

Optima 

PUWER

Bridging the Gap



Safety matters

End users of equipment understand their obligations under the Provision and Use of Work Equipment Regulations. PUWER is now a familiar acronym across all manufacturing sectors, with time and effort being applied to surveys and reports highlighting machine deficiencies and non-conformities.

However, this can in turn present its own set of problems. After speaking and listening to our customers, we hear that PUWER reports have been issued but the customer is no closer to making their machines comply because the report does not tell them exactly what actions to take in order to satisfy the requirements of the report.

Some of the PUWER reports can be too general, with limited knowledgebase of the machine being assessed by the report author.

These outstanding actions could be:

- ⌚ What guarding methods to use – trapped-key or solenoid-interlocks. Both have benefits and drawbacks depending on the actual application
- ⌚ How to bring the control panel equipment up to standard to satisfy the PUWER assessment performance level stated (if there is one)
- ⌚ What equipment to use

The Optima difference

Here at Optima, we understand that a PUWER report needs to be unbiased with no commercial interest for the company writing the report. That's why Optima use selected independent assessors to work on our behalf.

Following the assessment, Optima's internal engineers with experience of machinery safety system designs from Robots to Printing Presses help the end user understand the report. A follow-up site survey is undertaken that will take the PUWER report and translate this into actual work that needs to be carried out on individual equipment to meet the requirements.

After the follow-up survey, a comprehensive report is issued that details

- ⌚ Guarding methods to use and where
- ⌚ Control panel modifications required
- ⌚ What electrical and automation equipment to use (hard-wired, programmable)

From this report, Optima can quote to provide the upgrade work as required. Because the report is open, our customers are welcome to invite competitive tenders for the work.

Competency

Optima's engineers are TÜV SÜD trained in Functional Safety for Factory Automation (ISO 13849 and IEC 62061) and have a combined experience of over 60 years in the design of safety related control systems. During this period we have designed, validated, signed-off and implemented safety control systems for machinery based on initial risk assessments and performance level requirements.

The process

From the customer enquiry, Optima schedule in a PUWER assessment on the equipment, if one has not already taken place. If it has, we proceed with option 2, below.

1. The PUWER report generally covers the following:

- ⌚ Risk Assessment - which is a legal requirement by the Management of Health & Safety Regulations and the Provision and Use of Work Equipment Regulations and will be carried out in accordance with EN ISO 12100 and EN ISO 13849-1 as appropriate.
- ⌚ A Report addressing each of the 24 Provision and Use of Work Equipment Regulations for each individual machine. This will show conformity or highlight non-conformities.
- ⌚ Recommendations - to gain conformity where non-conformities exist.
- ⌚ If there are any areas of concern or recommendations of control methods suggested, EN Standards will be used for the correct control measure where those Standards exist.

Following the issue of this report to the end user and Optima, a follow-up report is then reserved.

2. Optima survey and commercial proposal

The scope of our survey and report would generally be as follows:

- ⌚ From the PUWER report, identify areas that concern automation equipment and guarding requirements
- ⌚ Survey the automation equipment and record manufacturer data
- ⌚ Review operation of the equipment and use this to choose the most appropriate selection of safety guarding hardware
- ⌚ Perform safety calculations on the installed equipment
- ⌚ Specify replacement equipment that can perform the safety function required and to the desired performance level

The report considers that for machine owners, the ideal safety system architecture must conform to minimum industry standards whilst allowing safe machine operation and not preventing operators from efficient production.

Design

Optima have engineered fully integrated systems from the following manufacturers:



Selecting safety components for inclusion in a safety system is subject to the same rigour as any design engineering exercise. Each component must be carefully specified for the purpose for which it is intended whilst also satisfying the technical (or safety integrity) demands of an application. Consideration should also be given to cost versus functionality – for example it would not be appropriate to specify a fully programmable solution for a very basic safety circuit.

When choosing the most suitable equipment, Optima can select from the most appropriate architecture that best meets the application requirements. This may be:

- ⌚ Stand-alone safety relays
- ⌚ Networked safety, including As-i, ProfiNet, GuardLogix
- ⌚ Programmable / Configurable relay technology

The next step

Please telephone or e-mail us at Optima with details of your machine. We can then provide you with a budget quotation to cover all of your machinery safety requirements.

Mark Lane mark.lane@optimacs.com

Peter Sharpe peter.sharpe@optimacs.com

Michael Hill michael.hill@optimacs.com