

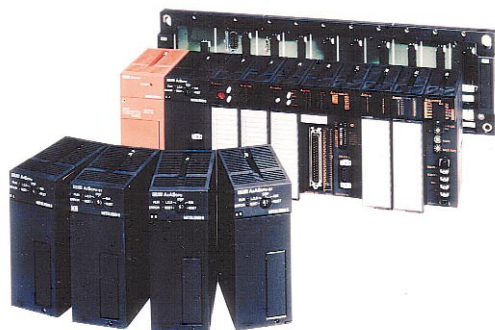
Industry: Rail

Products Used: Modular PLCs /// SCADA /// Telemetry

# PLCs monitor railway equipment

Stratford Industrial Controls and Acquisition Systems supply one of Railtrack's most advanced control centres with a trackside monitoring system, based on Mitsubishi Electric PLCs.

Railtrack's recent modernisation of its Great Western Main Line involves a new method of controlling trains. The project on the Didcot to Swindon line uses an Integrated Electronic Control Centre (IECC). The IECC controls the movements of all trains along the line from a central point in Swindon. It automatically sets the routes of trains, based on national timetables, monitors their position and controls all signalling equipment.



To ensure its reliable operation, Railtrack needed a high performance system for monitoring its signalling equipment's power supplies. "If a problem occurs with our trackside signalling equipment, we need to know exactly what the problem is and where it is happening, so we can rectify it immediately."

Acquisition Systems thought the Mitsubishi Electric A1S PLC was the best choice for the system because of its flexibility. Gary Bennett, Senior Software Engineer at Acquisition Systems, comments, "We chose the A1S because it had the best specification for the job. It is small, powerful and more importantly, it can operate from a 24 VDC battery supply - which was essential for this application. As it is expandable we can add more functions to the system as the project grows."

The system supplied is based on seven Mitsubishi A1S PLCs fitted with A1SJ71 serial communication cards. Each PLC is located in a trackside engineering building and all are linked by private line modem to a PC at the IECC which runs a central SCADA.

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The PLCs monitor all power supplies of the signalling equipment. Primary supply is from the national grid but if for some reason this fails, there is a backup generator with an Uninterrupted Power Supply (UPS) covering the changeover period. The A1SJ71 communication modules monitor all the supplies and reports back to the control centre when there is a failure. The SCADA system automatically logs the problem and alerts the operator. The SCADA also monitors the security and fire detection systems of each building as all are unmanned, and fire or vandalism could cause signal failure.

*Application story first released June 1997 by Mitsubishi Electric UK*