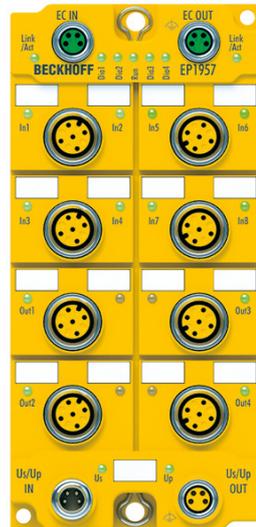# EP1957-0022 | EtherCAT Box, 8-channel digital input + 4-channel digital output, 24 V DC, 0.5 A, M12, TwinSAFE, TwinSAFE Logic

ℹ Product status: Regular delivery

The EP1957-0022 TwinSAFE component provides safe digital outputs in a module with IP67 protection (four outputs for 24 V DC actuators up to 0.5 A). It also has eight fail-safe inputs for sensors with potential-free contacts for 24 V DC. The signals are connected via M12 screw connectors. The sensors are powered by the load voltage U_P.

The EP1957-0022 has safety parameters to specifically adapt the functionality to the respective safety requirements (e.g. testing of the individual channels).

The safety parameters are not stored directly on the component, but are transmitted to the input component via a TwinSAFE Logic-capable component when the safety application is started. This simplifies service procedures, because in this case the component can simply be replaced. The safety-relevant parameters are transferred to the new component when the safety application is restarted.

A further highlight is the integration of the functionality of the EL6910 TwinSAFE Logic. The EP1957-0022 can also be used as a safety controller. With the help of the locally available inputs and outputs, a complete safety application can be realized directly on the component. The range of functions corresponds to that of the EL6910. The only difference at this point is the limitation of the number of possible safe connections to 128. Apart from that, all the advantages of the new generation of safety controllers can be used (see EL6910 customizing, incremental download, analog value processing, etc.).

In addition, a safety application based on local inputs and outputs can also be implemented "stand-alone" without a connection to EtherCAT.

Special features:

- 8 safe inputs
- 4 safe outputs
- integrated TwinSAFE Logic (functionality similar to the EL6910)

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- up to 128 safe connections
- complete safety loop can be realized directly on the component
- stand-alone operation (without EtherCAT connection)
- Standard outputs can be activated with integrated ANDing with a safe output signal.

Product information

Technical data

Technical data	EP1957-0022
Protocol	TwinSAFE/Safety over EtherCAT
Bus interface	2 x M8 socket, shielded, screw type
Connection technology	M12, screw type
Specification	link unit between safe input and output signals
Number of inputs	8
Number of outputs	4
Max. output current	0.5 A
Cycle time	approx. 1 ms/according to project size
Fault response time	$\leq$ watchdog time (parameterizable)
Current consumption from U_S/U_P	max. 120 mA/max. 60 mA
Installation position	variable
Weight	approx. 315 g
Protection rating	IP67 (according to EN 60529)
Safety standard	EN ISO 13849-1:2015 (Cat. 4, PL e) and EN 61508:2010 (SIL 3)

Housing data	16 x M8, 8 x M12
Dimensions (W x H x D)	60 mm x 126 mm x 26.5 mm
Material	PA6 (polyamide)
Installation	2 fixing holes 3.5 mm diameter for M3; 2 fixing holes 4.5 mm diameter for M4

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26,5

13,5

60

53

Ø4,5

117

119

126

Ø3,5