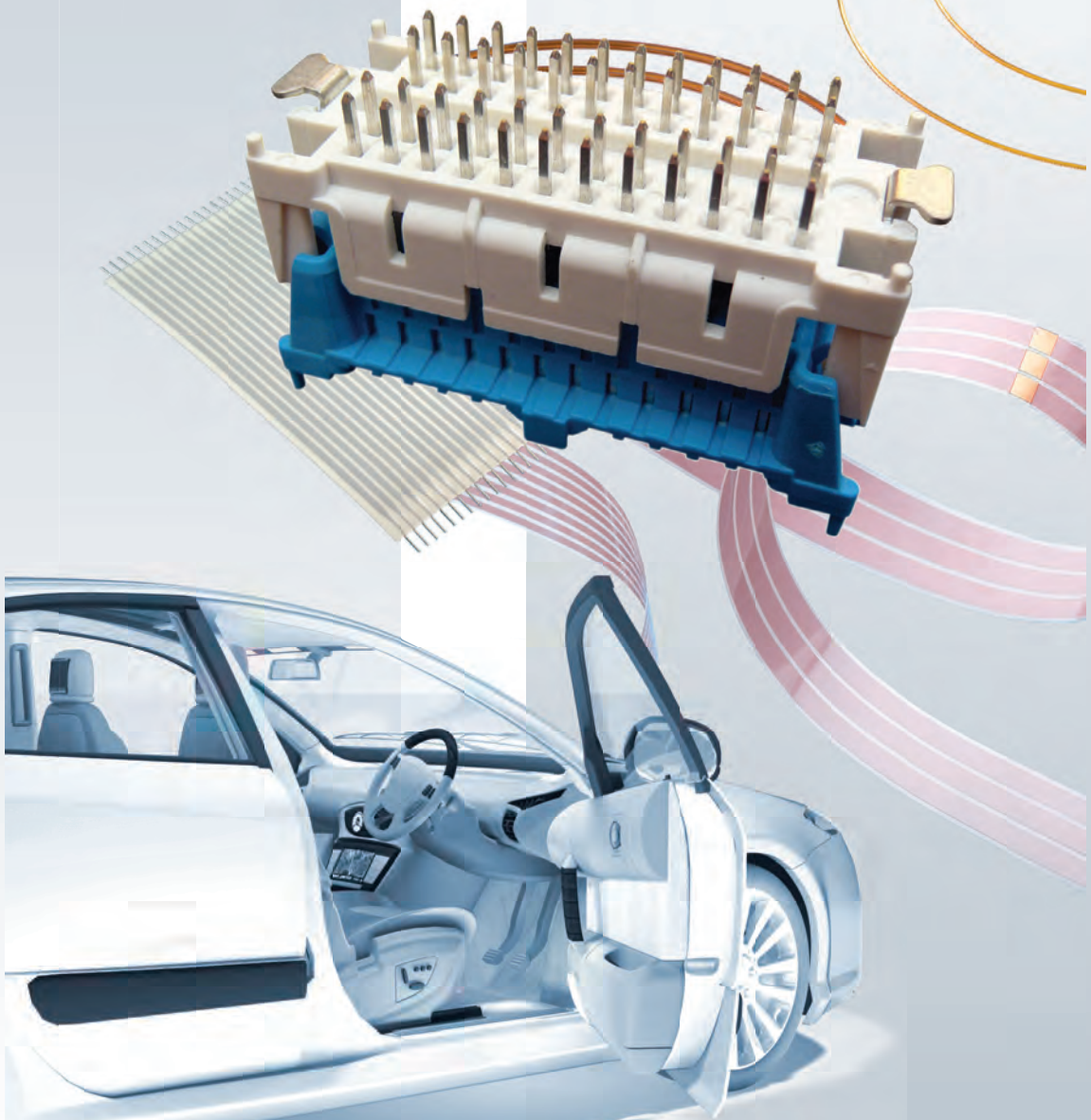


**axon'** 

# AUTOMOTIVE INTERCONNECT

*We're in  
the driving seat!*



[www.axon-cable.com](http://www.axon-cable.com)



