



Wabtec
RAILWAY ELECTRONICS

“ECP EOT” Features:

- Fully AAR S-4200 Specification Compliant
- Wakes up on presence of brake pipe air
- Battery recharges when BP air is present
- High brightness LED Marker lights
- Brake Pipe Pressure, motion, marker and battery status communicated to the lead locomotive over ECP trainline once a second
- Standard ECP connector plugs into last car of train and provides electrical termination to the ECP trainline
- ECP function wakes up on presence of ECP trainline power or upon press of wake-up button
- Battery recharges when ECP Trainline power is present

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Specifications:

Height 28"
Depth 6.5"
Operating Range 0 to 125 psig

Width 8.25"
Weight 28.5 lbs
Accuracy + 3 psig

Electronically Controlled Pneumatics (ECP) Configuration:

230 VDC from the locomotive ECP System supplies power to operate the EOT with a backup battery also being provided. The EOT communicates status by electronic messages through the trainline cable to the ECP Head End Unit (HEU) mounted in the locomotive.



Introduction:

The ECP End of Train device is connected to the ECP trainline and brake pipe at the end of the train. It communicates over the trainline with the ECP Head End Unit.

The ECP EOT, contains many of the common features found in a conventional EOT such as; a brake pipe pressure transducer, motion sensor, marker light and a battery which charges off the Trainline power.

A local digital display window provides indication of Trainline voltage, battery charge status, and brake pipe pressure when the EOT test button is pressed.

Within the ECP train, the ECP EOT is physically the last network node in the train. It transmits a status message (EOT Beacon) once per second over the trainline to the ECP Head End Unit (HEU).

The status message includes the current brake pipe pressure, trainline voltage, battery status, marker light status, and motion status.

The EOT can be operated in any of three modes: ECP Power Mode, Battery Mode and Shutdown Mode.

ECP Power Mode:

An EOT is activated by application of Trainline power above 100 VDC. The EOT contains an electric Trainline termination circuit. The EOT must be connected to the ECP network and must be transmitting status messages to the HEU before the ECP Trainline power can be energized continuously. The

ECP EOT reports to the HEU once per second when in ECP Power Mode.

Marker Support Mode:

The ECP EOT contains a battery which allows for Battery Mode operation, should Trainline power be lost. The EOT will enter Battery Mode when Trainline power is less than 100 VDC and communications with the Head End Unit has been lost. It will operate in this mode for up to an hour.

Shutdown Mode:

When an ECP EOT is turned off, it enters Shutdown Mode. There are several ways to enter shutdown mode:

1. The EOT will enter into Shutdown Mode from either ECP Power or Battery Mode if Trainline voltage is less than 100 VDC AND the EOT battery charge is 0%.
2. It will also enter Battery Mode from ECP Power Mode if Trainline voltage is less than 100 VDC and ECP Cut-Out or the EOT test button has been depressed for greater than 3 seconds with no HEU communications.
3. The EOT will enter Shutdown Mode from Marker Support Mode if the EOT pushbutton is held depressed for 3 seconds or brake pipe pressure is continually less than 35 kPa for 12 hours.

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