

## BPCS IPL Checklist



In a manufacturing facility, protections are implemented to prevent or minimize hazards identified in a risk assessment. A protection in a basic process control system (BPCS) that meets the following core requirements is considered an Independent Protective Layer (IPL):

**Independence** - performance is not affected by an initiating cause or by an action of another IPL.

**Functionality** - specifically designed to address a particular hazard or scenario and must have the ability to eliminate any consequences of the event from occurring.

**Reliability** - incorporate a robust design with quality components that meet a certain level of effectiveness to operate as intended for the designed time frame.

**Auditability** - must be tested and verified on a periodic basis to ensure functionality.

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## BPCS IPL Checklist

IPLs can be used as credits to reduce the level of risk to an acceptable level in order to comply with industry standards. Use this list to help determine if your protections meet the criteria of an IPL.

Y / N **1.** Are there separate CPUs, not redundant CPUs?

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Y / N **2.** Are there separate I/O?

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Y / N **3.** Are there separate sensors between your safety system and your control system?

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Y / N **4.** Is the communication of your safety system separate enough from your controls system?

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Y / N **5.** Is there proper documentation that outlines the specified hazard and how the operator should respond to that hazard?

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Y / N **6.** Will the protection operate as intended, when intended?

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Y / N **7.** Do your operations and maintenance personnel understand the significance of the identified protection?

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Y / N **8.** Is the protection tested periodically?

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If you answered "no" to any of these questions, your protection might not count as a credit to reduce risk to an acceptable level at your site. Our Team of TÜV Rheinland Functional Safety engineers has years of experience designing protections against hazards. Ensure hazard risk reduction at your site. Contact us today.

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