## OUR MAIN EXPERTISES

- Drawing of miniature conductors
- Plating on metal or plastic parts : tin, nickel, silver, gold and more
- Extrusion and lamination of temperature and chemically resistant insulation materials
- Shielding techniques : braiding, taping, shield termination, simulation and measurement of EMC performance
- Stamping of precision metal parts
  - Electrostriction of wire pins and interconnect pin headers
- Moulding and overmoulding of connectors and cables
- Mechatronics : integration of electromechanical and electronic components
- Cabling : termination of flat and round cables
- Assembly using manual or automatic processes
- Development of automatic manufacturing processes

# AUTOMOTIVE INTERCONNECT

*We're in the driving seat!*

*Connectivity, active safety, electro mobility, reduction of air pollution – these are some of the major trends in the automotive industry. Therefore more and more high tech electronic devices have to be connected inside our cars.*

*Reliability, weight and space saving, flexibility, temperature resistance, power transmission, EMI protection....these are some of the demanding requirements Axon' has to take into account. We take up the challenge ! From standard flexible flat cables to custom designed complete mechatronic interconnect systems Axon' offers solutions to connect virtually every part of the vehicle.*

*Axon's integrated manufacturing sites in Europe, Asia and America can handle all orders from small and medium size volumes right up to mass production. All sites involved in the manufacture of automotive products are ISO 9001 and TS16949 certified.*

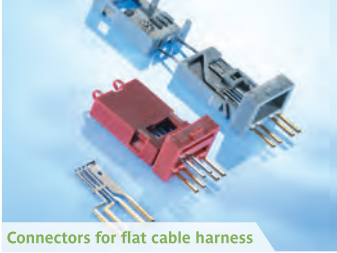
*Discover our numerous product ranges suited to connecting all the different equipments of a vehicle !*



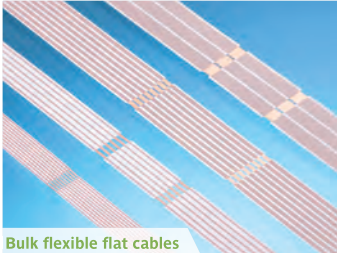




Flat cable harness



Connectors for flat cable harness



Bulk flexible flat cables



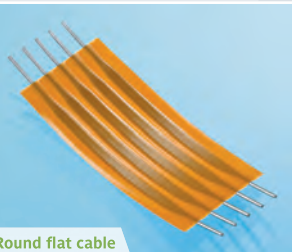
## STEERING SYSTEM

### BOARD-TO-BOARD CONNECTION FOR ELECTRONIC CONTROL UNIT (ECU)

- **Round flat cable Axostrip™**
- Flat cables with round pins
  - Reliable through-hole interconnection compatible with wave soldering process
  - No connectors necessary
  - Insulation : Polyester (105°C), Polyimide (125°C) or Aramid (125°C)
  - High resistance to bending and vibration

### HYDRAULIC AND ELECTRIC POWER STEERING

- **Overmoulded connectors with signal and power contacts**
- Integrated sealing system



