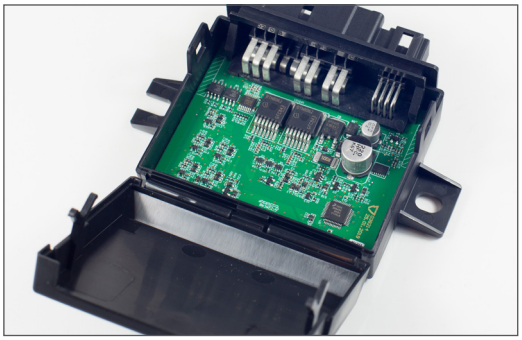
Control units for fully electrical swiveling towbars

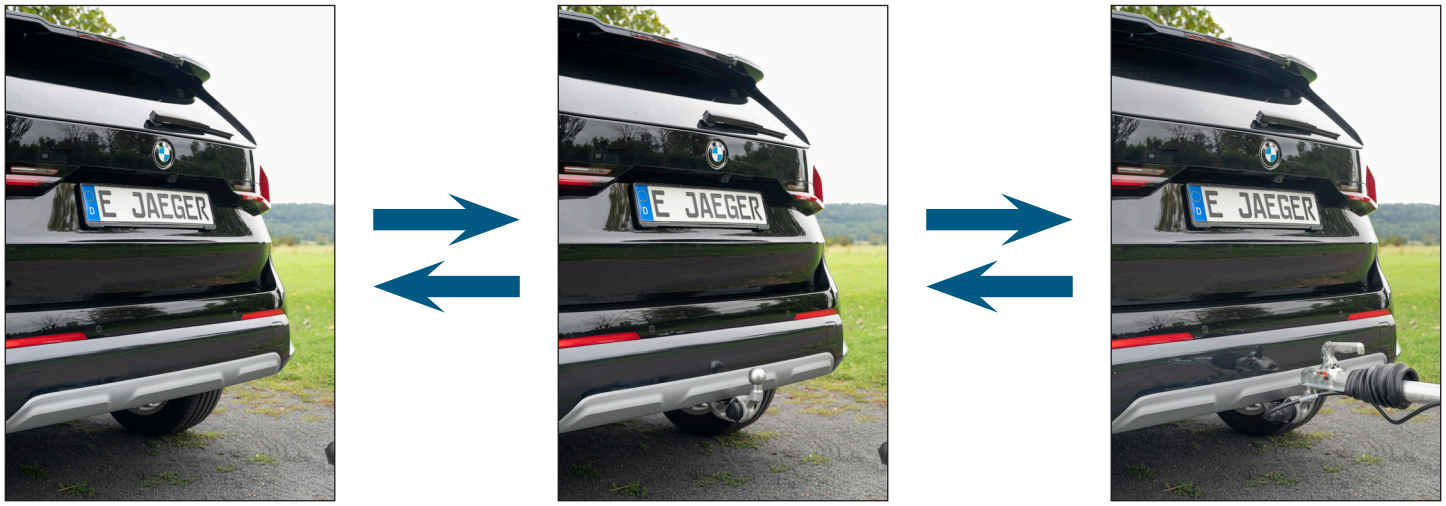
ERICH JAEGER has been developing electronic components and control units for the interface between towing vehicle and trailer for over 30 years. In doing so, the company has helped to shape many of the development stages.



The electric swiveling towbar represents a relatively new challenge here: to ensure safe, reliable functioning, it must be integrated into the vehicle's communication architecture. The relevant requirements are defined in the ISO 26262 standard for safety-related electrical and electronic systems in motor vehicles.

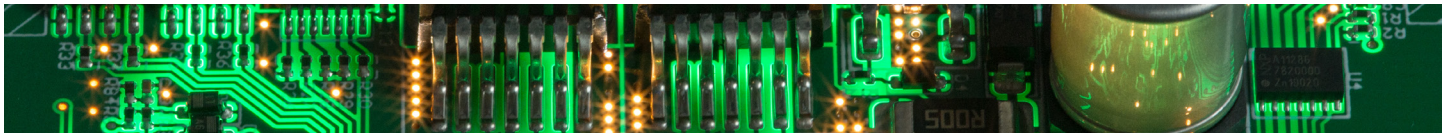
In line with this standard, ERICH JAEGER has now developed appropriate trailer control units that can also be rated under the ASIL classification system for assessing safety risks.

The fully electrical swiveling towbar



With a fully electric swiveling towbar, all functions, including unlocking, swiveling of the bar into place and locking, are carried out automatically in the correct sequence via a switch, which is usually fitted in the trunk.

For that degree of automation, however, vehicle manufacturers and retrofitting companies must integrate the complete system deep into the vehicle's digital infrastructure.



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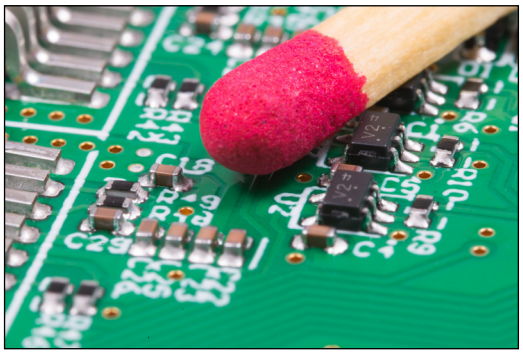
Control units for fully automated towbars

ERICH JAEGER developed the control units according to th following standards:

- ISO 26262 – Functional safety for road vehicles including ASIL classification
- Software development conforms to Automotice SPICE model (latest version 3.1) as a process refrence and assessment model
- IATF 16949 – Process-based approach to company procedures

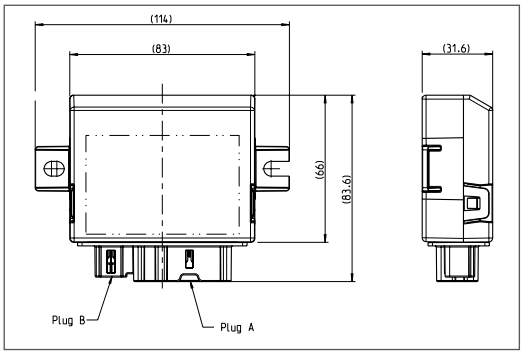
Further advantages of the control module

- The PBT housing material enhances the structural integrity of the housing and its resistance to environmental factors
- A recently developed double-plug connector combines standard 16- and 8-pin plug connectors in just one component and brings cost benefits and a reduction in the force required to fit the plug
- The selection of micro components on the circuit board ensures a cost-optimized control unit size.
- The components trimmed for energy and thermal efficiency enable a low quiescent current of approx. 30 µA.
- A QR code on the circuit board and housing ensures traceability of the control units

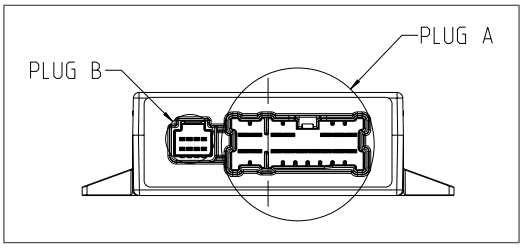


Technical specifications

Nominated voltage:	12V
Operating voltage range:	9-16V DC
Operating temperature range:	-40°C to +85°C
IP Protection class (w. connector):	IP50



Plug A: Fits to 16P Sumitomo 6098-6957 NS16FW-CS AY-RN
Plug B: Fits to 8P Tyco 1379659-5



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