THE EMBEDDED ELECTRONICS AND SOFTWARE OF ROSA ROBOT ⋆

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Abstract: ROSA is a research project which endeavors to design and implement a robot for the monitoring and inspection of the process of inserting and removing stoplogs in a power plant. The proposed system is mounted on the lifting beam, which carries the stoplogs, and it is composed of different sensors: inclination, pressure, and inductive sensors for monitoring; and a profiling sonar with pan & tilt system for inspection. This paper presents a general overview of the robot, and a description of the developed embedded electronics, power supply system, and software architecture. The field experiments at UHE Jirau, in Rondnia, Brazil, using a tablet for user interface validate the concepts considered so far.

Keywords: field robotics; embedded electronics; robotic software architecture; sonar;

1. TITLE

1.1 Subtitle

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