Round flat cable



Connector with pressfit terminals



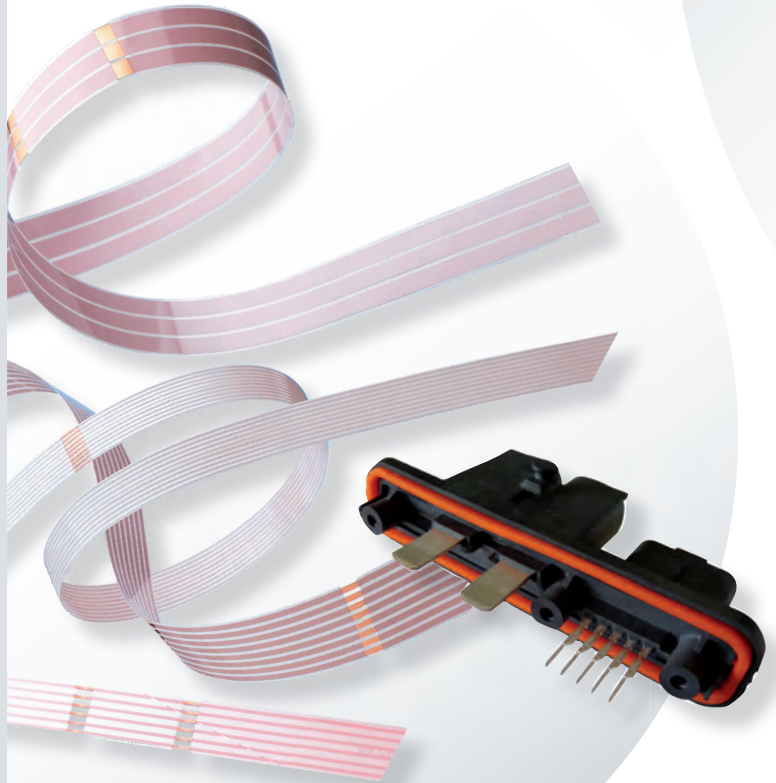
## MULTIFUNCTION STEERING WHEEL

### AIRBAG SWITCH ROTARY CONNECTOR

- **Custom designed flat flexible cables**
- High quality reliable bulk flat cables Flexlink®
  - High flexlife
  - Conductors: width starting from 0.6 mm, small thickness (35 µm)
  - Low width construction Picoline® for noise reduction
  - Clean stripped areas suited for welding processes
- **Overmoulded or inserted connectors**
- **Precision stamped metal parts**
- **Terminated flat cable harnesses**

### STEERING WHEEL HEATING SYSTEMS

- **Bulk flexible flat cables**
- Large conductors (up to 19 mm), small thickness (35 µm)
  - Power transmission 8 A
  - Low width construction Picoline®
  - High flexlife
  - Clean stripped areas suited for welding processes



- OTHER STEERING WHEEL FUNCTIONS : INDICATORS, RADIO/GPS/CRUISE CONTROL**
- **Connectors with pressfit terminals**
- Solderless connection onto the PCB (patented solution)



## INFOTAINMENT SYSTEM/ CAMERAS/ DASHBOARD

### BOARD-TO BOARD INTERCONNECTIONS

#### →→ Flat flexible cables Axojump™

- Tin or gold plated conductors to avoid whiskers
- Polyester (105°C) or Polyimide (125°C) insulation
- 0.5 or 0.3 mm pitch for high density connection in a limited space
- Shielded version for EMI protection
- Punchings for easy positioning and locking into the connector
- Custom add-ons : folding, marking, adhesives, etc

### DISPLAY CONNECTION

#### →→ Flat display connection FDC Axolink™

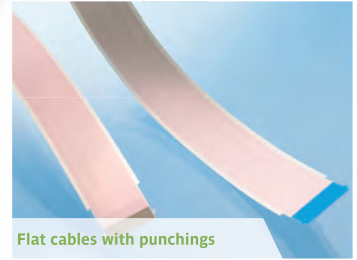
- Compatible with industry standard connectors (DF-9, DF-19, FI-SE or FI-X,...)

