

Railroad Glossary of Terms

Approach Warning System

A railroad signaling system that provides a signal as a train approaches an area of track, such as a roadway crossing.

A.A.R.

Association of American Railroads, an industrial trade association.

AEI

Automatic Equipment Identification (such as bar code readers).

American Railway Engineering Association

A railroad industry professional engineering association based in Washington, DC

Association

European Rail Association (UIC).

Axle Counting

Counting axles by sensing wheels, with computer control.

Ballast

Fill material placed under rails and ties for support and to allow drainage.

Block

A section of railroad track that is isolated from adjacent track, usually through an insulation spacer placed at both ends of the track block. This isolation is for the purpose of using the track block for signaling.

Bearing Box

A grease box providing lubrication for a rail car or locomotive axle.

Bearing Detection

Temperature measuring device designed to detect overheated axle bearings.

Braking

In a hump yard, rail mounted brakes are used to control speed of cars (see Retarders).

Bungalow

A small building usually situated near the rail that is used to house electrical and signaling equipment. It often contains a battery backup and may be heated.

Cab Signaling

Railroad signaling system to communicate with the train engineer.

Class 1 Railroad

A freight railway company that meets certain minimum size criteria.

Classification Yard

Hump yard or marshaling yard.

Crossing Clear

A track clear system that signals when a roadway crossing is clear of a train.

Coupling

The connection of two rail cars, or locomotives.

Curve

When mounting sensor on curve, place sensor on inside track.

Diamond

A track arrangement where two tracks cross at the same level (grade).

Dynamiting

Emergency stop, all wheels lock up.

Emergency Stop

Lock up all wheels.

Flange Detection

Detection of rail wheel presence by sensing flange (proximity, biased Hall or biased reed switch).

Grade Crossing

A highway crossing that is at the same level (grade) as the rail.

Greenfield

Outdoor conduit used by railroad.

Highball

A train signal consisting of a ball that is run up a pole to inform the engineer that the track ahead is clear. A ball at the high position (high ball) indicates track is clear.

Highway Crossing

See Grade or Level Crossing

Hot Bearing Detector

See Hot Box Detector.

Hot Box

Term for an overheated wheel bearing (the grease “box” overheating).

Hot Box Detector

Hot bearing detector, usually infrared, and placed at intervals on mainline track. System is activated (gated) by a track-mounted wheel sensor.

Hump

In a hump yard (also called Marshaling Yard or Classification Yard), the highest point in the yard where cars are released to coast toward the correct track.

Hump Yard

See Marshaling Yard.

Interface

An electronic device that converts one type of signal to another. For the Honeywell rail wheel proximity sensor, the interface converts the 2-wire current output of the sensor to a 3-wire NPN or PNP (Open collector, current sinking or current sourcing). This makes it compatible with most computer systems. The interface is built into the Honeywell S.A.S.O. and the T2 sensor controller, but is usually required when the sensor inputs to the customer’s computer.

Island

A section of track which incorporates a highway crossing.

Level Crossing

Intersection of highway and railway, at same “level” or grade.

Loss of Shunt

Failure of a shunt train detection system due to poor electrical contact between the wheel and the rail (see Shunt).

Marshaling Yard

Yard (classification yard) where trains are disconnected and reassembled based on their destination.

Re-triggerable One-Shot

Timing feature where the off-delay is a fixed time interval, but can be reset by a change in input.

Retarders

Braking system usually found in hump yards. Commonly pneumatically actuated, located on inside of rail, forcing a brake pad against the inside of the wheel flange, “pinching” the flange between the brake pad and the rail.

S.A.S.O.

See Stand-Alone-Strike-Output System.

Shunt

A track signaling system that uses the rail car wheels and axle to complete an electrical circuit between one rail and the other. The completion of this circuit is used as a signal that the train is present. The signal may be used to activate crossing arms or other train signals (also see Loss of Shunt).

Sleeper

Rail tie (European term).

Stand-Alone-Strike-Out

Train detecting system that is independent of other signaling systems on the track, and is designed to verify that a train has cleared a section of track, typically a highway crossing. The system then generates a signal to allow the crossing arms to rise (a “strike-out” signal, in European parlance).

Strike-in

A train approach warning system, typically used in an area where trains are approaching a highway crossing. The “strike-in” signal may be used to lower the crossing arms.

Strike-in, Strike-out

A signaling system that warns of an approaching train (to a road crossing, for instance), which also determines when the train has completely cleared the crossing (passed through).

Tag Reader

Automatic Equipment Identification AEI to identify a specific rail car.

Tie

Rail tie, also called “sleeper” in Europe.

Track Signal

A signaling system that uses the rail for transmitting signals. These signals may be used to warn of an approaching train and lower crossing arms for instance, or also to warn the engineer of a train on the track ahead.

Train Approach System

Train-detection system that warns of a train approaching a highway crossing, for instance. A signal is typically sent to activate the crossing warning arms (see Strike-in).

Tailring

At a signaled crossing, tailring refers to the actuation of the crossing after the train has passed through the crossing (a signaling error).

U.I.C.

European Rail Association

Variable Reluctance

A type of railcar wheel detector containing a coil or wire and permanent magnet which generates an electrical pulse if a train wheel approaches rapidly. This type of sensor cannot detect a wheel which is stopped over the sensor. A voltage is induced in the coil as ferrous metal approaches or recedes. The signal takes on a sine wave shape, and characteristics are dependent upon approach speed.

Wheel Detection

Sensing of rail wheel with metal sensor, or track circuit.

Yard

A facility with multiple tracks where rail cars are assembled into trains based on destination (see Hump Yard).