Conception of safety solutions

Stop time analysis

Measurement tests according to ISO 13855

Machines and applications which have non-separating primary safety devices (e.g., light curtains, laser scanners, safety mats, two-hand controls, etc.) must be evaluated to ensure the safety device is placed at the correct minimum safe distance according to ISO 13855. This is a crucial step in selecting and installing the safety device as it must be confirmed that the hazardous condition is abated by the time an operator triggers the safety function and reaches the guarded hazard. One parameter needed for this evaluation is the stopping time of the equipment (T) which can be
obtained by conducting a Stop Time Analysis.

ISO 13855:
The minimum distance to the hazard zone shall be calculated by using the general equation:

$$S = (K \times T) + C$$

Where
S is the minimum distance, in millimeters (mm);
K is a parameter, in millimeters per second (mm/s), derived from data on approach speeds of the body or parts of the body;
T is the overall system stopping performance, in seconds (s);
C is the intrusion distance, in millimeters (mm)
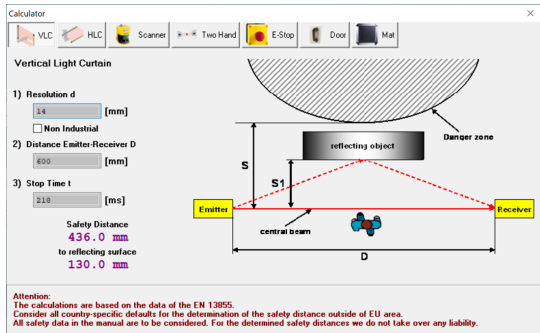
Let the TÜV Functional Safety Engineers from tec.nicum perform a Stop Time Analysis based on the requirements referenced in ISO 13855 to help ensure you are utilizing your non-separating primary safety devices safely.

Report Deliverable

Data from our stop time analysis software will be extracted and provided as a PDF document containing details of the evaluation. This report will provide the highest measured value or the mean plus three standard deviations (whichever is the greater) from ten measurements as well as the complete calculation of the minimum safe distance based on the selected device.

For more information regarding the stop time analysis or our other Engineering Services, please contact:

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