



Steer-by-Wire – the future of machine control

An Application Guide



ENGINEERING YOUR SUCCESS.

Get ready for the future – Steer-by-Wire the Parker way!

Cutting costs and improving performance

By replacing traditional hydraulic steering systems with our electronic Steer-by-Wire system, you can cut costs and time-to-market – but that is just the beginning. The end result will be a safer, more ergonomic and more efficient machine!

Steer-by-Wire means no more hydraulics in the cabin – in other words simplified connections, easier installation and less cabin noise. With no need for a steering

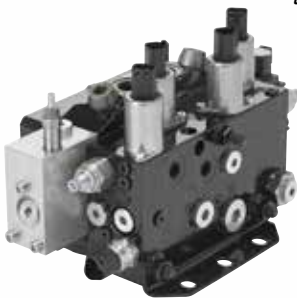
column, the driver environment can be shaped without compromise. The software-based controls make it easy to comply with existing and upcoming safety legislation, while also offering new levels of precision and efficiency. Performance is maintained in case of a failure, and any probability of unintended steering is minimised.

Our Steer-by-Wire components have been developed for systems

with joystick control and/or an electronic steering wheel. These can be placed anywhere you like, since there is no mechanical connection to the chassis.

The Steer-by-Wire approach serves a broad range of applications – and you will be fully prepared to implement autonomous driving when your customers are ready to take the big step into the future!

A compact Parker joystick and/or a LORD TFD with steering wheel can be placed freely in the cabin. These components are built to withstand tough conditions.



The SBW110 valve is designed for safety related control functions, with single fault tolerance.



IDEAL APPLICATIONS: **WHEEL LOADERS • MINE TRUCKS • DOZERS • SCRAPERS • EXCAVATORS**



The only hydraulic lines needed are between the tank, the pump(s), the valve and the cylinders – all other connections are electrical.



IQAN-MC41FS task oriented controllers can be placed anywhere inside the cabin and provide an ideal platform for safety-related functions.

- **No need for steering column**
- **Fewer components**
- **Functional Safety design**
- **No hydraulics in the cabin – only electrical connections**
- **Free placement of components**
- **Faster machine development**
- **Ready for autonomous driving**
- **Easy to customize controls**
- **Better ergonomics, less noise**

• DUMP TRUCKS • CONTAINER TRUCKS • FORESTRY MACHINES • ETC.





A simpler system

Better performance – ready for tomorrow’s machines

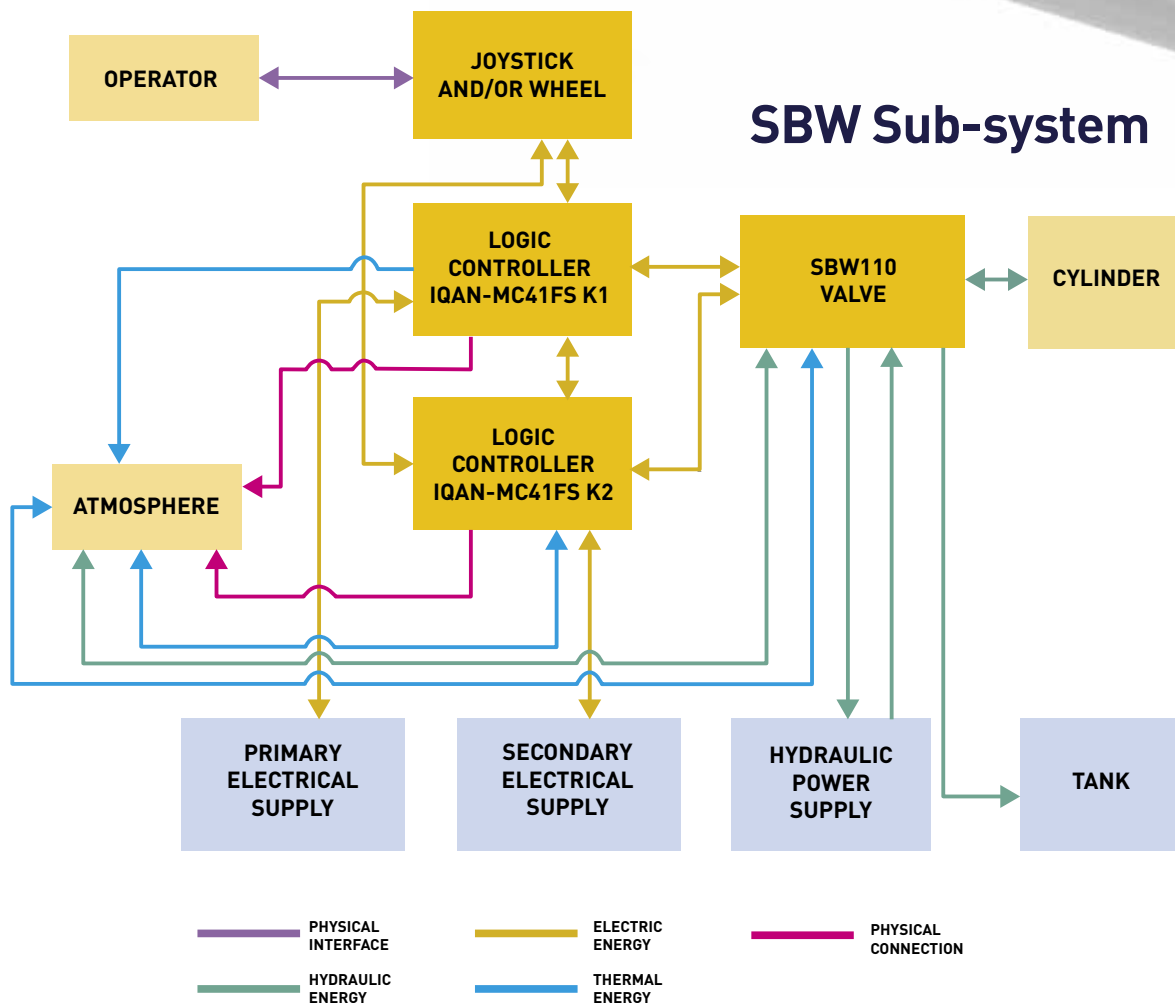
The components shown in the sub-system below serve a broad range of applications. All components are designed to be parts of a Safety Related Part/Control System (SRP/CS) to comply with ISO 13849.

