

A LOW COST I/O CONCENTRATOR USING THE CAN FIELDBUS

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The I/O channels of the control system of the LHC experiments are distributed over the whole detector volume with distances of typically 100 metres. Special requirements on the I/O system arise due to the inaccessibility of the equipment and the hostile environment due to radiation and magnetic field. An I/O system based on the fieldbus CAN and using the CANOpen software protocol has been developed using standard electronics components. Each of these distributed fieldbus nodes can monitor and control up to some hundred channels. The performance of a low-cost, high precision ADC system will be presented together with the results of extensive studies of the tolerance to radiation and magnetic field.