azbil

Proximity Switches

Smart instrumentation, lower cost

Proximity sensors with 2 ON/OFF outputs make expensive instrumentation smarter!

| Product	**Discrete sensor** Adjustable Proximity Sensor	Process/ Equipment	Machining Center
Model	H3C-H_		

Current Situation

- ■ The state of the tool clamp is detected by the position of the drawbar in the main spindle.
- ■ Analog proximity and position sensors are used to identify the state.

Clamped

Unclamped

Position sensor **or** Analog proximity sensor

Analog input

Dedicated controller
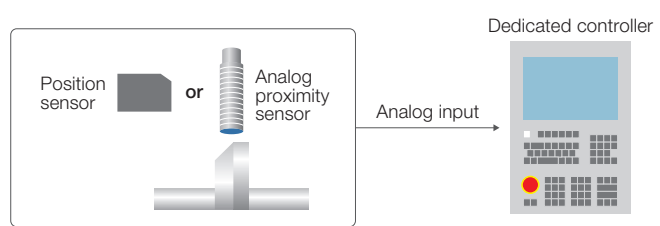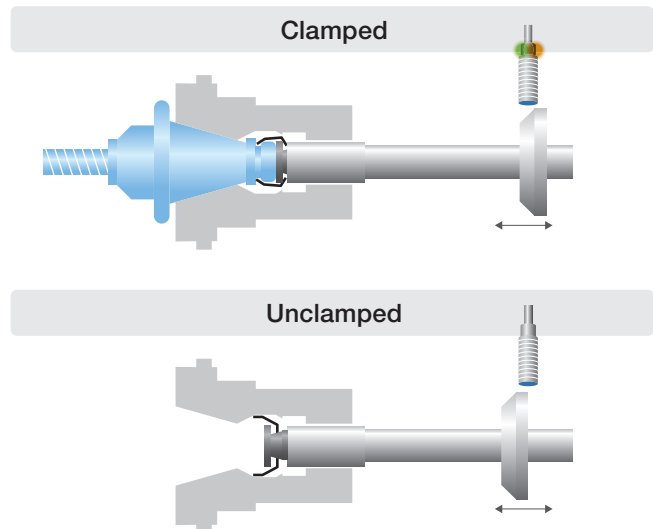
Current Problems

Problem 1

The analog input module needed to introduce a dedicated controller is very expensive.

Problem 2

Finding a place to install large sensors is difficult.

Problem 3

Since the thresholds must be set from the host system (dedicated controller), the software must be programmed first.

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Solutions

Solution 1

Remarkable 2-output 4-area proximity switch sensing

1 proximity sensor with 2 outputs does the work of multiple switches. An analog input module is not needed.

Solution 2

Proximity switches are the same size as general-purpose ones.

Since sensors are the regular size, the equipment takes up less space.

Solution 3

Easy setup with the Configuration Tool

The Tool makes it possible to monitor the safety margins for sensing. Auto-tuning sets the optimum threshold, helping to reduce problems on the line.

Solution 1 Clamp positions and detection results

Unclamped

	Unclamped	Misclamped	Clamped	Clamped Empty
Output 1	OFF	ON	ON	OFF
Output 2	OFF	OFF	ON	ON

Foreign matter

Misclamped

	Unclamped	Misclamped	Clamped	Clamped Empty
Output 1	OFF	ON	ON	OFF
Output 2	OFF	OFF	ON	ON

Clamped

	Unclamped	Misclamped	Clamped	Clamped Empty
Output 1	OFF	ON	ON	OFF
Output 2	OFF	OFF	ON	ON

Clamped Empty

	Unclamped	Misclamped	Clamped	Clamped Empty
Output 1	OFF	ON	ON	OFF
Output 2	OFF	OFF	ON	ON

Solution 2 Sample proximity switch installation
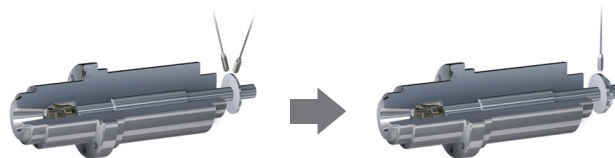
Solution 3 Configuration Tool
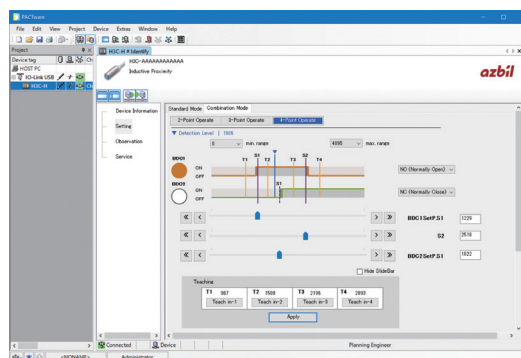
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