of wires, cables, terminated harnesses, connectors and integrated systems for high technology. This large expertise ranging from conductor to harnessing and connector manufacturing enables the company to offer complete interconnect solutions.

**AEROSPACE HERITAGE**

Weight saving, miniaturization, electrical performance and mechanical resilience, these are all challenges met by Axon’s custom-designed cabling solutions. From the flight command system to the aircraft tail, Axon’ engineers design avionic interconnect systems for all the varying needs and production volumes requested by customers in this demanding field. The technological expertise of Axon’ speaks for itself. For example, the company has equipped aircraft including A400M, A350, Ariane 5 and many satellites with data bus transmission harnesses.

Numerous satellites of the EUROSTAR 3000 platform have been equipped with Axon’s WattSys® bus and battery bars (Astra, Arabsat, Eutelsat, Intersat, Skyvet, etc). Over 28 satellites with this technology are in orbit with more than 3 years of life and 7 satellites overpass 10 years life. Axon’ Cable is a leader in the bus bar technology for the space market.

The most common power distributed within a satellite is 400 Amps but Axon’ offers interconnect solutions adapted to any satellite ranging from nano to telecommunication satellites.

**EXAMPLE OF BUS BARS FOR SPACE**

Bus and battery bars are vital components used to distribute energy in different parts of a satellite:

1. Between the different components of the batteries (cells, cell packs, bypass, shunt, connectors)
2. Between the solar array slip ring and the power system regulator (PWR-PCU)
3. Between the batteries and the power system regulator
4. Between the power supply regulation system and the different devices in the satellite (e.g., computer, power emitter, navigation system)
5. Between battery pack groups