



RAILROAD WHEEL FORCE MEASUREMENT

MEASURING WHEEL STRESSES DURING THE OPERATION OF
A RAILCAR

Railroad Wheel Force Measurement

Measuring Wheel Stresses During the Operation of a Railcar

Industry: Transportation

Product: [AT-7000](#) (8 channels of strain input)

Parameters measured: Strain

Adtranz, in a joint venture between ABB and Daimler Benz, manufactured railcars in Portugal. Accumetrics Associates supplied an eight-channel AT-7000 digital wireless telemetry system to measure wheel stresses during the operation of a railcar.



The AT-7000 is a digital multi-channel telemetry system allowing the customer, working in concert with Accumetrics, to specify the exact configuration of sensors inputs needed to do the job. The Adtranz AT-7000 features a rotating collar with an embedded digital telemetry transmitter that attaches to the axle of the rail car. Through leads running along the axle, the collar receives signals from strain gages mounted on the wheel, amplifies, filters, and digitizes the signals, and transmits them off the rotating axle to a stationary pickup loop and receiver.



Using the AT-7000, Adtranz increased its knowledge of stress levels under a variety of operating conditions by testing wheels of three different railcars operating at speeds up to 1,200 rpm.



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