

CouplerView™ (CrossKey)

Automatic Coupler CrossKey Inspection System



CouplerView-CrossKey (CK) is an automatic wayside detection system that is designed to detect defects in E-Type coupler securement components. The system is used to inspect the cross key (draft key) and its securement mechanism. Failure of such securement parts is a source of delay and derailments in freight operations.

CouplerView-CK is designed to operate on passing trains at normal track speeds of up to 85mph. CouplerView-CK is a machine vision system, which uses a high speed strobe digital imaging system to acquire multiple images of every draft key and the surrounding area for inspection. All draft keys are imaged from both front and back, including the area under the center sill for proper E/F coupler classification.





CouplerView-CK systems are installed on steel ties (sleepers) supplied by Beena Vision. Cameras and illumination component are enclosed in sealed boxes mounted on the gauge side of the steel tie. Images are analyzed for the existence of the cross key and its securement components.

Note that the CouplerView-CK processing algorithm classifies couplers into E and F types before the plate processing. If F-Type coupler is detected, no processing and reporting is done by this system.

➤ Measurements

- Classify E-Type and F-Type Couplers
- Detect Missing Cross (*draft*) Key
- Find Missing Retainer-Pin (*T-Pin*)
- Detect Missing Cotter Key
- Find Missing Cross Key Retainer Washer
- Coupler Draft Gear Plate Inspection (*Optional*)

➤ Features

- Speeds up to 85mph (*140 km/h*)
- Operating Temperature: -40°C to 55°C
- Automatic Alarm Generation for Coupler Pin Failures
- Installed on Beena Vision Supplied Steel Ties
- No Major Track Structure Modification
- Easy Installation and Maintenance

➤ Software Features

- Remote Monitoring/Control Software
- System Management Software
- Digital Image Acquisition/Processing
- Calibration Software
- Web-based Database/Data Search Software
- Database Interface Software
- Automated Reporting Software
- AEI (*AVI*) Integration

