Stop time measurement

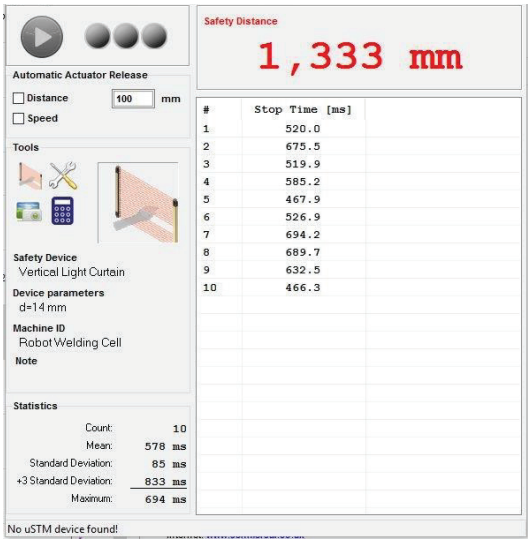
In many fields of machinery safety, the stop time is an important parameter. This stop time must be calculated, for instance, on machinery where hazardous run-on movements can occur. In such cases, it must be ensured that the safety guard can only be opened when the hazardous movement has come to a standstill. To this end, fail-safe delay timers with corresponding setting of the parameters or safe speed monitors are used.

The “stop time” element is just as important when optoelectronic safety components are used. Here, the distance between the safety component and the hazardous movement must be designed such that any hazard emanating from the movement is eliminated by the time the operator reaches the danger area. Standard DIN EN 999 or ISO 13855 (“Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body“) contains detailed instructions for calculating the corresponding safe distance.

In actual practice, however, it is apparent that it is quite possible for the stop time of an operational machine or line to become longer. This phenomenon can be caused by mechanical wear or the use of a different tool on a press, as a result of which the operator is no longer adequately protected.

To avoid this, it is useful to conduct regular measurements when the machine is in operation. The Schmersal Group offers such measurements as a service. During this procedure, the stop time is measured and the compliance of the relevant safety technology with the standards is checked as well, especially in the case of a first check.

During the stop time measurement on presses, the worst-case scenario is measured, i.e. the time at which the speed of the press stamp is at its highest. This measurement is also useful on new machinery and lines: in this way, the machine or plant manufacturer documents the standard-compliant functionality of the safety guards.



For more information on the tec.nicum Stop Time Measurement (STM) please see our website www.schmersal.co.uk. Alternatively, you can email our TUV Approved Functional Safety Engineer Mark Langfield at mlangfield@schmersal.com who will be happy to answer any questions you may have.

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