

7 mistakes when choosing components such as sensors and safety switches



From supplier selection to supply chain

A sensor or safety switch is rarely the most expensive part of a machine. But it often determines whether that machine runs or stands still. Below are the seven missteps we come across most often in practice, usually made under time pressure and with incomplete information. For each one, we offer practical advice on what to do instead. At the end, you will also find a handy checklist for your next selection.

1. Not looking beyond your current suppliers

A regular supplier is familiar, and that familiarity has value. But it says nothing about their suitability for this specific challenge. Product ranges change. Manufacturers launch new series. A supplier that had nothing for your application three years ago may well have something now.

ADVICE

For every new project, ask at least one new supplier for a proposal for something you do not currently use. Compare not only the component, but also the advice and support you get.

2. Underestimating the environment

The functional specification is right. Even so, a component fails within six months. Factors such as material, sealing and temperature determine service life, not function. A pressure sensor in a freezer environment, for example, needs a different temperature range. A switch that is cleaned daily with hot water under high pressure needs IP69K rather than IP67.

ADVICE

Always describe the environment first, and only then the component. Temperature range, cleaning regime, vibration and chemical exposure belong next to the datasheet.

3. Testing, but not thoroughly enough

Under time pressure, actual testing is often the first thing to be cut short. Only one unit is ordered, for example. It works on the test bench and the order goes out. But a test bench rarely recreates the most demanding conditions. That only becomes clear once the component is in the field.

ADVICE

Test in two stages. First in your own environment, then at a demanding customer. If it works there, it will usually work anywhere. That customer will also appreciate being involved.

4. Focusing on purchase price instead of total cost of ownership (TCO)

Twelve euros cheaper per unit looks like a significant saving on a thousand units. That calculation only holds if nothing changes afterwards. What usually gets left out: extra integration work, a shorter service life that means replacing twice, and unplanned downtime. That last item is almost always the largest, yet it is the one least taken into account.

ADVICE

Put three figures next to the unit price: the expected service life, the integration time and what an hour of downtime costs in your process. Only then are you comparing like with like.

5. Choosing a supplier who is not there later on

At the quotation stage, everyone is reachable. The difference shows a year later. Something goes wrong and you need someone who knows your application. With a large supplier, a small or medium-sized customer is one of many. That is not unwillingness, it is scale. But it does cost you time at the very moment you do not have it.

ADVICE

Test a supplier's support before you need it. Ask a difficult technical question during the selection process. Pay attention to how they handle it and whether this matches your expectations.

6. Not having a qualified alternative

Allocation at a manufacturer, a component change or an end-of-life notice rarely comes at a convenient time. If you only start looking for an alternative then, you choose under pressure. There is also little time to test. A year later, this may even leave you with a second problem.

ADVICE

Qualify an alternative for your critical components now, while nothing is wrong. For each part, record which type it is, which supplier it is available from and whether it has been tested.

7. Leaving the choice to engineering alone

Engineering chooses on technology. Purchasing looks at price and terms. Maintenance lives with the consequences. And sales has to be able to explain it to the customer. If the choice is made in only one of those corners, the objections will come later anyway. Usually at the point where changing course has become unnecessarily expensive. At the same time, a choice that has to be unanimously supported by everyone in four departments is often never made at all.

ADVICE

Gather input from maintenance, purchasing and sales before you choose. Then give the decision to one person. Broadly supported, not collectively decided.

Need help with the technical selection?

These seven points are about the selection process. For the technical specifications, there are two separate checklists: Safety switch checklist and Pressure sensor checklist. Both can be downloaded free of charge at teleson.nl/en/downloads.

Checklist for your next selection

If you can answer the 7 questions below, your choice is well-founded.

- ☐ Have I approached at least one supplier I do not currently use?
- ☐ Did I describe the environment before describing the component: temperature, cleaning, vibration and chemical exposure?
- ☐ Has it been tested under the most demanding conditions that occur in practice?
- ☐ Do I know what an hour of downtime costs, and have I set that against the unit price?
- ☐ Did I test the supplier's support before I needed it?
- ☐ Has an alternative been qualified and recorded for this component?
- ☐ Have maintenance, purchasing and sales given their input, and is there one person who makes the final call?

Questions about your selection? Teleson is happy to help.

For both sensors and safety switches, the right version depends on the application, the environment and the supply chain. For decades, Teleson has supplied reliable components from Honeywell Sensing Solutions, IDEM Safety Switches, SST Sensing, Linemaster Switch Corporation and Pulsotronic. We are happy to help you choose. Feel free to call or email us.

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