#### →→ HD display connection FDC 100®

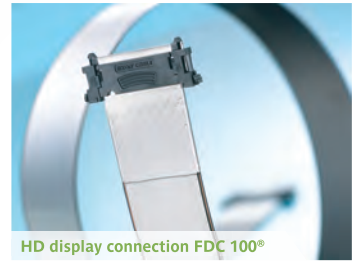
- High speed (LVDS) and ultra high speed (UHS – V-by One® HS protocol) transmission
- 100 ohms impedance shielding
- Axon' connector with simple connection system



Shielded flat cables



Flat cables with punchings



HD display connection FDC 100®



## PASSENGER COMPARTMENT

### WINDOW LIFT

#### →→ Connectors

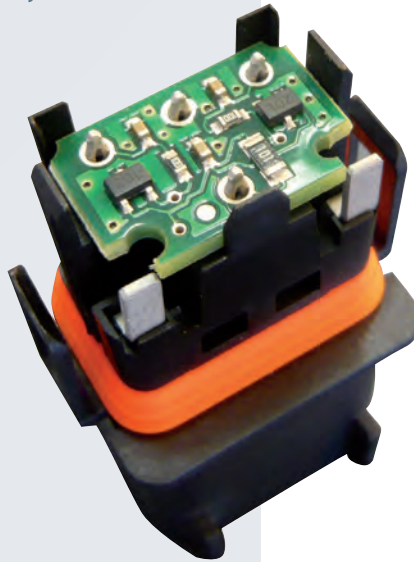
#### →→ Mechatronic parts

- Functional connector with PCB inside

### SHADING SYSTEM

#### →→ Connectors

with inserted terminals



Extruded flat cable



Connectors with inserted terminals



## EXHAUST PIPE

### SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR)

#### →→ Heating wires

- Nickel alloy conductors with high electrical resistance
- Temperature resistant FEP insulation (200°C)
- Resistant to AdBlue® fluid
- Small dimensions



Heating wires





## ENGINE COMPARTMENT

### SENSORS AND TRANSMITTERS

- **Thermocouple wires**
  - Thermocouple conductor N (Nisil / Nicrosil)
  - PTFE insulation
  - Temperature resistant (up to 260°C)
  - Lightweight
  - Small dimensions
- **Overmoulded connectors**

### TORQUE SENSORS

- **Overmoulded connectors**

### STOP-AND-START SYSTEM

- **SMD interconnectors for reflow processes**
- **Sealed connectors with pressfit terminals and potting**

### INJECTORS

- **Overmoulded coils**

### ADDITIONAL HEATING IN DIESEL ENGINES

- **Mechatronic parts**

### ELECTRICAL ENGINE CONTROL SYSTEM

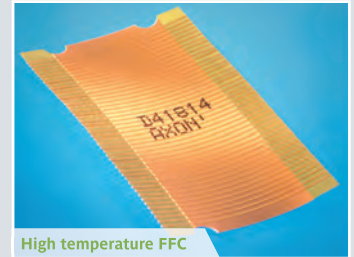
- **Power leadframes**
  - High current density
  - Sealed and compact

### POWER INVERTERS FOR ELECTRICAL CARS

- **High temperature FFC and round cables**
  - Polyimide insulations (125°)
  - Board- to-board interconnection
- **Custom designed sealed connectors and pinheaders**  
(square and round pins)

### AUTOMATIC GEAR BOX

- **Extruded flat cables**
  - Oil and temperature resistant thermoplastic insulation (125°C)
- **Overmoulded filters**



High temperature FFC



Thermocouple wires



## WIPER SYSTEMS

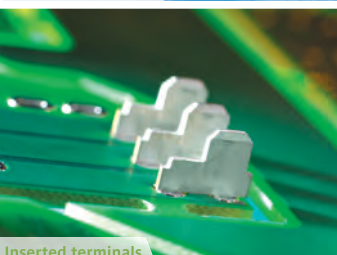
- **Overmoulded connectors**
  - Electrical contact and transport of fluids
  - Watertight
  - Pressure resistant
- **Inserted terminals**
  - Adapted to wave soldering or reflow processes
  - Pressfit terminals available.

Thickness: 0.6mm, 0.8mm and 1mm for signal and power applications

  - Semi-automatic and automatic insertion solutions for PCB assembly



Mechatronic parts



Inserted terminals



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