



## EJ6910 | TwinSAFE Logic

The EJ6910 TwinSAFE Logic can establish up to 212 connections to other TwinSAFE devices. Several EJ6910 can be cascaded in a TwinSAFE network with up to 65,535 TwinSAFE devices. The EJ6910 EtherCAT plug-in module 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 EJ6910 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 EJ6910 TwinSAFE Logic. The EJ6910 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. With the aid of the TwinSAFE SC technology it is typically possible to achieve a safety level equivalent to PL d/Cat. 3 in accordance with EN ISO 13849-1 or SIL 2 in accordance with EN 62061 (see application guide TwinSAFE). The entire calculation and scaling are executed at the SIL 3/PL e safety level in the safety-related EJ6910 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 and loaded into the EJ6910 TwinSAFE Logic via the fieldbus. The EJ6910 is suitable for applications according to IEC 61508:2010 SIL 3 and EN ISO 13849-1:2015 PL e.

Technical data	EJ6910
Technology	TwinSAFE Logic
Safety standard	EN ISO 13849-1:2015 (Cat. 4, PL e) and EN 61508:2010 (SIL 3)
Cycle time	approx. 1 ms/according to project size
Protocol	TwinSAFE/Safety over EtherCAT
Connections to other TwinSAFE devices	max. 212
Function blocks	max. 512
Supply voltage	24 V DC (-15 %/+20 %), SELV/PELV
Fault response time	≤ watchdog time (parameterisable)
Current consumption E-bus	typ. 222 mA
Special features	backup restore, analog values, customising
Dimensions (W x H x D)	12 mm x 66 mm x 55 mm
Operating/storage temperature	0...+55 °C/-25...+85 °C
Relative humidity	95 %, no condensation
Permitted degree of contamination	2
Climate class EN 60721-3-3	3K3
EMC immunity/emission	conforms to EN 61000-6-2/EN 61000-6-4
Protection class	IP 20
Approvals	CE, TÜV SÜD

Related products	
<b>EJ1914</b>	EtherCAT plug-in module, 4-channel digital input, TwinSAFE, 24 V DC
<b>EJ1918</b>	EtherCAT plug-in module, 8-channel digital input, TwinSAFE, 24 V DC
<b>EJ1957</b>	EtherCAT plug-in module, 8 fail-safe inputs, 4 fail-safe outputs, TwinSAFE, 24 V DC
<b>EJ2914</b>	EtherCAT plug-in module, 4-channel digital output, TwinSAFE, 24 V DC, 0.5 A
<b>EJ2918</b>	EtherCAT plug-in module, 8-channel digital output, TwinSAFE, 24 V DC, 0.5 A