

ABSTRACT OF THE DISCLOSURE

SENSOR APPARATUS AND SAFETY APPARATUS
FOR PROTECTING APPROACH TO MACHINES

A sensor apparatus and a safety apparatus which can ensure significantly enhanced safety by monitoring constantly whether the sensor apparatus is operating normally. An auxiliary electrode plate of a small area is disposed in parallel and in opposition to an electrode plate with a short distance therefrom. A switching element is turned on every second for a period of milliseconds repetitively. When the switching element is turned on under the control of a central processing unit, the auxiliary electrode plate is connected to the ground potential, as a result of which a capacitance ΔC effective between the auxiliary electrode plate and the electrode plate is electrically connected in parallel with a capacitor C_0 effective between the electrode plate and a machine component, resulting in that the capacitance C_0 is increased by a proportion corresponding to the capacitance ΔC . Consequently, change of the capacitance C_0 comparable to that brought about upon detection of the human body takes place, whereby a substantially similar detection signal as the human body detection signal is made available. On the basis of this detection signal, it is possible to monitor whether or not the sensor apparatus is operating normally.

(FIG. 11)