

ABSTRACT

ROBOT HAVING A CONTROLLER PROTECTED AGAINST A POWER NETWORK FAILURE

The invention relates to a robot having actuator-driven elements (105), which requires a
5 desired operating voltage U_B and/or a desired operating current I_B in order to operate, comprising:
a voltage and current source (101) having an input interface (107), to which a primary voltage U_P
and a primary current I_P are applied, wherein, during normal operation, the primary voltage U_P is
equal to a desired primary voltage $U_{P,desired}$ and the primary current I_P is equal to a desired primary
current $I_{P,desired}$, and also having an output interface (108), to which an actual voltage U_{actual} and
10 an actual current I_{actual} are supplied, wherein during normal operation: $U_{actual} = U_B$ and $I_{actual} = I_B$,
an energy store (102), which is integrated into the voltage and current source (101) and which
maintains the operating voltage U_B and the operating current I_B for a predefined period of time Δt
following a failure or a drop in the primary voltage/primary current, a unit (103) for monitoring
the primary voltage U_P applied to the input interface (107), wherein the unit (103) is configured
15 such that as soon as the applied primary voltage U_P deviates by a predefined amount ΔU from
the desired primary voltage $U_{P,desired}$, a stop signal is generated, and a control unit (104), which is
connected to the unit (103) and which is designed for controlling the robot and its actuator-driven
elements (105), wherein the control unit (104) is configured to control the robot with its elements
(105) into a predefined safe state upon receipt of the stop signal.

20 Fig. 1