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## **Abstract**

Controller Area Network operational characteristic supports periodic, sporadic and event based task behavior of distributed embedded system for industrial applications. CAN connect distributed Electronics Control Units (ECU) serially in the network and share measured data of different parameters and control information from the different places. System reliability and redundancy can be affected by changing the number of connected ECUs, Bus length, data rate, etc. In this paper proposed algorithm tries to improve reliability of CAN by changing data rates, according to the length of transmission line for message transmission in the network. Also, Data Rate Change DRC protocol improves temporal behavior of the system with small CPU overheads.

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### Index Terms

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## **Keywords**

Controller Area Network (CAN), Distributed Embedded System (DES), Data rate Change (DRC), jitter, Message Length