Optima
In control since 1995

Health and Safety Risk Assessment

The safety assessment procedure is used at each stage of the control system engineering projects – during the initial surveying as well as during installing and commissioning the new equipment. For each hazardous factor a 3-point scale is used to assess the severity of the potential harm and its likelihood to occur. The overall risk is then estimated based on the simple formula "Risk = Likelihood x Severity". In cases when safety precautions are out of Optima's scope, we would require the customer to take responsibility for the control measures used to reduce safety risk.

Hazard	**Control Measures**
Electrical hazard - High Voltage (>650V) - danger of arcing / electrocution	Only persons who have received recognised formal training and are suitably experienced should carry out high voltage work. All high voltage systems must be isolated, locked-off, proved dead and earthed at the point of disconnection of supply before commencing work. Caution notices must be fixed at all points where such apparatus can be made live. Danger notices must be attached on, or adjacent to, the live apparatus and at the limits of the zone in which work may be carried out.
Electrical hazard - Low & Medium voltage (<650V) - Contact of persons with live parts (direct contact) - electrocution / electrical burns	Optima control systems are designed and built to EN60204. Whenever possible 'Live' working is to be avoided. When working 'Dead' ensure isolation is accompanied by physical lock-off and appropriate signs, prove circuits are dead at the point of work. When 'Live' working is required a safe system of work must be devised, preferably written. Access to live conductors is to be controlled and appropriate signs put in place. Electrical test equipment must be insulated and fused to GS38 requirements. ALL CIRCUITS TO BE WORKED ON WILL BE TREATED AS LIVE UNTIL VERIFIED DEAD
Electrical hazard - fire	Control systems designed and built to EN60204. Ensure control system and electrical installation is tested before applying power.
Electrical hazard - Thermal radiation or other phenomena such as ejection of molten particles and chemical effects from short-circuits, overloads etc	Wear suitably certified eye protection inside live control cabinets.
Eye injury - hot metals / polymers / liquids / flying objects / cable ends	Wear suitably certified eye-protection
Hand tools - eye injuries	Eye protection will be used whenever work is done using cold chisels, drills, grinders or other tools where there is a risk of flying particles or pieces of the tool breaking off
Hand tools - injuries to hands, feet and body	Follow good engineering practice. Open bladed knives, screwdrivers and other sharp objects to be carried and used so as not to cause injury to the user or others. Gloves will be provided and worn to protect hands from abrasion.
Hazards caused by (temporary) missing and/or incorrectly positioned energy supply disconnecting devices	Ensure energy disconnection devices are in a suitable position and operational before commencing commissioning.
Thermal hazard - resulting in burns, scalds and other injuries by a possible contact of persons with objects or materials with an extreme high or low temperature, by flames or explosions and by radiation from heat sources	Identify any machine surfaces or areas in which a thermal hazard exists before commencing work, do not touch or enter these areas when thermal hazard is present without appropriate protective equipmen

Unexpected start-up resulting from restoration of energy supply after an interruption	Ensure emergency stop system is operational before commencing machine operation. Optima control solutions Ltd control systems are designed and built to comply with EN60204, an emergency stop will be triggered by an interruption to the power supply and will not restart without a physical reset.
Working at heights - Falls of persons	Only when it is not practical to provide a work platform with guardrails, should other means of access be used. Only when no other method is practicable, or when working platforms cannot comply with all the requirements for safe wok should a way of arresting falls be relied upon. Ladders are a means of access, not a working platform; they should only be used as workplaces for a short time, and then only when it is safe to do so. It is generally safer to use a tower scaffold or mobile elevating work platform, even for short-term work. Never use aluminium or steel ladders for live working. Specific precautions must be taken where it is possible to fall more than two metres for example ensure a safe working platform with guard rails and toeboards on open edges, holes and openings. If harnesses are required ensure that users are trained and that CE marked category III approved personal protective equipment is used. Avoid over-reaching. Inspect all equipment before use. Ensure a trained competent person erects scaffold to manufacturers instructions.
Electrical Hazard - Taking electrical measurements above 110V not fed from a control transformer supplied by Optima	Use fused measurement probes that comply with HSE GS38 - finger barriers, exposed tip <4mm, ideally exposed tip <2mm or spring loaded retractable tip, high breaking capacity (hbc / hrc) fuse or fuses with a low current rating (usually <= 500mA) or a current limiting resistor and a fuse.
Lone worker hazard - control panel to EN60204 - electric shock	Whenever possible 'Live' working is to be avoided. When working 'Dead' ensure isolation is accompanied by physical lock-off and appropriate signs, prove circuits are dead at the point of work. When 'Live' working is required a safe system of work must be devised, preferably written. Access to live conductors is to be controlled and appropriate signs put in place. Electrical test equipment must be insulated and fused to GS38 requirements. ALL CIRCUITS TO BE WORKED ON WILL BE TREATED AS LIVE UNTIL VERIFIED DEAD

Application	**Factors of harm**	**After control measures taken**
Panel Testing	Likelihood [1-3]	Likelihood[1-3]
Installation	Severity [1-3]	Severity[1-3]
Commissioning	Risk[1-9]	Residual Risk[1-9]
Responsibility for control measures: 1. Optima 2. Customer 3. Other		