

Title (en)
PROXIMITY DETECTION SYSTEM FOR WORKING TOOLS, RELEVANT WORKING MACHINE AND PROXIMITY DETECTION METHOD THEREOF

Title (de)
NÄHERUNGSDETEKTIONSSYSTEM FÜR ARBEITSWERKZEUGE, ZUGEHÖRIGE ARBEITSMASCHINE UND VERFAHREN ZUR NÄHERUNGSDETEKTION DAFÜR

Title (fr)
SYSTÈME DE DÉTECTION DE PROXIMITÉ POUR OUTILS DE TRAVAIL, ENGIN DE TRAVAIL PERTINENTE ET SON PROCÉDÉ DE DÉTECTION DE PROXIMITÉ

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Abstract (en)
The present invention relates to a machine (M) for working products, such as panels made of wood, fiberglass, metal and the like, comprising a working tool (22) for working said products, wherein said machine (M) is characterized in that it comprises a system (1) for detecting the proximity of a limb of an operator to said working tool (22), comprising: at least one signal generator (G), for generating at least one signal $S_{G(t)}$; at least one first electrode (10), galvanically isolated from said machine (M) and connected to said at least one signals generator (G); at least a second electrode (11) galvanically isolated from said machine (M), wherein said signal $S_{G(t)}$ generated by said at least one signal generator (G) is configured to generate an electric field between said at least one first electrode (10) and said at least one second electrode (11); wherein said electric field between said at least one first (10) and said at least one second electrode (11) forms a barrier at least partially around said working tool (22); and a logic control unit (12) connected to said at least one first electrode (10), and to said at least second electrode (11), so as to acquire at least one first measuring signal $S_{E10(t)}$ from said at least one first electrode (10) and at least one second measuring signal $S_{E11(t)}$ from said at least one second electrode (11) respectively; wherein said logic control unit (12) is configured for processing said at least one first $S_{E10(t)}$ and at least one second $S_{E11(t)}$ measuring signal, for verifying at least one criterion as a function of at least two electrical quantities of said first $S_{E10(t)}$ and second $S_{E11(t)}$ measuring signal, so as to determine the presence of said limb of said operator in proximity of said barrier when said at least one criterion is verified. The present invention also relates to a proximity detection system for machining tools. The present invention related also to a method of proximity detection.

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