

**Development of Fault Locators of the Train Command Line used in Automatic Electromagnetic
Air Brake Systems for Freight Trains**

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The inspections after making up a freight train includes checking the normal connection status of the train line used for applying automatic electromagnetic air brake. In case any disconnection is detected, it takes several hours to find the location of the breakage point. Therefore, we developed an algorithm using circuit analysis to make it possible to detect and locate the fault in the line from one end of the train, and fabricated a portable type device and a on locomotive type one incorporating the algorithm. In actual tests using the new system on a freight train, train line faults were detected up to the 20th wagon. This system was capable of locating a failure in approximately 30 seconds.