



EL6910 | TwinSAFE Logic

The EL6910 TwinSAFE Logic can establish up to 212 connections to other TwinSAFE devices. Several EL6910 can be cascaded in a TwinSAFE network with up to 65,535 TwinSAFE devices. The EL6910 EtherCAT Terminal features certified safety function blocks, which are configured according to the application. Safety functions such as emergency stop, safety door monitoring, two-hand control, etc. can thus easily be selected and linked. All blocks can be freely connected among each other and are complemented by operators such as AND, OR, etc.

In addition to the Safety over EtherCAT protocol, the EL6910 also supports the TwinSAFE SC technology. With TwinSAFE SC, the secured transmission of data is possible from standard EtherCAT I/Os with the identification -009x (TwinSAFE SC extension) to the EL6910 TwinSAFE Logic. The EL6910 also supports the processing of analog signals (16/32-bit, signed and unsigned). These signals are sent to the logic by standard, TwinSAFE SC or Safety over EtherCAT I/Os. Analog signals can thus be analysed within the logic, checked for plausibility and subjected to a "voting". For safety reasons, however, at least one of the data sources must be a TwinSAFE SC component. The remainder of the data can originate from other standard I/Os, drive controllers or measuring transducers. The entire calculation and scaling are executed at the SIL 3/PL e safety level in the safety-related EL6910 TwinSAFE Logic. Certified function blocks such as ADD, SUB, MUL, DIV and also more complex ones such as Counter, Limit or Compare are available for the processing of analog signals.

The required functions are programmed via the TwinCAT Safety Editor in TwinCAT 3.1 and loaded into the EL6910 TwinSAFE Logic via the fieldbus.

Technical data	EL6910
Specification	link unit between safe input and output signals
Protocol	TwinSAFE/Safety over EtherCAT
Cycle time	approx. 1 ms/according to project size
Fault response time	≤ watchdog time (parameterisable)
Current consumption power contacts	–
Current consumption E-bus	typ. 160 mA
Installation position	horizontal
Safety standard	EN ISO 13849-1:2015 (Cat. 4, PL e) and EN 61508:2010 (SIL 3)
Weight	approx. 50 g
Protection class	IP 20
Approvals/markings	Overview of TwinSAFE Certifications (PDF)
Download EtherCAT slave information (ESI)	ESI config file ELx9xx (ZIP)