

axon' 

**WattSys<sup>®</sup>**  
bus bars :

*powerful but lightweight*

THE NEWSletter  
for sales teams

axoCLUE

INTERNAL INFORMATION

N°24 March 2018

## TECHNICAL CHARACTERISTICS



Bus bars are mainly composed of silver plated pure aluminium or high conductivity aluminium alloy. They are characterized by their flat shape and light weight

The construction of the bars can be single or multi-layer

Different insulating solutions including polyimide, silicone

The most common current distributed within a satellite is between a range of 20 to 400 Amps but Axon' offers interconnect solutions adapted to any satellite ranging from nano to telecommunication satellites

The flat configuration and the materials of the bus bar allow for :

- mass reduction compared to traditional copper solutions
- improved heat dissipation

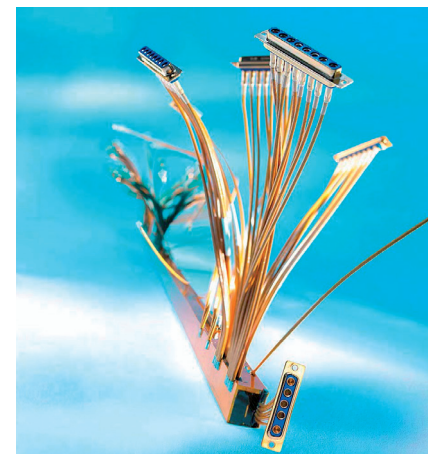
Resistance to extreme temperatures (-35°C to +150°C)

Resistance to cosmic radiation

Axon' has developed systems to interconnect the bars via many kinds of connectors and wires with different gauge sizes. The interconnection can be made with dismountable flexible links, or dismountable rigid links

New requirements from customers: partial shielding of the bars (compromise between shielding efficiency and heat dissipation)

*Axon' Cable is able to develop custom designed bus bar systems for reliable energy distribution in the different parts of a satellite. This technology based on flat sections of aluminium enables the carrying of very high currents within the challenging aerospace environment. Axon' enjoys 14 years of space heritage with bus bars.*



## EXAMPLES of WATTSYS® BUS BARS

<b>EUROSTAR3000 100V BAR ASSEMBLY</b>	<ul style="list-style-type: none"> <li>- E-shape aluminium bars</li> <li>- Multilayer : 2 potentials (+100Vdc/0Vdc)</li> <li>- Service voltage : 100 Vdc</li> <li>- Max derated current 300A per potential</li> <li>① - Service temperature -35°C/+70°C</li> </ul>
<b>AXON' SILICONE PROTECTION PART INSIDE!</b>	<ul style="list-style-type: none"> <li>- Double insulation</li> <li>② - Contact mounting verification</li> </ul>
<b>SINGLE-LAYER BUS BAR</b>	<ul style="list-style-type: none"> <li>- Service voltage 100Vdc</li> <li>- Max derated current 300A</li> <li>③ - Service temperature -35°C/+70°C</li> </ul>
<b>MULTI-LAYER BUS BAR</b>	<ul style="list-style-type: none"> <li>- 2 potentials (+100Vdc/0Vdc)</li> <li>- Service voltage 100Vdc</li> <li>- Max derated current 200A per potential</li> <li>④ - Service temperature -35°C/+70°C</li> </ul>
<b>MULTI-LAYER BAR INSULATED WITH SILICONE</b>	<ul style="list-style-type: none"> <li>- 2 potentials (+100Vdc/0Vdc)</li> <li>- Service voltage 100Vdc</li> <li>- Max derated current 100A per potential</li> <li>⑤ - Service temperature -35°C/+85°C</li> </ul>
<b>0 VOLT (GROUND) CONNECTION NODE</b>	<ul style="list-style-type: none"> <li>- Max current 160A</li> <li>⑥ - -25/+60°C-</li> </ul>
<b>SHIELDED BUS BAR</b>	<ul style="list-style-type: none"> <li>- Shielded bar variant &gt;50% shield coverage</li> <li>- 2 potentials (+100Vdc/0Vdc)</li> <li>- Max derated current 100A per potential</li> <li>⑦ - Service temperature -35°C/+85°C</li> </ul>

## ADVANTAGES OVER COMPETITION

Axon' Cable is one of the only suppliers to design tailor-made bus bars

Flight heritage

Vertical integration : expertise in technologies from conductors, cables, cable assemblies and connectors

## APPLICATIONS

Satellites : Eurostar 3000 platform, Spacebus Neo, EUROSTAR NEO, ELECTRA, etc

Land-based application

## MORE CLUES

→→→→ **information for customers**

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Link to existing brochure on the website <http://www.axon-cable.com/publications/WATTSYSBUSBAR.pdf>

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