Advance Warning System

IQANdesign diagnostics add safety by monitoring system performance to provide adequate warning time to enable safe stopping of the machine, if anything goes wrong.

Ready for the future

By choosing Steer-by-Wire components by Parker, you get a simpler, safer, more ergonomic system at a lower total cost – and when your customers are ready for autonomous machines, you’re already halfway there!

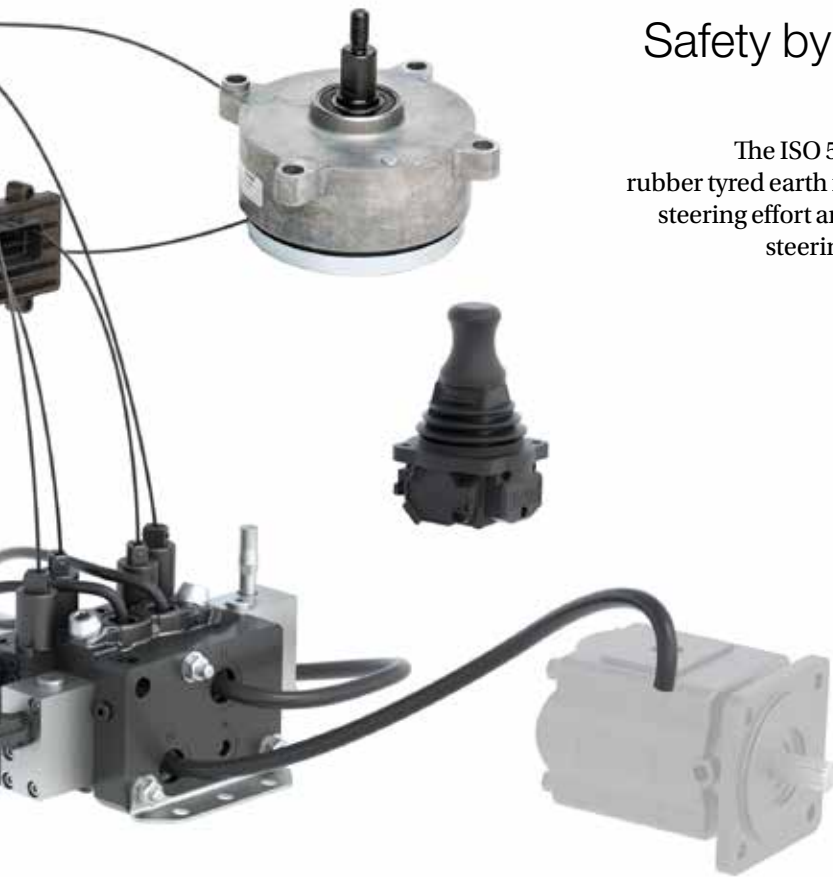


IDEAL APPLICATIONS: **WHEEL LOADERS • MINE TRUCKS • DOZERS**

A safer system

Safety by design for mobile machines

The ISO 5010 Steering Requirements impose a set of rules for rubber tyred earth moving machines. Apart from regulating maximum steering effort and ergonomics, the standard also requires validated steering tests - which a Steer-by-Wire system using Parker components will pass with ease.



• SCRAPERS • EXCAVATORS • DUMP TRUCKS • CONTAINER TRUCKS • FORESTRY MACHINES • ETC.

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