

DISTRIBUTED CONTROL SYSTEM FOR AN INDUSTRIAL ELECTRON ACCELERATOR

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Abstract

A distributed input/output based, distributing control system has been for an indigenously developed 500 keV electron accelerator. The monitoring and control of each subsystem is assigned to an individual micro-controller. The processors are connected on a CAN network to communicate with each other for decision-making. Each processor incorporates a user configurable program. Each processor communicates with standard peripheral input/output modules to control inputs/outputs of the subsystem. For user program configuration on chip flash memory of the processor has been reserved. The processor can be configured by entering the control flow data on a Microsoft Excel Sheet in .CSV format and transferring it to the processor using PC. Programming using the data entry in an Excel Sheet makes it easy for the user to program a processor without knowing any programming language. The use of distributed multiple processors reduces the wiring, maintenance hence reducing the downtime of the machine. Each processor is provided with a local Touch Screen as user-friendly man-machine interface.

**CONTRIBUTION NOT
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